

2023

Perceptions and Experiences of Gifted and Talented African American Alumni from a STEAM Program

Hanan R. Hameen
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [African American Studies Commons](#), [Art Education Commons](#), and the [Gifted Education Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Education and Human Sciences

This is to certify that the doctoral study by

Hanan Hameen

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Glenn Penny, Committee Chairperson, Education Faculty
Dr. Michelle McCraney, Committee Member, Education Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2023

Abstract

Perceptions and Experiences of Gifted and Talented African American Alumni from a

STEAM Program

by

Hanan Hameen

M.S.Ed.L., CUNY Bernard Baruch College, 2011

B.A., SUNY Empire State College, 2005

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2023

Abstract

The purpose of this qualitative study was to explore perceptions of gifted and talented African American former high school students who are alumni of an exemplar STEAM program in a major urban city on the eastern seaboard with culturally relevant instruction regarding curricular and instructional practices for academic success. The conceptual framework was Ladson-Billings' constructivist theory of culturally relevant pedagogy. Three research questions guided this study. Through a basic qualitative research design with a typological approach, semi-structured virtual interviews with 10 participants were conducted. Emergent themes from data collection were feelings of isolation due to uninvolved teachers and peers, cultural unawareness due to inadequate cultural education at home, positive experiences from motivational teachers and culturally uplifting instructional strategies, academic achievement, increased cultural understanding, and community building through the arts. Findings indicated that gifted and talented African American high school students achieve academically when instructional strategies include the arts, reinforce knowledge of self and others, build community, provide encouragement, and include real-world opportunities for success. This study may promote positive social change by altering the design of instruction for gifted and talented African American students.

Perceptions and Experiences of Gifted and Talented African American Alumni from a
STEAM Program

by

Hanan Hameen

M.S.Ed.L., CUNY Bernard Baruch College, 2011

B.A., SUNY Empire State College, 2005

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2023

Dedication

My dissertation is dedicated to all the Afrodiasporic scholars before me and my family who made me who I am through Ubuntu, meaning, I am because they are. My grandmother Elder Nabeela Uqdah always told me that our purpose in life is to take civilization and our people to the next level. My grandparents, Mr. Jesse Kilpatrick Sr., and Mrs. Catherine Kilpatrick, made sure we had land with a house on it, providing me with a place to call home. My mother, Mrs. Iman T. Uqdah Hameen, sacrificed daily to help me succeed through it all, especially during the Lupus flares, keeping me uplifted and feeling loved as only a mother can. My father, Mr. Jesse “Cheese” Hameen II, encouraged me and kept me uplifted through this process. My nephews and brothers, Najeeb and Ameen, remained patient and understanding with my writing schedule and sent me funny memes and videos for my rest breaks. My husband, Moustapha “Taphanare” Diop, kept me balanced and gave me the space and support I needed to complete my doctorate. My dance mom, Patricia Dye, gave another home and served as my accountability partner to get my work done. My dance sons and daughters who were there to remind me why I am doing this work and take the dance teacher mantle for me so I can go to the next level of my educational journey. My friends, who are family in New Haven, New York City, Senegal, Guinea, Ghana, and South Africa, thank you for being my center, source of fun, and a soft space to land. Some of you literally sat by my side as I wrote this and showed me the “more” life offers. My “offices” by the beach, Black and White, Soleil, Pullman, the cafes, hotel restaurants, and all the places I called home during this dissertation process. Thank you all for supporting me on this journey.

Acknowledgments

I would like to acknowledge my doctoral committee chair Dr. Richard Penny who was patient, stuck by my side saying “Onward!!”, and encouraged me through 3 years of dissertation writing due to Lupus flares, an apartment fire, the COVID pandemic, and more Lupus flares. My second committee member, Dr. Michelle McCraney, was always willing to help me and gave feedback that supported my success. My URR’s, Kenneth McGrew and Floralba Arbelo Marrero, made sure my writing checked all of the boxes and held me accountable when it did not, forcing me to write with even more clarity. My Walden University mentor, Dr. Ruby Burgess, helped me find clarity and connect the dots even further during my literature review process. My Walden professors helped me refine the tools needed to write on a higher scholarly level. My Walden residency instructors imparted so much wisdom, tools, and tricks of the trade that enriched me throughout the entire process. My Walden Student Advisors who checked on me and always made sure I had what I needed to be successful. Walden’s Disability Services, thank you so much for making sure I had all the necessary accommodations to be successful. You advocated for me and made learning and residences accessible. All my former dance and drum teachers, my “moms” and “dads”, thank you for seeing the gifts I had since age 2 and helping me cultivate those gifts into the highest obtainable degree.

Walden’s Cool Kids, thank you for being my cohort, sources of support, and graduation motivation. I would also like to acknowledge myself for persevering through this doctoral process for 6 years in and out of the hospital, Lupus flares, countless doctor appointments, losing everything in the apartment fire but still submitting work, surviving a pandemic, and participating in intercontinental cultural exchange. Thank you everyone!

Table of Contents

Chapter 1: Introduction to the Study	1
Background.....	2
Problem Statement.....	3
Study Site.....	4
Purpose of the Study.....	6
Research Questions	7
Conceptual Framework	8
Nature of the Study.....	8
Definitions	9
Assumptions	10
Scope and Delimitations.....	10
Limitations.....	11
Significance	12
Summary.....	12
Chapter 2: Literature Review	14
Literature Search Strategy	16
Conceptual Framework	17
CRP.....	17
Recent Education and CRP	19
Literature Review Related to Key Concepts and Variables	21
Historical Discrimination and Exclusion of Gifted and Talented African American Students.....	21

Challenges of Double Consciousness for Gifted and Talented African American Students.....	24
STEAM Education Historical Development	26
Successful Practices for Gifted and Talented African American Students	27
CRP Best Practices	29
Hip-Hop as an Instructional Strategy	30
Visual Social Justice Education with STEM Concepts as a STEAM Instructional Strategy.....	31
Summary and Conclusions	33
Chapter 3: Research Method	36
Research Design and Rationale	36
Role of the Researcher.....	37
Methodology.....	38
Participant Selection.....	38
Instrumentation.....	40
Procedures for Recruitment, Participation, and Data Collection.....	42
Recruitment	42
Data Analysis Plan	44
Data Analysis and Coding Process.....	45
Trustworthiness	47
Ethical Procedures	51
Summary.....	53
Chapter 4: Results.....	54

Setting.....	54
Data Collection.....	55
Data Analysis.....	57
Results..	67
RQ1.....	67
RQ2.....	72
RQ3.....	88
Evidence of Trustworthiness	96
Credibility.....	97
Transferability	97
Dependability	98
Confirmability	99
Summary.....	101
Chapter 5: Discussion, Conclusions, and Recommendations	102
Interpretation of the Findings	103
Findings Related to Themes and Research Questions.....	103
Limitations of the Study	116
Recommendations	116
Implications	119
Conclusion.....	121
References	123
Appendix A: Virtual Interview Protocol	135

List of Tables

Table 1. Research Questions with Related Interview Questions.....	40
Table 2. A Priori Codes and In Vivo Codes.....	58
Table 3. Codes and Themes Connected to RQ1.....	60
Table 4. Codes and Themes Connected to RQ2.....	63
Table 5. Codes and Themes Connected to RQ2.....	65

Chapter 1: Introduction to the Study

Gifted and talented African American students are not being instructed in science, technology, engineering, the arts, and mathematics (STEAM) in a culturally relevant manner which leads to their academic success. African American gifted and talented high school students report negative learning experiences within advanced programs which lack cultural inclusion, racial understanding, and necessary support for students who are non-White (Cameron & McCall, 2020; Mayes & Moore, 2016; Sewell & Goings, 2020; Stipanovic & Woo, 2017; Wiggan & Watson, 2016; Wright et al., 2017). Educators of African American gifted and talented students discussed a growing concern that current teaching and learning practices have a profound negative effect on their students' growth, development, and academic achievement (Allen, 2017; Bubb & Earley, 2013; Debnam et al., 2015; Harris & de Bruin, 2018). Because gifted and talented programs were created during segregation, historically, they only included STEAM from a White American or European cultural perspective and excluded culturally relevant African American experiences (Sewell & Goings, 2020; Terzian, 2021).

As gifted and talented programs with STEAM education later became integrated, the default culture for instruction remained White American or European, which was not always relevant to students in the classroom (Bonner et al., 2019; Terzian, 2021). Therefore, African American gifted and talented students were not benefitting from gifted and talented programs as originally crafted, but the addition of culturally relevant STEAM education has the potential to change that circumstance (Cameron & McCall, 2020; Terzian, 2021). Many educators acknowledge culturally relevant pedagogy (CRP)

as beneficial in programs for African American gifted and talented students due to the relationship between school and home, and the academic and cultural lived experiences of the students (Allen, 2017; Bonner et al., 2019; Debnam, et al., 2015; Dixon et al., 2017; Holzman, et al., 2012; Ladson-Billings, 1998; Mayes & Moore, 2016; Wright, et al., 2017).

Despite acknowledgment of the benefits of CRP by educators, successful teaching and learning strategies via STEAM education or CRP for gifted and talented African American high school students are not often identified or used in classrooms. Successful classroom practices involving STEAM teaching and learning processes and culturally relevant instruction and how these practices can be effectively infused into the curriculum for the benefit of gifted and talented African American high school students needs further investigation. Through study of perceptions and experiences of gifted and talented alumni of an exemplar STEAM program where the arts were used as a catalyst to incorporate STEAM and cultural relevancy, best practices may be identified and developed. Alumni of the exemplar STEAM program provided recommendations regarding best instructional practices for gifted and talented African American high school students. Identification of best practices based on alumni experiences could help teachers instruct gifted and talented African American high school students and therefore promote positive social change.

Background

Gifted and talented African American students are underachieving, underrepresented, and not being instructed in a culturally relevant manner, creating a

significant gap in practice. Curriculum and instruction for gifted and talented African American high school students was based on White American or European as the default culture, which was not always relevant to students in the classroom (Bonner et al., 2019; Terzian, 2021). CRP involves understanding how to produce students who can achieve academically, produce students with demonstrable cultural competence, and develop students who can understand and analyze the current social order (Ladson-Billings, 1995). With a majority African American population, the exemplar STEAM program with CRP achieved higher graduation and attendance rates than the site school (School Quality Guide, 2019). Gaining insights regarding successful instructional strategies involving STEAM and CRP according to gifted and talented alumni of the exemplar STEAM program helped fill the gap in practice.

Problem Statement

Gifted and talented African American students are not being instructed in STEAM in a culturally relevant manner to support their academic success. Successful teaching strategies for gifted and talented African American high schools' students that combine STEAM and culturally relevant instruction have been developed but are not widely used in curricula (Allen, 2017). Negative outcomes of this problem include academic underachievement due to lack of cultural connections involving instruction of STEAM and CRP for gifted and talented African American high school students (Allen, 2017; Bonner et al., 2019; Collins, 2018; Ladson-Billings, 2014; Mayes & Moore, 2016; Solomon et al., 2022; Wiggan & Watson, 2016; Wright et al., 2017).

Negative consequences include teachers not exploring and implementing successful instructional strategies for gifted and talented African American students, therefore leading to underachievement, low self-efficacy, rejection of participation in gifted programs, and cultural isolation for this population (Bakx et al., 2017; Bonner et al., 2019; Bullock, 2017; Flynn, 2017; Guyotte et al., 2015; Harris & de Bruin, 2018; Hudley & Mallinson, 2017; McCarther & Davis, 2017; Solomon et al., 2022; Spillane, 2015; Taylor & Iroha, 2015). The Supreme Court outlawed segregation in 1954; however, Ford et al. (2018) argued that intentionally segregated gifted programs for African American and White students existed in 2013, which negatively affected gifted and talented African American students in terms of low self-efficacy and led to underperformance in gifted programs.

Study Site

This study of a nationally recognized exemplar site in a major urban city on the eastern seaboard was used to identify best practices. The study site school with a majority of African American gifted and talented high school students focused on science, technology, and the creative arts implemented a STEAM curriculum with culturally relevant instruction within a singular program that was centered on dance in 1996, 2 years after its founding. The remainder of the school curriculum focused on either science, technology, engineering, and mathematics (STEM) or STEAM through visual arts and music without culturally relevant instruction as a primary teaching strategy. Possible instructional benefits of a STEAM curriculum paired with culturally relevant instruction leading to academic success of African American gifted and talented high

school students has yet to be explored. Additionally, perspectives of gifted and talented African American alumni regarding best practices had yet to be fully explored. To fill the gap in literature, perspectives of alumni were included for added insights.

STEAM curriculum paired with culturally relevant instruction was possibly successful in terms of promoting student success with a positive effect on African American high school students based on statements from the principal in 2016 and the teacher of the program on April 30, 2020. The school reported that in 2019, 100% of the African American students who experienced the STEAM with CRP program graduated from high school. An internal report from the school and minutes from teacher meetings showed a 95% attendance rate for the STEAM program, with culturally relevant instruction for the 25 years it has been in existence. The school-wide graduation rate between 2015 and 2019 was 95.5% on average, and attendance was 72.7% (School Quality Guide, 2019).

The success of the STEAM program in terms of culturally relevant instruction at this site caught the attention of a philanthropist, local and national education organizations, filmmaker, and television network to create a documentary featuring the program for use as a national model for teaching and learning. In this documentary, students at the local site discussed the importance of alumni's impact on their current high school experiences in terms of their visitations, mentorship, and advising during the program. The principal stated in the documentary, the importance of the dance-based STEAM program in relation to the academic success of the gifted and talented African American student population.

In the documentary, the dance educator who directed the STEAM program with culturally relevant instruction discussed incorporating multiple modes of cognition for discovery, learning, emotions, and memory varying by student learning needs as one method of best practice. An example is when students recited and demonstrated the bones and muscle groups of the human body while exploring the movement and history of a specific dance from a culture in Africa. Students, alumni, and the principal shared how participation in the program led to students pursuing STEAM majors in college as well as STEAM careers as adults due to the training they received in this high school program. One alumnus featured in the documentary motivated students by sharing his pursuit of a Ph.D. in applied research and statistics by transferring life skills gained as a student leader on the board of directors of the STEAM program with CRP. Testimonies in the documentary from teachers, the principal, alumni, community members, and executive staff from the Department of Education referenced the benefits of sharing experiences of former participants of the exemplar STEAM program. Based on the testimonies in the documentary, gaining understanding of alumni perspectives could lead to insights regarding best practices for STEAM with CRP that work well for gifted and talented African American high school students.

Purpose of the Study

The purpose of this qualitative study was to explore perceptions of gifted and talented African American former high school students regarding an exemplar STEAM program with culturally relevant instruction and curricular and instructional practices for academic success. Historically, African American gifted and talented students have not

achieved their full potential (Bakx et al., 2017; Bonner et al., 2018). Specifically, this study involved exploring the role of best instructional strategies according to gifted and talented African American alumni of an exemplar STEAM program with culturally relevant instruction. Exploring perspectives of alumni, as opposed to current students or teachers, was used to provide long-term insights about experiences of former students who already completed the STEAM program with CRP. I addressed their perspectives before and outside of the program, and how the exemplar STEAM program possibly made a difference in terms of their academic success. By collecting alumni perceptions as evidence, I addressed what occurs within the exemplar STEAM program in order to identify best practices for gifted and talented African American high school students.

Research Questions

The research problem addressed in this study was that gifted and talented African American students are not being instructed in STEAM in a culturally relevant manner to support their academic success. There were three research questions which guided this study:

RQ1: What are perceptions of gifted and talented African American alumni involving culturally relevant instruction during their high school education experiences before joining the STEAM program and in other classes or programs while a member?

RQ2: What are experiences of the gifted talented African American alumni involving culturally relevant instruction in the exemplar STEAM program?

RQ3: What are gifted and talented African American alumni's perceptions of how participation in the exemplar STEAM program contributed to their cultural competency

needs?

Conceptual Framework

To support addressing the study problem and purpose, I used Ladson-Billings' theory of CRP. As a constructivist theory, CRP developed from Ladson-Billings and Tate's (1995) critical race theory, which examined how laws and sociopolitical movements were molded by race and ethnicity as social constructs. Although Ladson-Billings and Tate's ideas were not developed specifically with gifted and talented African American high school students in mind, they helped to address research questions. CRP involves understanding how to produce students who can achieve academically, produce students with demonstrable cultural competence, and develop students who can understand and analyze the current social order (Ladson-Billings, 1995). With reference to instruction and culture, CRP has been discussed primarily from the perspectives of both teachers and students regarding interpersonal contexts, expectations, and institutional and societal contexts.

Nature of the Study

I used a qualitative paradigm. To gather data through interviews, a qualitative paradigm was used instead of a quantitative paradigm that involves gathering data through surveys and questionnaires (see Babbie, 2017; Caelli et al., 2003; Kahlke, 2014; Merriam & Tisdell, 2016; Percy et al., 2015; Thomas, 2017). The basic qualitative approach was chosen based on alignment, goals, and purpose of the study. Participants were alumni of the exemplar STEAM program between 2013 and 2019. All participants were student class leaders or members of the student executive board of directors of the

exemplar program as they participated in every aspect of this program. Through purposive sampling, a small group of alumni from these years was chosen to represent program alumni since 1996. Through snowball sampling, additional participants were identified through recommendations from selected participants who fit selection criteria. Individual interviews guided by research questions and CRP as the conceptual framework were conducted to gain deeper insights from participants. A more detailed discussion appears in Chapter 3.

Definitions

African Americans: Black people of African descent, including those who are descendants of enslaved Africans in the United States of America who have suffered from White supremacy for generations (Ford et al., 2018; Lewis Ellison et al., 2019).

Culturally relevant pedagogy (CRP): Pedagogy that involves academic success, cultural competence, and sociopolitical consciousness (Billings, 2018).

Deficit thinking (in general): A bias-based process of victim-blaming in education of marginalized and disadvantaged communities lacking socioeconomic and political power by individuals from advantaged populations (Castro, 2021).

Deficit thinking (in relation to this study): Perceptions of African American students as disadvantaged, underachieving, or culturally deprived compared to that of their White counterparts (Ford et al., 2018).

Double consciousness: Self-identification and experiences of African American students who have a dual identity in terms of being both Black and American (Du Bois, 1903).

Gifted and talented: Exceptional students who require specialized programs for their academic achievement (NYC Department of Education, 2021).

STEAM education: Pedagogy which involves incorporating science, technology, engineering, arts, and mathematics as a collaborative approach to teaching and learning (Buono & Burnidge, 2020).

STEM education: A critical part of education reform that involves combining science, technology, engineering, and mathematics (Bullock, 2017).

Talented tenth: The top 10% of African Americans who are leaders, high achieving, successful, and educated, and have the responsibility of teaching and empowering the remaining 90% of African Americans.

Assumptions

The assumptions for this study were as follows. I assumed that participants reflected on their high school learning experiences accurately with regard to choices in practice their teachers made. I also assumed participants had positive experiences at the exemplar site based on graduation rates of students in the program.

Scope and Delimitations

For this purpose of the study, the exemplar site was a school that demonstrated through evidence and data instructional success for gifted and talented African American high school students involving STEAM and CRP. One school was chosen for this study as an exemplar site based on evidence from a documentary and public data from the school. The goal was to use the most recent graduates of the program; however, due to the COVID-19 shutdown, the program was inactive. Therefore, 10 alumni who were

graduates between 2013 and 2019 were selected from the exemplar site only. In this study, virtual interviews regarding perceptions and experiences of gifted and talented African American alumni involving an exemplar STEAM program and its curricular and instructional practices took place. Students at the exemplar site were predominantly African American and gifted and talented. Participants chosen for this study were also African American and gifted and talented. Although it would have been useful to study all schools with STEAM programs and CRP, all schools did not have programs that infused both together for gifted and talented African American students. Within the school, it would have been useful to study students and alumni from other programs in the school as points of comparison. Lack of manpower and resources at the time prohibited that course of action. Therefore, my focus was on the exemplar STEAM program only. Results of this study did not support generalization to larger populations due to the small sample size.

Limitations

There were a few possible limitations of this study. This study generated results that were not generalizable beyond my pool of participants. Time constraints of 1 hour for interviews presented limitations in terms of receiving as much information as possible about participants' experiences. Virtual interviews were limited in terms of the ability to connect with participants and study body language in reaction to interview questions. Number of years since high school could have placed limits on the amount of detail participants were able to remember about their high school experiences with the amount of time that passed since participants' graduation. To mitigate these limitations, I created

in-depth open-ended interview questions to gather as much insight as possible from participants and assist with helping them remember their high school experiences involving the exemplar STEAM program. Additionally, I used external reviews of myself and the interview instrument to ensure the data was collected appropriately for my study. The final mitigation measure was member-checking for 1 hour virtual interviews to obtain as much information as possible from participants, verify accurate capture of participants responses, and seek agreement with my findings.

Significance

The problem was that current curricular and instructional practices that do not include STEAM with CRP are not meeting needs of gifted and talented African American high school students in order to be academically successful. The purpose of this qualitative study was to explore perceptions and experiences of gifted and talented African American former students regarding an exemplar STEAM program with CRP and curricular and instructional practices. Results of this study provided the opportunity to fill a gap in practice. The study will lead to social change via insights from gifted and talented African American high school alumni regarding successful curricular and instructional strategies, leading to increased graduation rates, equity, and representation within urban public education systems.

Summary

The research problem was that current curricular and instructional practices that do not include STEAM with CRP are not meeting needs of gifted and talented African American high school students in order to be academically successful. The purpose of

this study was to explore perceptions and experiences of this population regarding curricular and instructional practices which lead to academic success. Three research questions were introduced in this chapter.

Exploring perspectives of alumni, as opposed to current students or teachers, was used to provide long-term insights from former students who already completed the STEAM program with CRP. Understanding this topic may lead to positive social change by contributing to knowledge of successful practices. To further explore limited knowledge about best practices, Chapter 2 includes information about STEAM education, CRP, and gifted and talented programs.

Chapter 2: Literature Review

Chapter 2 includes a review of literature related to the phenomena of STEAM education and CRP for gifted and talented African American high school students from the perspectives of alumni of an exemplar program in the urban northeast. The problem was that current curricular and instructional practices that do not include STEAM with CRP are not meeting needs of gifted and talented African American high school students in order to be academically successful. The purpose of this study was to explore perceptions and experiences of this population about the STEAM program and curricular and instructional practices for academic success. Successful instructional practices using STEAM and CRP as well as experiences of gifted and talented African Americans are discussed in this section.

Identification of successful instructional strategies using STEAM and CRP for gifted and talented African American high school students is relevant to the educational discipline. Specific instructional strategies which include attention to culture, underrepresentation due to discrimination, creativity through the arts, socioeconomic conditions, and individualized instruction for gifted and talented African American students (Aronson & Laughter, 2016; Babbie, 2017; Bloxham & Pliego, 2022; Bonner et al., 2019; Ladson-Billings, 2021; Stipanovic & Woo, 2017; Vinz, 2009; Wright et al., 2017). Knowing which specific strategies can work according to educators or researchers is not the same as perspectives of alumni who have received instruction firsthand. Enhanced learning through creativity with a focus on culture to nurture talented students is a successful instructional strategy (Harris & de Bruin, 2018). Stipanovic and Woo

(2017) argued family support, allocation of resources, and a focus on career development was needed for achievement of African American gifted and talented students. More exploration of arts integration within non-arts subjects with insights from African American high school alumni of STEM and STEAM programs was needed to address the gap in research. Through this literature review, strategies to address successful instructional strategies leading to achievement of African American gifted and talented high school students were collected. Through this literature review, I gathered research to identify successful instructional practices involving STEAM and CRP.

Lack of inclusion of CRP and STEAM education results in negative consequences for gifted and talented African American students. Current instructional strategies in urban classrooms are often bias-based through deficit thinking, not relatable for gifted and talented African American students in the United States public school systems, and only focused on their challenges (Abacioglu et al., 2020; Ford et al., 2018). Gifted and talented African American students left unnurtured in the classroom culturally tend to underachieve, do not experience academic success, and have low self-efficacy (Terzian, 2021). Identification of best practices can help to bridge this gap while providing opportunities for academic success of gifted and talented African American students.

The following literature review includes the following information. First, I reviewed literature related to the study's conceptual framework, Ladson-Billings' theory of CRP based on Ladson-Billings and Tate's critical race theory. Second, I discussed historical circumstances involving gifted and talented African American high school students in the classroom. Third, I addressed the development of STEAM education.

Finally, major research on CRP and STEAM education specifically related to African American gifted and talented students was reviewed.

Literature Search Strategy

The following is a discussion of literature review strategies used in this study. I primarily reviewed peer-reviewed journal articles. I filtered peer-reviewed articles between 2018 and 2022. To locate seminal research, I expanded these dates until original sources were located. If a specific search led to no or limited responses, I expanded and refined dates until sources were located.

In this study, I used the following databases: Walden Dissertations and Doctoral Studies Collection, Google Scholar, ResearchGate, EBSCO & Open Access, ProQuest Central, SAGE Journals, ERIC, Taylor and Francis Online, Thoreau Multi-Database Search, Walden University Library, ScholarWorks, Crossref Metadata Search, EBSCO Open Dissertations, Teachers College Record, Gale, Semantic Scholar, SAGE Knowledge, Wiley Online Library, Iowa Research Online, NYU Steinhardt, Lippincott Williams and Wilkins, Scientific American, and Teaching American History. I used the following key words: *culturally relevant instruction, African American high school students, gifted and talented, STEAM education, African American, , African American student achievement, disadvantaged students, at-risk students, twice-exceptional students, theory of culturally relevant pedagogy, high school, secondary students, academic achievement, underachievers, instruction, instructional strategies, education, interdisciplinary curriculum, educational practices, and minority students*. I addressed

articles based on the problem, purpose, research questions, and conceptual framework which were chosen and reviewed.

Conceptual Framework

The conceptual framework for this study was Ladson-Billings' theory of CRP, a theory which evolved from Ladson-Billings and Tate's critical race theory. The theory of CRP involves incorporating pedagogical practices that are culturally relevant to students in the classroom. According to Ladson-Billings (1995), specifically targeted pedagogical practices embedded in culture must be implemented by educators for African American students to achieve academically. This theory provided a foundation to understand factors that must be considered when implementing instructional strategies to meet needs of gifted and talented African American high school students.

I address CRP and its tenets with an initial discussion of deficit thinking approaches that do not address needs of gifted and talented African American students. I then address how CRP has been used recently in education. This is followed by a description of how the framework informs the study. In later sections, the deficit thinking approach, STEAM education, historical challenges of gifted and talented African American students, development of STEAM and CRP, and successful strategies for gifted and talented African American students using CRP and STEAM are discussed in detail.

CRP

CRP was proposed by Gloria Ladson-Billings as a theory in 1995. Culturally relevant instruction stemmed from Ladson-Billings work with William Tate on critical

race theory as a useful framework for education (see Alemán, 2009; Ladson-Billings, 1995, 1998, 2014, 2021; Ladson-Billings & Tate, 1995; McCarther & Davis, 2017; Vinz, 2009). Ladson-Billings (1995, 1998) argued that the definition of the theory should extend to include more than an educational means for African American students to fit in socially with mainstream culture. The case for CRP was presented through three main tenets: produce students who can achieve academically, produce students with demonstrable cultural competence, and develop students who can understand and analyze the current social order (Ladson-Billings, 1995).

A component of the theory of CRP insists that African American students in educational research were written about through the context of school failure (Bullock, 2017; Cameron & McCall, 2020; Ford et al., 2018; Ladson-Billings, 1995). Further, the theory of CRP argues that viewpoint of failure of African American students has highlighted the need for this cultural group of students to be examined for academic success and cultural and psychosocial well-being (Ladson-Billings, 1995). Not only must educators teach cultural relevance, but they must also identify and refine their own cultural responsiveness, so they are able to communicate and interact with diverse populations of students to understand culturally diverse human beings (Allen, 2017; Bonner et al., 2018; Bubb & Earley, 2013; Dixson et al., 2017; Harrell-Levy et al., 2016; Ladson-Billings, 1995, 2021; Popkewitz, 2009; Vinz, 2009). Exploration of the perceptions and experiences of gifted and talented alumni from an exemplar STEAM program with culturally relevant pedagogy helped to fill this gap in research and practice.

Recent Education and CRP

The need for equitable access to the arts, multicultural arts inclusion, and student voice for social justice in the classroom has been evaluated in multiple education-related research studies through a qualitative CRP framework for 20 years since the existence of CRP (Bullock, 2017; Collins, 2018; McCarther & Davis, 2017; Popkewitz, 2009; Spillane, 2015). Through qualitative analysis the CRP approach has been found as a successful instructional strategy to help African American students gain access to selective STEM focused schools created from school closures, reform efforts, urban renewal, and racial divides (Bullock, 2017). Providing a synthesis of CRP through empirical studies to determine a definition for African American student STEM identity to combat underrepresentation in STEM talent development is vital to the academic success of African American students (Collins, 2018).

A study conducted in the 2000s by Spillane (2015) and a study conducted by Bonner et al. (2019) both evaluated the element of Whiteness as a factor of failure in education and arts education of African American students on an academic and psychosocial level finding a direct correlation to racial biases of educators and the negative experiences of African American students within their classroom. Through a study of 143 teachers, it was found that teachers with the ability to step outside of their own personal experiences to understand where their students come from, develop positive multicultural attitudes, and obtain knowledge of their students' cultures were able to successfully engage ethnically marginalized students for academic achievement (Abacioglu et al., 2020). The extensive use of CRP as an instructional strategy to analyze,

evaluate, synthesize, and explore the roles of cultural relevance and cultural responsiveness for African American students in the fields of STEAM has been shown as a successful instructional strategy.

In this study I filled a gap in research and practice by looking through the viewpoint of CRP in alignment with the framework to examine the connections between STEAM and culture in an exemplar STEAM program with CRP for the successful achievement of African American high school students through the perceptions and experiences of gifted and talented African American alumni. For African American high school students research was conducted from a biased perspective showing the deficit from school failures (Ladson-Billings, 1995, 1998, 2014). For gifted and talented African American students specifically, the findings of Bonner et al. (2019) also exemplified the adverse effects of deficit thinking on this specific population.

With little research done to examine academic success among African American high school students, the study based on gifted and talented African American alumni perceptions and experiences could possibly provide a deeper understanding of how CRP with STEAM provided successful instructional opportunities for the target population within a fully integrated arts and education program. Through a qualitative approach the study presented program findings while analyzing through research instructional strategies that are successful and useful. The findings of the qualitative study may identify instructional practices and strategies that are successful for gifted and talented African American high school students.

Literature Review Related to Key Concepts and Variables

Historical Discrimination and Exclusion of Gifted and Talented African American Students

African Americans, for this study's purposes, are Black people of African descent including those who are descendants of enslaved Africans in the United States of America who have suffered from White supremacy for generations (Ford et al., 2018; Lewis Ellison et al., 2019). White Americans, for this study's purposes, are White people of European origin who are the descendants of the enslavers of Africans in the United States of America who have benefited from White supremacy for generations (Cameron & McCall, 2020; Ladson-Billings, 1998). In general, due to enslavement and racially based laws, the education system in the USA prevented African American students from receiving a high-quality education which was made available to their White counterparts (Bonner et al., 2019; Ford et al., 2018; Ladson-Billings, 1998; Terzian, 2021). Gifted and talented refers to exceptional students who require specialized programs for the benefit of their academic achievement (NYC Department of Education, 2021). Due to racism and eugenics, African American students were not considered as gifted and talented, and when testing gave evidence otherwise, systemically racist laws prevented African American students from participating in gifted programs (Terzian, 2021).

Studies in the late 1920s by Proctor, presented evidence of racially subjective intelligence testing, which resulted in a false belief that African American students were less likely to be considered gifted, required insignificant access to educational opportunities, and were less intelligent than other racial groups (Terzian, 2021). Proctor's

studies highlighted students with genius IQ's who were denied access to gifted programming due to their race. Proctor agreed with Du Bois surrounding his political ideas on the talented tenth and the importance education plays for the advancement of African American people by nurturing the brightest of the race (Du Bois, 1903; Ford et al., 2018). African American gifted and talented students are among the talented tenth, the top 10 percent of African Americans who are leaders, high achieving, successful, and educated to the highest level who have the responsibility of teaching and empowering the remaining 90 percent of African Americans (Du Bois, 1903; Ford et al., 2018). This segment of the population was defined as “exceptional men” and “the best in the race” (Du Bois, p. 102-104, 1903).

The practice of educational discrimination for gifted and talented African American students continued beyond the early 1900s. Education in urban settings historically contained educators who were of European ancestry, monolingual, upper middle class, and women (Tanase, 2021). This overwhelming presence of educators who do not represent the culture of their students presented a cultural disconnect and has had negative impacts in education in urban settings (Abacioglu et al., 2020; Archer et al., 2015; Tanase, 2021).

In 1995, the introduction of critical race theory by Ladson-Billings and Tate (1995) uncovered systemically racist laws in place that protect racism in the USA, holds the rights of people under property rights, shows how property and race intersect, and how school-based inequities are the result of the larger society. Though critical race theory and its focus on racialized law were not seen as impactful to education according

to skeptics, school inequity was agreed upon as a direct result of social inequity in a racialized society (Ladson-Billings, 1998; Mills & Unsworth, 2018). According to Ladson-Billings and Tate (1995), Woodson (1933) and Du Bois (1903) are credited with bringing awareness to race and the roles schools play in the structure of inequality while also changing the narrative of African American intellectual inferiority for the achievement of African American gifted and talented students. Current educational practices regarding gifted and talented African American students reflected the historical foundation of discrimination which has led to the present-day deficit-thinking approaches and attempts to identify successful strategies through culturally relevant instruction (Ford et al., 2018; Terzian, 2021).

During my research process, I was unable to locate articles specifically discussing the lack of culturally relevant instruction within in STEAM for gifted and talented African American students given giftedness, historically, was not attributed to this population. However, I was able to find research on the instructional challenges gifted and talented African American students and their teachers face. The instructional challenges included the lack of CRP and STEAM as instructional strategies to support student academic success leaving a gap in practice. The fact that gifted and talented African American students are underachieving, underrepresented, and not being instructed in a culturally relevant manner creates a significant gap in practice.

Challenges of Double Consciousness for Gifted and Talented African American Students

African American gifted and talented students are historically challenged to straddle two cultures due to the lack of access to gifted programs in African American neighborhoods. The resulting self-identification and experiences of African American gifted and talented students led to a dual identity or double consciousness of being of African descent and portraying in Whiteness as they participated in majority White gifted programs completely void of relevant culture (Bonner et al., 2019; Cameron & McCall, 2020; Du Bois, 1903; Ford et al., 2018). African American gifted and talented students in the early 1900s dealing with racially-based school inequities began to develop a double consciousness of “two warring souls” (Du Bois, 1903). This challenge of double consciousness increased in the White programs where African American gifted and talented students were only taught from a White perspective and were forced to shed their African American culture while attending White schools. The constant cultural switching of African American gifted and talented students created disinterest in gifted programs and enhanced racist ideas surrounded the scholastic abilities of African American gifted and talented students and continues present-day (Cameron & McCall, 2020; Dixson et al., 2017; Ford et al., 2018; Ladson-Billings, 1998).

Cultural identity grew to be seen as an entry point to instruction for African American gifted and talented students while psychological factors such as self-esteem, personal habits, and overall feelings about school were seen as a method to reach African American students (Bonner et al., 2019; Brown et al., 2019; Dixson et al., 2017; Gay,

2018; Manns, 2021). Gifted and talented African American students labeled as underachievers in the 2000s discussed the same scholastically inequitable experiences. Being seen as intellectually inferior to their White counterparts as they transitioned from high school to college was a common experience of African American gifted and talented students (Sewell & Goings, 2020). The African American gifted students who were seen as underachievers was based on deficit thinking, the perception of African American students as disadvantaged, underachieving, of culturally deprived compared to that of their White counterparts (Ford et al., 2018).

Countering the deficit thinking approach where African American gifted and talented students are seen as underachievers the use of culturally relevant instruction became a method of interest. Culturally relevant instruction is pedagogy that contains academic success, cultural competence, and sociopolitical consciousness (Ladson-Billings, 2014). The argument for use of culturally relevant instruction focused on reasons why African American gifted and talented students underachieve such as lack of multicultural education, a non-supportive learning environment, teacher of a different culture with biases, and negative student teacher interactions (Allen, 2017; Gay, 2018; Henry, 2020; Ladson-Billings, 2014; Manns, 2021; Sewell & Goings, 2020).

Counterarguments to the need for culturally relevant instruction focused on reasons why students underachieve in general, including lack of interest in school and negative feelings about school (Allen, 2017; Henry, 2020; Ladson-Billings, 2014; Sewell & Goings, 2020). Instruction of African American gifted and talented students require a different approach than their White counterparts. Historically racist ideals leading to

school inequity created the need for culturally relevant instruction, a space for specific focus on African American gifted and talented students to be included in the classroom experience without shedding their African American culture in order to be invited to learn.

STEAM Education Historical Development

STEAM education is pedagogy incorporating science, technology, engineering, arts, and mathematics as a collaborative approach to teaching and learning (Buono & Burnidge, 2020). STEAM and research on culturally relevant instruction has followed a historic deficit education model approach where the focus is on the challenges in the classroom from the perspective of teachers and students (Dee & Penner, 2017; Dulude et al., 2017; see also Flynn, 2017; Gay, 2002; Lac, 2017; Ladson-Billings, 1995, 1998, 2014; Solomon et al., 2022; Wiggan & Watson, 2016). Initial conversations in national education included STEM as core subjects where the arts were not included.

The America 2000 Excellence in Education Act implemented by President George W. Bush as a national strategy for inclusive education finally led to the arts being seen as equal to traditional academic subjects which led to a current bill, the Arts Education for All Act, presented to Congress in October, 2021 (Congress of the U.S., W.D., 1991; Ford & Harris, 1993; H.R. 5581 (IH) - Arts Education for All Act, 2021). STEM education is a critical part of urban education reform efforts that combine science, technology, and mathematics; however, the arts are also seen as critical to these efforts, especially for African American gifted and talented students (Bullock, 2017; Buono & Burnidge, 2020; Du Bois, 1903; Harris & de Bruin, 2018; McCarther & Davis, 2017).

Inclusion of the arts is vital to obtaining high levels of engagement from African American students. Culturally, African American students are exposed to the arts through traditions and histories descended from African culture. In America, the arts were used to maintain and pass down cultural traditions through music, storytelling, dance, song, and visual art. Bloom's taxonomy now includes creativity as the highest form of thinking and this is where traditional academics and the arts intersect. When given an opportunity to incorporate the creativity of the arts, a pathway for instructional engagement through cultural relevancy, content, and experience occurs.

Successful Practices for Gifted and Talented African American Students

STEAM Education Best Practices

Arts integration, arts production, aesthetics, contextual teaching and learning have been identified as successful instructional strategies for gifted and talented African American students (Solomon et al., 2022). Inclusion of the arts and the cultural knowledge of the artists create a pathway to give a voice to the voiceless. Arts provide students an opportunity to experience self-determination and intellectual freedom. Inclusion of the arts is vital to obtaining high levels of engagement from African American students.

Storytelling Through Comics

Culturally, African American students are exposed to the arts through traditions and histories descended from African culture (Hunter-Doniger et al., 2018). African American students who are the descendants of enslaved Africans are exposed to African oral traditions passed down from previous generations due to laws preventing reading and

writing during enslavement. Hunter-Doniger et al. (2018) explained in America, the arts were used to maintain and pass down African American cultural traditions through music, storytelling, dance, song, and visual art. Harris and de Bruin (2018) stressed the enhancement of learning for African American gifted and talented students through the inclusion of cultural forms, creative practices, and the transformation of talent into skills through strategic CRP instructional methods.

African American gifted students, when exposed to learning through strategies relatable to their cultural communication and learning norms have a higher chance of academic success. Storytelling as an instructional strategy was used successfully through comics and animation focused on real-life social interactions of youth, characters who looked like the cultures of the students, and STEAM concepts as characters (Hunter-Doniger et al., 2018). The intersection of STEAM and culture through comics provided an opportunity for students relate to the content through empirical experiences coupled with cultural visibility. When given an opportunity to incorporate creativity of the arts, a pathway for instructional engagement through cultural relevancy, content, and experience occurs.

Dance and STEAM Concepts

The choreographic processes of dance have a likeness to scientific processes and methods, as made evident by a case study by a professional dance company and local science museum which used dance to learn science and science to learn dance (Buono & Burnidge, 2020). The choreographic process includes a set of methods and procedures in a similar fashion to the scientific method and science process skills. Buono and Burnidge

(2020) affirm dance intrinsically incorporates STEAM concepts through force, motion, kinesthetics, spatial recognition, analysis, physics, geometry, biology, and anatomy creating the opportunity for STEAM. The dance making process requires students to learn how the body works, dynamics, where movement of the body occurs, and the cognitive skills for movement.

In a separate study of 15 African American high school female dance students conducted by Solomon et al. (2022), they also affirm the STEM concept of physics combined with CRP supports cognitive skills, self-esteem, and academic achievement in science. Investigation of how the microbiomes of the digestive system operate in comparison to relationships in life and how the use of gravity to form human structures in dance showed successful STEAM instructional strategies of using dance as a physical way to explore scientific concepts (Buono & Burnidge, 2020; Solomon et al., 2022). The dance concept of Laban Movement Analysis, a modality to understand movement, implemented as a tool to understand the science concept of pathogenicity, antibacterial resistance provided an opportunity for students to connect subjects in STEM previously (Buono & Burnidge, 2020). The use of dance as a modality to teach scientific strategies enabled the students to experience success in STEAM through a performance-based experience.

CRP Best Practices

African American gifted and talented high school students are at an academic disadvantage because of instruction which causes low self-efficacy and low self-esteem (Henry, 2020; King Miller et al., 2021; Sewell & Goings, 2020). Low-performance trends

were discovered in advanced programs by African American students from instructional strategies that do not include CRP based on a critical investigation of underrepresentation by the 2015-16 Office for Civil Rights Data Collection (Ford et al., 2018). The investigation also highlighted the underrepresentation of African Americans in gifted and talented programs in 47 states and the District of Columbia (Ford et al., 2018). However, academic success for gifted and talented African American students has been seen in curricular and instructional practices that include culturally relevant instruction and STEAM education (Bonner et al., 2018; Hunter-Doniger et al., 2018; King Miller et al., 2021; Tseng, 2019). This section explored two instances where STEAM and culturally relevant instruction are combined.

Hip-Hop as an Instructional Strategy

Culturally the youth of today identify with Hip Hop culture where the intersection and full integration of arts performance, social justice, youth voice, spoken word, literature, and STEAM is evident (Ladson-Billings, 2014). Hip Hop is a culture where individuals come together through the elements of Hip Hop, beatboxing, graffiti, breakdance, and emceeing, to create collaboratively which enables Hip Hop to become a successful instructional strategy for African American students. Ladson-Billings (2014) explored the use of aspects of Hip Hop culture to engage students and relate context to academic subjects has been proven successful in urban settings for African-American students. In agreement, Tanase (2021), stressed the classroom set up, group activities, hands-on activities, and inclusion of the students' language as effective for academic achievement of African American students.

Ladson-Billings (2014) described the integration of emcee cyphers, opportunities to “spit poems”, the use of spoken word through Hip Hop lyricism, and performance as a final assignment provided a wholistic cultural instructional experience making the content relatable and relevant to the students. Ladson-Billings’ (2014) description of the emcee cyphers corresponds to the hands on and group activities Tanase (2021) discussed that also included familiar language and cultural aspects of the students. Instruction that is focused on academic success through sociopolitical consciousness, and cultural competence can be successful as an instructional strategy for gifted and talented African American students.

Visual Social Justice Education with STEM Concepts as a STEAM Instructional Strategy

King Miller et al. (2021), Henry (2020), and Sewell and Goings, (2020) have shown that historically African American students, including gifted and talented students, have prescribed negative self-efficacy beliefs that hinder successful academic achievement in STEM. Self-efficacy refers to the personal beliefs of an individual regarding their performance capacity of the essential activities needed to have positive outcomes (King Miller et al., 2021). African American students must have positive self-efficacy to achieve academically in STEM. Sewell and Goings (2020) assert understanding the experiences, deficit thinking, and negative perceptions of STEM by gifted and talented African American students is vital to bridging the gap from underachievement to academic achievement for gifted and talented African American students.

For African American students to achieve academically, the perceptions and experiences of African American students need understanding by their teachers. A study of 430 teachers in large urban school districts with an 80% African American population in Southern California, conducted by Bonner et al. (2018), found student engagement, motivation, and the creation of student social change agents increased when teachers acquired cultural knowledge and engaged in communicative instructional practices that included the cultural norms and traditions of African American students. In alignment with the findings of Bonner et al. (2018), King Miller et al. (2021) found that the implementation of culturally relevant curriculum with culturally responsive instructional strategies combined with social justice education using cognitive science processing skills (SPS), visual arts, and storytelling increased the self-efficacy of African American students through the creation of a science fair.

The combined instructional strategies of SPS, storytelling, reading books with visuals of African Americans in STEM fields, reading aloud without cultural-linguistic judgment or correction implemented by King Miller et al. (2021) increased the self-efficacy of the African American students enabling them to create science projects using SPS, present orally with confidence, and achieve academically. The African American students became engaged, empowered, and enthusiastic about sharing their science projects with their peers from their learning experience with the STEAM and CRP instructional strategies of storytelling and culturally relevant visuals.

Whereas King Miller et al., (2021) focused on self-efficacy through reading aloud without cultural-linguistic judgement to learn SPS processes, Hunter-Doniger et al.

(2018) explained cultural-linguistic traditions and communication through storytelling are instructional strategies that provide an entry point to learning STEAM concepts through cultural visibility. Both Hunter-Doniger et al. (2018) and King Miller et al. (2021) found gifted and talented African American students experienced academic success in STEM subjects when the arts and relevant cultural-linguistic concepts were included in the instruction process. Incorporating culturally relevant visual arts and storytelling to teach African American students how to effectively use SPS can be a successful STEAM-based instructional strategy for gifted and talented African American students.

Summary and Conclusions

Themes outlined in the literature review for this study involved historical discriminatory exclusion of African American gifted and talented high school students, double consciousness, underachievement, STEAM historical development, and best practices in terms of STEAM education and CRP that are beneficial for African American gifted and talented high school students. These themes related directly to understanding and identifying best practices through STEAM with CRP that may lead to improved academic achievement of gifted and talented African American high school students. Gifted and talented African American high school students might benefit from teachers' effective use of STEAM with CRP as well as related curricular and instructional strategies. I highlighted the importance of alumni perceptions and experiences to support implementation of specific STEAM and CRP instructional strategies for the benefit of gifted and talented African American high school students. Additionally, some teachers lack necessary pedagogical training and maintain biases that

might prevent the academic success of this population. When teachers considered cultural backgrounds of students, current student input, former student feedback, and STEAM and CRP strategies, gifted and talented African American high school students had higher academic achievement scores.

In Chapter 1, evidence was shared indicating that gifted and talented African American students are underachieving, underrepresented, and not being instructed in a culturally relevant manner, creating a gap in practice. At the exemplar site, teachers implemented an interdisciplinary curriculum with STEAM and CRP strategies centered on the arts for gifted and talented African American students to be successful. A study based on experiences and stories of former gifted and talented African American students in White schools supported claims of teachers.

This study involved gaining insights about instructional strategies, perceptions, and school culture from former gifted and talented African American students. Ladson-Billings' theory of CRP was described as an approach to increase understanding of perceptions and experiences of this population and identify pedagogical practices leading to academic success of gifted and talented African American students. Three research questions were developed to understand this topic.

Research involving relationships between teacher biases and student underachievement, STEAM development, successful STEAM and CRP strategies, and historical discriminatory exclusion of gifted and talented African American students were discussed. When teachers recognize historical discrimination gifted and African American students experience, confront their biases, consider the culture of their students

for CRP instruction, and incorporate STEAM, these students might improve their academic success. In Chapter 3, the methodology and how data were collected is described.

Chapter 3: Research Method

The purpose of this qualitative study was to explore perceptions of gifted and talented African American former high school students of an exemplar STEAM program with culturally relevant instruction regarding curricular and instructional practices for academic success. The research design, rationale, role of the researcher, data collection, and data analysis plan are discussed in this chapter.

Research Design and Rationale

The problem was that current curricular and instructional practices that do not include STEAM with culturally relevant instruction and are not meeting needs of gifted and talented African American high school students to be academically successful. The purpose of this study was to explore perceptions and experiences of this population regarding an exemplar STEAM program and curricular and instructional practices for academic success. There were three research questions which guided this study:

RQ1: What are perceptions of gifted and talented African American alumni involving culturally relevant instruction during their high school education experiences before joining the STEAM program and in other classes or programs while a member?

RQ2: What are experiences of the gifted talented African American alumni involving culturally relevant instruction in the exemplar STEAM program?

RQ3: What are gifted and talented African American alumni's perceptions of how participation in the exemplar STEAM program contributed to their cultural competency needs?

Using a basic research qualitative design, the research questions were

investigated. A basic research qualitative design was used to address experiences through interviews about how they perceived the curriculum and instruction they received as gifted and talented African American high school students in an exemplar STEAM program. Quantitative studies involve asking close-ended questions based on comparisons of variables and theories, therefore open-ended questions were created for this basic qualitative study (see Babbie, 2017; Merriam & Grenier, 2019; Ravitch & Carl, 2020). A basic qualitative study can be used to address how people interpret, construct, and make meaning of their life experiences through analysis of data in narrative forms (Babbie, 2017; Merriam & Tisdell, 2016; Ravitch & Carl, 2020; Thomas, 2017). Semistructured virtual interviews were used for this qualitative research study to capture participants' perceptions and experiences with STEAM and culturally relevant instruction as best practices.

Role of the Researcher

The program was in existence from 1996 to 2021, and I was the founding member of the program before it became an exemplar. As a gifted and talented African American high school student during the 10th grade, I created a dance club at the exemplar site in 1994, which evolved into the exemplar STEAM program in 1996 when a certified teacher was hired, making me the founding member. The program was later led by the educator of the exemplar STEAM program from 1996 to 2021; however, the program did not become an exemplar until 2002. The exemplar STEAM program is no longer in existence due to the retirement of the educator in 2021.

As the founding member of the exemplar STEAM program, I did not have any authority over participants, and I was never their teacher. I also was not a member of the program when it incorporated STEAM because it was only a lunch and after-school student club with an advisor when I created it. After the hiring of the teacher for the exemplar STEAM I was a member during the first year of the of its existence when it was transitioned from being a dance club with arts and culture into a graded class. The program did not reach exemplar STEAM status until after I graduated in 1997. One potential bias was that participants knew me and may have held me in high regard due to my role in the creation of the program. Participants may have believed they had to impress me or felt like they were being judged based on what they perceived about their experiences. As both researcher and alumnus, I have had time to reflect on my own perceptions and experiences.

For 18 years, I have been an arts, education, and curriculum specialist who trained teachers, wrote culturally relevant curricula, and was considered knowledgeable about best practices for gifted and talented African American students. To limit or reduce bias throughout the data collection and analysis processes, I used a reflexive data generation process and followed an interview protocol. I was open to and welcomed hearing all positive and negative feedback regarding the program and related instruction.

Methodology

Participant Selection

The exemplar STEAM program began in 1996 and ended in 2021. Through purposive and snowball sampling strategies, I chose a small group of 10 gifted and

talented African American alumni who attended the program between 2013 and 2019 to represent the larger group of program alumni. I chose participants who graduated between 2013 and 2019 as they were the most recent graduates to have completed the exemplar STEAM program with all components fully-implemented. All participants were gifted and talented African American alumni of this program. All participants were student class leaders or members of the student executive board of directors of the exemplar program as they participated in every aspect of this program.

Alumni who graduated from the school site between 2020 and 2022 were schooled during the COVID-19 pandemic, and parts of the program were unable to be implemented due to school closures, virtual classes, and the retirement of the teacher in 2021. Alumni who graduated prior to these dates were either too far removed from being high school students or members of the program before STEAM was fully implemented into the curriculum and achieved exemplar status. Therefore, those alumni did not experience full curriculum and instruction, and were excluded from this study.

Participants were recruited through a flyer posted in alumni groups for the high school and from recommendations from alumni who agreed to the study. Once participants volunteered to participate in the study, I sent them emails with details about the study, including consent information and what they would be asked to do. After participants agreed to participate, they were asked to respond to the email with the words "I consent." Confirmed participants were asked to recommend other participants until the desired number of 10 for the study was reached.

Instrumentation

Data collection instruments for this study were semistructured virtual interviews via Zoom which involved member-checking via email correspondence (see Table 1).

Member checks consisted of emailing participants their transcripts to ensure their words were recorded correctly as well as study results to determine if participants agreed with my findings.

Table 1

Research Questions and Related Interview Questions

Research Questions	Interview Questions
RQ1: What are the perceptions of the gifted and talented African American alumni with culturally relevant instruction during their high school education experience before joining the program and in other classes or programs while a member?	<ol style="list-style-type: none"> 1. What were your experiences as a gifted and talented African American student prior to joining the program and outside of the program while you were a member? 2. From your perspective, prior to or outside of the program, was there anything that you felt related directly to your familiar cultural experiences? 3. In your opinion, as a member of the program, which specific parts of class or lessons were least effective and most effective for you as an African American student and why? 4. From your experience, was there anything you were taught or exposed to that made you feel misjudged, misrepresented, or bad about yourself culturally as an African American student?
RQ2: What are the experiences of the gifted and talented African American alumni with culturally relevant instruction in the exemplar STEAM program?	<ol style="list-style-type: none"> 5. In your opinion, what were the main parts of the program that included the sciences, technology, mathematics, engineering, arts, mathematics, or language on a level that was challenging academically? 6. From your perspective, was there anything you were taught in the program that you felt related directly to the achievements or contributions in science, technology, engineering, arts, or mathematics of people belonging to your same culture? 7. Please share an experience where you believe a specific part of class or lesson assisted in either your academic success or lack thereof as an African American student. 8. Did the academic experiences in the program seem relatable to your way of life culturally?

Research Questions	Interview Questions
RQ3: What are the gifted and talented African American alumni's perceptions of how participation in the exemplar STEAM program contributed to their cultural competency needs?	<ol style="list-style-type: none"> 9. Please describe how you felt supported, included, and/or represented culturally. 10. Please share a specific story highlighting how your participation in the program supported your advanced academic achievement in other subject areas. 11. Please describe how participation in the program changed your overall educational experience and contributed to your life accomplishments and the person you are today. 12. Is there anything else you would like to share regarding what you learned or what your teacher did in class to benefit the academic success of gifted and talented African American high school students?

RQ1 was used to address participant perceptions of culturally relevant instruction during their high school experience prior to or outside of their participation in the exemplar STEAM program. Therefore, the corresponding interview questions explored specific instances in instruction where students either felt supported, unsupported, included, or unincluded culturally as gifted and talented African American students before they entered the exemplar STEAM program or outside of the program while they were members. Research Question 2 considered the experiences of participants with culturally relevant instruction and STEAM as members of the exemplar STEAM program. Corresponding interview questions for RQ2 involved participant responses regarding their experiences with culturally relevant STEAM instruction in terms of academic success, representation, and support as participants in the exemplar STEAM program. RQ3 was used to investigate participant perceptions of whether their cultural competency needs were met as members of the exemplar STEAM program. The corresponding interview questions sought participant responses on how the program changed their educational experience and supported their learning of academic subjects.

The interview questions were validated through peer review and an expert panel consisting of my Walden University doctoral committee. The use of open-ended interview questions provided deeper insight into the experiences of the participants than surveys or questionnaires (see Babbie, 2017; Thomas, 2017). The patterns and themes that emerged revealed similarities or patterns in the experiences of the participants.

Procedures for Recruitment, Participation, and Data Collection

Recruitment

To first gain access to participants, I applied to the International Review Board (IRB) for approval to conduct research on human subjects. After gaining approval to conduct research, I recruited alumni through a digital flyer posted on the alumni groups' social media sites and alumni recommendations. Potential participants were able to contact me through Walden e-mail. I emailed an invitation to all potential participants through Walden e-mail with a consent form for recorded interviews and follow-up discussions that explained the voluntary project study and the privacy protections of participants. Potential participants were able to reply to the Walden email to ask questions.

Using snowball sampling, once identified participants who met the selection criteria responded in agreement; recommendations from this group were another means for recruiting participants until the desired number of eight to 12 alumni was met (see Groenwald, 2004; Guest et al., 2006; Van Manen, 1990). I chose the participant size of eight to 12 alumni because a sample size of 10 with long interviews was found sufficient to reach saturation (see Groenwald, 2004; Guest et al., 2006; Van Manen, 1990).

Recruited participants were asked to volunteer for follow-up member check discussions for further understanding or clarification of the virtual interviews.

Participation

Participants participated in virtual interviews with an allotted time of 1 hour and an interview protocol. I sent participants a unique Zoom link with passcode to protect their privacy. Each participant had an individually scheduled meeting with a link only shared with the individual participant. Before the interview began, I read the description of the study, privacy protocols, and asked participants for permission to record. With consent, interviews were recorded to be digitally transcribed and coded. For participants who did not want to be recorded, the interview only has field notes. The digital file only includes the code of the participant. The digital file is password protected with access only available to the researcher. Names were omitted from all transcription files and fieldnotes for privacy.

Data Collection

After receiving Walden University IRB approval (approval number 08-01-22-0758817), I began the data collection process. Ravitch and Carl (2020) suggested creating a specific data management plan with a digital file system where the data can be collected and organized for easy accessibility of files. There were six steps to analyze the data in the analysis that I followed based on the recommendations of Ravitch and Carl (2020) and Creswell (2014). First, I organized, managed, and prepared the data for analysis through transcribing and fieldnotes. Second, I read through all the data to reflect on its overall meaning. Third, I began the coding process with a detailed timeline of data

collection and creation of categories. Fourth, I continued the coding process by developing codes and themes with descriptions for interpretation. Fifth, I determined how to represent and visualize the data. Sixth, I made a determination or interpretation of the meaning of the data collected.

I collected data through the recording of 1 hour private, individual, open-ended, semi structured Zoom interviews with digital transcription through Zoom and Otter. The transcripts, recordings, and memos were organized as recorded data into a folder on my computer with Microsoft Excel spreadsheet as a part of a digital file system. Each participant had a private folder with an anonymous code as the file name.

I conducted member checks by providing participants with a choice to either receive the transcript and individual case summary where they can review, provide edits, correct, add on, or delete information to ensure their perspective was correctly interpreted or participate in member check Zoom interview where they verbally reviewed the overall findings and conclusions from the study. All follow-up emails, member check interviews, and committee feedback were placed in the corresponding private anonymous file. An external review from my committee also took place. I kept a meticulous record of when each piece of data was collected and filed in the digital file system.

Data Analysis Plan

Following the data management and analysis plan, data analysis commenced directly after the first interview to safeguard the accuracy of the collected data. The research questions investigated the perceptions and experiences of gifted and talented African American alumni of the exemplar STEAM program regarding their high school

experiences with culturally relevant instruction, STEAM, their experiences prior to joining the program, and their individual cultural competency needs during high school. The data collection was completed with interviews; therefore, the data analysis included used traditional data analysis and a qualitative codebook with a typological approach to create categories from collected data. In traditional analysis, codes emerge during the data analysis (Creswell, 2014).

The analysis began with the interview transcripts and a search for recurring ideas and common themes. The initial and open coding identified key participant responses, followed by a second coding to label the nature of the emerging themes. After the second coding, I developed working definitions for each theme. When the interviews were coded a third and final time, during which the working definitions provided a framework for confirming the code, illustrative quotes were noted.

Data Analysis and Coding Process

The first step in the data analysis and coding process was to prepare the files and digital file system. Each participant's data was organized into a folder by name with a privacy code. Each folder contained the timeline of collection, transcript, field notes, and recording.

The second step was to align the data analysis with the research questions, the qualitative codebook included priori codes for STEAM, culturally relevant instruction, and cultural competency (Creswell, 2014). The names of the codes, definition of the codes, and specific occurrences with line numbers where the codes are found in the transcripts were included in the qualitative guidebook as typological categories (see

Creswell, 2014). The third step entailed reading the transcripts transcribed through Zoom and Otter several times to identify emerging ideas and further understand the participant's perspective through memos as part of the audit trail.

I chose to use memos during the data collection and analysis process because they consisted of a detailed description of how data was collected, how the categories were developed, and how I made decisions throughout the inquiry process. Amanfi (2019) found memos as useful tools for rigorous research design credibility. I saved the recordings and transcripts in the private folder by the anonymous code along with any corresponding memos.

For the fourth step I began the coding process with descriptive coding or topic coding (see Saldana, 2016). This is where I summarized or used a short phrase to transcribe the interviews. This step was not just an abbreviation of words. I listed the substance or meaning of the word in my research context as recommended by Saldana (2016).

The fifth step was to chronologically organize the events, identify the codes, and categorize the codes into themes based on the a priori and in vivo, literal, codes identified (see Saldana, 2016). In vivo coding is coding using actual words from the participants and I used this type of coding as suggested by Saldana (2016) because it was suitable for understanding cultures and worldviews along with there being no fixed rule for how many codes per page I should use. I also listed my codes or used an outline to organize them as recommended by Amanfi (2019).

The sixth step in the data analysis process was to represent and visualize the data through tables or figures for clear comparisons and representation of the data. During this step, based on the recommendations of Amanfi (2019), I developed a theme from the working definitions of the codes and illustrated the data in a table. I listened to the interview recordings at least three times each and recording transcripts were read at least three times to identify themes. Themes were documented in the digital file system spreadsheet as part of the coding process. The final step of the data analysis process was to develop and assess the interpretations or meaning of the data.

Trustworthiness

To ensure my research was trustworthy, I ensured that confidence existed within the conduct of the investigation by following the nine steps detailed in the section on ethical procedures. Ravitch and Carl (2020) discussed trustworthiness as an ethical issue with the understanding of communication with participants as a key factor. Therefore, to ensure trustworthiness and foster an environment for safe communication, I respectfully asked questions about the experiences of the participants that were free of marginalization.

I affirmed participant responses as safeguards for their protection to ensure trustworthiness and simultaneously increased credibility through triangulation from the researcher generated data gathered from their responses. Data can only be interpreted by the researcher (Merriam & Grenier, 2019). Amanfi (2019) identified credibility, transferability, dependability, and confirmability as the key criteria for assessing the trustworthiness of qualitative research. The value of a qualitative study is often

determined by the quality, trustworthiness, and credibility of the qualitative research. The next sections detail how I established credibility, transferability, dependability, and confirmability during the data analysis process.

Credibility

Credibility is a main criterion of trustworthiness. The credibility and accuracy of the findings are most vital throughout the data analysis process. To support the achievement of trustworthiness throughout the data collection and analysis process Merriam and Tisdell (2016) suggested respondent validation, or member checks, as a method to ensure credibility. To ensure credibility and trustworthiness, I used member checks and an expert review by my committee.

The idea of member checks was to review my overall findings and conclusions by soliciting feedback from participants to rule out any biases and misunderstandings the researcher may have included in the interpretation of what was observed by the participant. To ensure member checks are free of bias, the process requires transparency and reciprocal feedback between the researcher and the participant (Motulsky, 2021). To incorporate member checks with transparency, I emailed my findings and conclusions to the participants to receive their overall feedback and review. After collecting data, I presented my process and findings to my doctoral committee for an expert external review to support credibility.

Transferability

Transferability is a key criterion for ensuring the findings of a qualitative study can be transferred to other contexts. Transferability for qualitative research is related to

the generalizability of the findings and whether the reader can apply the findings to their own studies (Ravitch & Carl, 2020). To ensure transferability, I focused on further understanding and enhancing the information known about the phenomenon. To further improve the transferability of my findings to other contexts I also thoroughly and attentively documented my study procedures and results to minimize biases and errors.

Dependability

Dependability refers to the stability of the data and research process consistency (Amanfi, 2019; Ravitch & Carl, 2020). As used to ensure credibility, I used a transparent data collection and analysis process with an audit trail to ensure dependability. The audit trail consisted of a detailed description, through memos, of how data was collected, how the categories were developed, and how I made decisions throughout the inquiry process.

Confirmability

Confirmability is the acknowledgment that biases exist and inform interpretations of data (Merriam & Grenier, 2019; Ravitch & Carl, 2020). To support confirmability, I used a reflexive data generation process to ensure a systematic assessment of myself as the primary research instrument. To plan for a systematic assessment of myself as the researcher, I used the reflective processes of researcher memos, research journals, research logs, and contact summary forms as researcher-based generated data.

Through reflexivity and researcher-generated data, the data collection process included dialogic design complexity enabling the use of internal and external sources for systematic assessment of myself as the researcher (see Ravitch & Carl, 2020). Reflexivity is judgement about who I am, my position in life or society and subjective thinking as the

researcher. Reflexivity is a method I used for two reasons. The first being the influence and role of the myself as the researcher to be actively monitored and addressed throughout the data collection process. The second, to regard the creation and relational connections to the meaning and interpretation of participants responses throughout the data collection process. Reflexivity is vital for confirmability because the positionality of the researcher must be scrutinized and challenged by the researcher and external sources.

At different stages of the design process, I intentionally structured dialogic engagement practices to ensure confirmability to include external sources for systematic assessment of myself as a researcher and the interview instrument. Structuring to include opportunities for external review of myself and the interview instrument allowed objective perspectives to be a part of the systemic assessment. After conducting a few interviews, I followed the recommendations of Motulsky (2021) to meet with my committee chair and mentor to think through the interview instrument and share excerpts of data.

First, I determined if the instrument was helping to answer the research questions. Next, I thought about how I was responding to participants. Third, I considered how my potential biases may or may not have been reflected in the ways I asked questions of participants. Lastly, I discussed how I responded to interviewees.

These four steps helped me address confirmability by acknowledging that biases existed and informed interpretations of data, and at the same time, included internal and external sources for reflexive systematic assessment based on researcher-generated data.

Ethical Procedures

As a qualitative researcher, it is important to understand the developing relationship between oneself and study participants and by regarding the relationship as reciprocal, with a mutual give and take, so the consideration of ethical issues becomes critical. During every phase of the research process, questions may arise; therefore, ethical reflexivity is a concept I used as it is a core feature of qualitative research practices. Roth and von Unger (2018) also stated that ethical issues and questions can never be fully resolved given their human and relational nature. As a qualitative researcher, it was my responsibility to consider all aspects of research ethics in all their complexities in my qualitative study. This project was designed to not bring any form of harm to the participants. Therefore, all collected data was for the intended use of this study only and was not shared in any open discussions.

Unique ethical challenges within qualitative research can present when it comes to protecting privacy, minimizing harm, and respecting the shared experiences of others. During the data collection process, confidentiality is of the utmost importance. To protect privacy, I ensured confidentiality of participants to make sure there was no way to identify participants in the sharing of the data. As part of protecting the privacy of the participants and ensuring harm is minimized, I made sure that what participants shared was seen as truth and was not misconstrued or misinterpreted. With confidentiality practices, I was able to keep the welfare of participants in mind to help ensure that as a researcher, I did not harm the participants in any way.

The protection of human subjects in research is an important component of any type of research (Ravitch & Carl, 2020). Protecting the alumni participants of the exemplar STEAM program in every step of the data collection process was vital. First, due to the COVID-19 pandemic, I ensured the safety of all participants including the researcher, by planning all interviews to be conducted virtually on Zoom.

Second, I applied for IRB approval with a COVID-19 compliant plan in place. After IRB approval was granted, I solicited participants for the data collection by providing the potential participants with all details and information regarding the study. Third, to ensure participants join with informed consent, prior to agreeing to enter the study, participants were ensured that their participation was voluntary, not associated with the local school or district, and had the right to withdraw from the study.

Fourth, once the participants voluntarily consented to participate in the study, the participants were invited to join the Zoom meetings with a specific code and had the choice to turn their cameras on or not. Fifth, to continue to protect the privacy of the participants, each participant was only identified via a code in my researcher generated data and data files instead of their names. Sixth, at the start of the interview, I explained that only myself as the researcher had access to and possession of any recording files. Participant information was not shared with anyone.

Seventh, I asked participants for permission to record the Zoom meetings and proceeded based on their response only recording those who consent. Eighth, to further protect the privacy of participants, all participants were reassured of the confidentiality of their identities. Lastly, after the completion of the study all handwritten data was secured

in a lockbox in my home and destroyed after five years. All digitally obtained data through Zoom was downloaded onto a USB drive, deleted from the Cloud, and destroyed after five years for the further privacy and protection of the participants.

Summary

The rationale for conducting this study was to address perceptions and experiences of gifted and talented African American alumni involving culturally relevant instruction during their high school education experiences prior to or outside of the exemplar STEAM program as well as how participation in the exemplar STEAM program contributed to their cultural competency needs. To examine these topics, it was necessary to understand and explain participant experiences and perceptions of teaching strategies they experienced as part of the exemplar STEAM program.

The problem of this study was that current curricular and instructional practices were not meeting needs of gifted and talented African American high school students in order to be academically successful. Using a basic qualitative research design, I explored successful teaching strategies and perceptions of participants. A small group of 10 gifted and talented African American alumni who attended the program between 2013 and 2019 were chosen to represent the larger group of program alumni since 1996. I used purposive and snowball sampling, voluntary open-ended virtual interviews, a reflexive data generation process, dialogic design complexity to understand diverse ideas through open and focused dialogue, a clear data management plan that was trustworthy, and ensured following ethical standards to protect participant privacy. Chapter 4 includes a discussion of collected data and research findings based on data analysis.

Chapter 4: Results

The purpose of this study was to explore perceptions and experiences of gifted and talented African American who were former high school students of an exemplar STEAM program regarding its curricular and instructional practices for academic success. There were three research questions which guided this study:

RQ1: What are perceptions of gifted and talented African American alumni involving culturally relevant instruction during their high school education experiences before joining the exemplar STEAM program and in other classes or programs while a member?

RQ2: What are experiences of the gifted talented African American alumni involving culturally relevant instruction in the exemplar STEAM program?

RQ3: What are gifted and talented African American alumni's perceptions of how participation in the exemplar STEAM program contributed to their cultural competency needs?

To gather data for this basic qualitative study, 10 African American alumni of the exemplar STEAM program between 2013 and 2019 participated in semistructured interviews via Zoom. In this chapter, I present the setting of interviews, data collection, and data analysis processes. Additionally, I include study results, evidence of trustworthiness, and a summary of findings.

Setting

I conducted semistructured interviews using Zoom to ensure confidentiality. All participants participated from home and opted to keep their cameras on for conversation

purposes. However, only audio recordings were kept and used for this study. All participants joined their interviews with individual confidential meeting links and passwords. The allotted amount of time for each interview was 1 hour; however, the average time for interviews was 45 minutes, with three interviews under 30 minutes, four interviews between 45 minutes and 1 hour, and three interviews that were approximately 45 minutes long.

The study began and was conducted during the COVID-19 pandemic; however, interviews were conducted after shutdowns in the U.S. ended. Participants also had to be and identify as African American. They all held leadership roles and participated in the exemplar program.

Data Collection

Following receipt of Walden University's IRB approval on August 1, 2022 (approval #08-01-22-0758817), I began to recruit participants for my study by posting recruitment flyers on the exemplar STEAM program's alumni social media sites. My Walden University email address was listed on the recruitment flyer and potential participants began responding in the comments of the post via email as well as through corresponding social media messaging applications. I responded to all potential participants within 24 hours of receipt of their interest with consent forms.

Through this method, I recruited all participants and conducted all semistructured interviews for 6 weeks between August and September 2022. In total, I conducted 10 interviews with African American gifted and talented alumni of the exemplar STEAM program. Each interview was conducted using Zoom, and audio was recorded through

Zoom and Otter. After each interview, I created a confidential folder on my hard drive which was labelled with the pseudonyms of alumni. All audio recordings, transcripts, and field notes were saved in corresponding interview folders.

I used Otter to create transcripts. I listened to each audio recording multiple times, compared it with the Zoom audio recording, and revised transcripts accordingly to ensure they were correct. I took handwritten notes during each interview and took photographs of these notes to create digital copies of field notes. Each transcript had a corresponding qualitative codebook created from a list of a priori codes based on STEAM education, CRP, and cultural competency.

In Chapter 3, I stated my original plan was to have eight to 12 participants. At first, it was challenging to obtain participants for my study using only the social media alumni pages I had access to. As people began to share the recruitment flyer with those who fit study criteria, I began to receive inquiries and confirm participants. Snowballing was essential to the recruitment process, as all following participants were recruited from participant referrals. After the ninth interview, no new information was gathered. I continued and interviewed the 10th participant due to it already being confirmed and scheduled. No new information was introduced from the 10th interview. Therefore, data saturation was reached after 10 interviews.

One interview was interrupted due to a loss of electric power and Wi-Fi connection and the international location of Participant 9's home. Participant 9 quickly shifted to a mobile network to reestablish internet connection, and we continued the interview without further interruptions. Due to the slower mobile network, I wrote

questions in the chat and read them aloud to ensure Participant 9 was able to understand questions and respond accordingly. A second interview was interrupted briefly due to Participant 4's mobile device falling. The participant quickly arranged a more secure location for the device, and we continued the interview without further interruptions.

Data Analysis

For my basic qualitative study, I focused on perceptions and experiences of gifted and talented African American former high school students of an exemplar STEAM program regarding its curricular and instructional practices for academic success. This study was conducted to address this topic and instruction they received as members of the program to support their academic success and cultural competency. I used member-checking as part of the process to ensure participants' responses were recorded and interpreted correctly. Data analysis began once I completed the first interview.

The first step of the data analysis process was the creation of confidential digital files with pseudonyms designated for each participant. The second step was creation of a qualitative codebook of 25 a priori codes based on STEAM education, CRP, and cultural competency. The third step was taking memos as field notes during interviews. Upon completion of each interview, the qualitative codebook, transcript, audio file, and field notes were saved into confidential digital files labeled with pseudonyms for each participant. The fourth step of the data analysis process involved reviewing transcripts multiple times to identify 83 in vivo codes based on what participants actually said and further understand their cultural perspectives and world views (see Table 2).

Table 2*A Priori and In Vivo Codes*

A Priori Codes	In Vivo Codes
Affirm racial, linguistic, and cultural identities	Americanized
Active listening	Anatomy
Building understanding and vocabulary	Avoided culture
Collaboration	Build up students
Communication	Confidence for public speaking
Creativity	Community
Critical thinking	Accountability
Cultural awareness	Americanized
Cultural competency	Anatomy
Cultural desire	Arts-based instruction
Culturally effective engagement	Arts events
Cultural knowledge and skill	Avoided culture
Cultural proficiency	Build up students
Cultural respect and care	Career skills
Demonstrating empathy	Confidence for public speaking
Empathetic and caring teachers	Community
Empower students intellectually, socially, emotionally, and politically	Communication
High expectations	Coping mechanisms
Impart knowledge, skills, and attitudes using cultural references	Creative instruction
Includes student cultural experiences	Cultural appreciation
Intercultural or cross-cultural communication	Cultural identity
Prepare students for rigorous independent learning	Cultural inspiration
Presentation	Cultural representation
Problem-solving	Cultural representation in one class
Reflection	Cultural understanding
	Culturally blind
	Culturally detached
	Culturally inclusive events
	Culture not talked about
	Diversity acceptance
	Diverse community with no cultural discussions
	Encouragement
	Exposure
	False self-discovery
	Family connections
	Family in school
	Family norms
	Family not concerned with culture
	First generation American
	Foundation
	Free to be yourself
	Fun
	Hands-on
	High expectations
	Hip Hop culture
	History

A Priori Codes

In Vivo Codes

Increased confidence
 Increased self-esteem
 Interdisciplinary achievement
 Interdisciplinary instruction
 International food festival
 Lack of cultural familiarity
 Lack of cultural talks at home
 Lack of love for African culture
 Lack of mentorship
 Lonely
 Mental health support
 Mentorship
 Motivational instruction
 Musical family
 Music and dance
 No cultural awareness
 No guidance
 Non-motivational teachers
 Nothing culturally relatable
 Only African or black girl in STEM
 On my own
 People made fun of us
 Reaffirming
 Real-world responsibilities and experiences
 Repetition
 Representation
 Safe space
 Seen
 Self-confidence
 Self-love
 Shared cultural experiences
 Support
 Strict parents
 Teacher as parent
 The irony of current cultural acceptance
 Time management
 Transferable knowledge
 Understanding and respect
 Unsure
 Useful
 Validation
 Vocabulary
 Work together

During the fifth step of the data analysis process, I listened to the interviews again and categorized the codes into 14 categories and six themes based on the a priori and in

vivo codes identified (see Saldana, 2016). I also listed my codes to organize them, as recommended by Amanfi (2019), to reflect the data collected for each research question. The sixth step in the data analysis process was to represent and visualize the data through three tables for clear comparisons and representation of the data based on each of the three research questions. During this step, based on the recommendations of Amanfi (2019), I developed each theme from the working definitions of the codes and illustrated the data in a table. The final step of the data analysis process was to develop and assess the interpretations or meaning of the data.

Table 3 illustrates the data that support Research Question 1. Research Question 1 asks: What are the perceptions of the gifted and talented African American alumni with culturally relevant instruction during their high school education experience before joining the program and in other classes or programs while a member? Table 3 depicts 28 codes, six categories, and two themes. In Table 3 I grouped the codes to form the categories: culturally lacking in school, culture in one setting, isolation, uninvolved teachers, culturally lacking in family, and culturally unaware.

Table 3

Codes and Themes Connected to RQ1

RQ1: What were the perceptions of the gifted and talented African American alumni with culturally relevant instruction during their high school education experience before joining the program and in other classes or programs while a member?

Codes	Categories	Themes	Quotes
Culturally detached Diverse community with no cultural discussions Lack of love for African culture	Culturally lacking in school	Theme 1: Before joining the exemplar STEAM program, gifted and talented African American alumni perceived their academic experiences to be lonely and	A8. "Culturally? I wouldn't. I wouldn't say I found any familiarity within it." A1 "People used to actually make fun of us. And it's so funny now

RQ1: What were the perceptions of the gifted and talented African American alumni with culturally relevant instruction during their high school education experience before joining the program and in other classes or programs while a member?

Codes	Categories	Themes	Quotes
Nothing culturally relevant People made fun of us		isolated by the lack of culture in school from the absence of discussion, teachers who were uninvolved with the cultural and social-emotional needs of their students, and peer exclusion but yearned to feel inclusion, understanding, motivated, mentored, community, and safety at school.	because like now, oh, you want to know Africa”
Cultural representation in History Class	Culture in one setting		A10 “The only thing is probably history. My history class.”
The irony of current cultural acceptance On my own Unsure Only African/Black girl in STEM	Isolation		A2. “I didn’t really have nowhere to go I just had to figure it out on my own”
False self-discovery Lack of mentorship Lonely No guidance Non-motivated teachers	Uninvolved Teachers		A5 “The teachers weren’t really involved like that to take on a coaching mentality or guidance mentality, to be honest. No true mentorship, no true coaching.”
Americanized Culture not talked about False self-discovery Family norms Family not concerned with culture First generation American Lack of cultural talks at home Musical family Strict parents	Culturally lacking in family	Theme 2: The alumni perceived themselves to be unaware of their own and the culture of others due to inadequate cultural education and practice at home with family even though they desired more self-awareness and cultural understanding.	A1 “As a first generation American, I kinda was a little bit, I would like to say detached but I wasn’t as well versed as I wanted to be, at that point in time”
	Culturally unaware		

RQ1: What were the perceptions of the gifted and talented African American alumni with culturally relevant instruction during their high school education experience before joining the program and in other classes or programs while a member?

Codes	Categories	Themes	Quotes
Avoided culture Culturally blind Lack of cultural familiarity No cultural awareness			A6. "I was kind of not sure of the African roots in that culture. I was very, like blinded to it...but it wasn't until I actually joined you know, the class and the program...and everything's kind of making sense"

The categories developed into themes as follows. Theme 1 was before joining the exemplar STEAM program, gifted and talented African American alumni perceived their academic experiences to be lonely and isolated by the lack of culture in school from the absence of discussion, teachers who were uninvolved with the cultural and social-emotional needs of their students, and peer exclusion but yearned to feel inclusion, understanding, motivated, mentored, community, and safety at school. Theme 2 was alumni perceived themselves to be unaware of their own and the culture of others due to inadequate cultural education and practice at home with family even though they desired more self-awareness and cultural understanding. Additionally, I included quotes from the participants to support the developed codes, categories, and themes for RQ1.

Table 4 illustrates the data as they relate to RQ2. Table 4 includes 45 codes, five categories, and two themes. I grouped codes to form the categories student cultural empowerment, motivational teacher, creating community, creative instructional strategies, and preparing for life.

Table 4*Codes and Themes Connected to RQ2*

RQ2: What were the experiences of the gifted and talented African American alumni with culturally relevant instruction in the exemplar STEAM program?

Codes	Categories	Themes	Quotes
Build up students Confidence for public speaking Cultural representation Hip Hop culture Increased confidence Increased self-esteem Self-confidence Self-love Validation	Student cultural empowerment	Theme 3: The positive experiences of the alumni were attributed to the personality of the teacher and culturally uplifting instructional methods that provided collaborative strategies to handle life's challenges through a family-like community in school.	A5 "How we were communicated [with], the way we were taught things, the way that we were instilled different lessons and morals, were most effective for me as an African American student."
Coping mechanisms Encouragement Mental health support Mentorship Motivational instruction Reaffirming Support Teacher as parent	Motivational teacher		A9 "[The teacher], all she did was speak positive affirmations to us... it was really powerful. When she spoke, she was genuine. When she said that you were a light, she actually meant it...and she reminded us we're actually talented and we can do whatever we have to put our minds to."
Arts events Family connections Family in school Safe space Safety Seen Representation	Creating community		A2 "Having that community where I can say if I want somewhere to get away from the kids or schoolwork or I need help with something. I can always go there. It's definitely always been a place where I can go back and say if I have a problem, I know where to go. So that's always been a good thing for me."
Anatomy Arts-based instruction Exposure	Creative instructional strategies	Theme 4: The alumni credit the program's high achieving	A1 "The arts made a difference, kept me focused in school, [since

RQ2: What were the experiences of the gifted and talented African American alumni with culturally relevant instruction in the exemplar STEAM program?

Codes	Categories	Themes	Quotes
Foundation Fun Hands-on High expectations History Interdisciplinary achievement Interdisciplinary instruction Music and dance Repetition Transferable knowledge Vocabulary Work together	Prepared for life	environment and the instructional use of the Arts as real-life careers to learn culture for their academic success due to the repetitive interdisciplinary structure and transferable skills they were able to use as adults.	I'm] more creative than academic."
Accountability Career skills Communication High expectations Real-world responsibilities and experiences Time management			A7 "We always got the tools that I felt like we needed to know the foundations I think the foundation is what helped me learn everything I need to learn as far as academically as well when it comes to science, English, Math, History, etc, etc..that's what helped me academically in my classes."

The categories developed into themes as follows. Theme 3 was: the positive experiences of the alumni were attributed to the personality of the teacher and culturally uplifting instructional methods that provided collaborative strategies to handle life's challenges through a family-like community in the school. Theme 4 was: the alumni credit the program's high achieving environment and the instructional use of the Arts as real-life careers to learn culture for their academic success due to the repetitive interdisciplinary structure and transferable skills they were able to use as adults. I also included quotes from the participants to support the developed codes, categories, and themes for RQ2.

Similarly, Table 5 illustrates data as it relates to RQ3. Table 5 depicts 10 codes, three categories, and two themes. I grouped the codes to form the categories, cultural comfortability, diverse collaboration, and life-long cultural appreciation and acceptance.

Table 5

Codes and Themes Connected to RQ3

RQ3: What were the gifted and talented African American alumni's perceptions of how participation in the exemplar STEAM program contributed to their cultural competency needs?

Codes	Categories	Themes	Quotes
Cultural identity Cultural inspiration Cultural understanding	Cultural comfortability	Theme 5: Through culturally diverse arts-based instruction the alumni learned how to be comfortable engaging with people from different cultures and experienced cultural understanding as a long-term value.	A1 "I definitely felt seen and represented and everybody felt comfortable being their selves." A4 "Learning songs and learning Bachata like that was okay, but learning like Goumbe, Sinte, and all those African dances. I felt like it really represented. It really represented for everybody, not just me...I was just honored to be part of that. To be able to say I have a spot and to be able to perform it and didn't just represent me that represented everybody."
Diversity acceptance Free to be yourself Understanding and respect	Life-long cultural appreciation and acceptance		A5 "The person I am today, first of all being open to different cultures like this. So different. Different groups that are on the same page that are getting forward into positivity positively. And learning is definitely being open to family, like chosen

RQ3: What were the gifted and talented African American alumni's perceptions of how participation in the exemplar STEAM program contributed to their cultural competency needs?

Codes	Categories	Themes	Quotes
Community Culturally inclusive events International food festival Shared cultural experiences	Diverse collaboration	Theme 6: The alumni experienced opportunities to collaborate with different cultures, cultivate multicultural events, and create community in and out of school, which they expressed was beneficial to their overall learning experience.	family. Being open and chosen, because that was a chosen family and people, I feel bad for people who opted out of that class.” A3 “In the program that’s more interactive, you’re interacting with other individuals, you’re not working with the same people over and over. It doesn’t matter if you like the person or not, you’re still gonna work with the person. You know, you have to put your differences aside and you have to learn how to do that in the real world.”

The categories developed into themes as follows. Theme 5 was through culturally diverse arts-based instruction the alumni learned how to be comfortable engaging with people from different cultures and experienced cultural understanding as a long-term value. Theme 6 was alumni experienced opportunities to collaborate with different cultures, cultivate multicultural events, and create community in and out of school, which they expressed was beneficial to their overall learning experience. Additionally, I included quotes from the participants to support the developed codes, categories, and themes for RQ3.

Results

I created interview questions to elicit conversations around the central phenomena, gifted and talented African American high school students and STEAM education with CRP for academic achievement, to gain insights and understand this study's research questions.

I conducted several coding cycles and concluded with 83 codes. I then organized my codes into 14 categories and six themes.

RQ1

Through RQ1, I was able to elicit information about the cultural high school experiences of gifted and talented African American alumni prior to joining the exemplar STEAM program and outside of the program while they were a member. The following are the two themes developed from the responses related to RQ1. Theme 1 was, before joining the exemplar STEAM program, gifted and talented African American alumni perceived their academic experiences to be lonely and isolated by the lack of culture in school from the absence of discussion, teachers who were uninvolved with the cultural and social-emotional needs of their students, and peer exclusion but yearned to feel inclusion, understanding, motivated, mentored, community, and safety at school. Theme 2 was, the alumni perceived themselves to be unaware of their own and the culture of others due to inadequate cultural education and practice at home with family even though they desired more self-awareness and cultural understanding.

Theme 1

This first emergent theme in this study established the premise of the lack of peer inclusion, culturally and socioemotionally involved teachers, mentorship, community, and safety as perceived by the gifted and talented alumni as high school students before they joined the exemplar STEAM program. This theme came from the alumni recounting their experiences with culturally relevant instruction at school as gifted and talented African American high school students. Interestingly, there was variation in perceptions and degrees of isolation; however, there was consistency in the lack of cultural inclusion, relevancy, motivation, and community experienced by participants prior to joining the exemplar STEAM program. One of the 10 alumni participants had an isolated experience of culturally inclusion in history class. All 10 of the alumni participants discussed the need and want for more cultural experiences in school relating directly to their specific upbringing and their diverse classmates. The socioemotional response of the gifted and talented African American alumni to the lack of cultural relevancy in high school, with an emphasis on uninvolved teachers, connects to the conceptual framework of this study.

To gain further insight into the perceptions of the alumni during high school to answer RQ1, the participants were asked about the cultural familiarity and relatability of their experiences prior to joining the exemplar STEAM program. P4 stated, “I’m not sure of anything really, like related to me culturally.” P9 stated:

I was always like, the only African, the only black girl, the only girl, the only something now... a lot of the programs I participated in, were like programming

[STEM], you wouldn't really find women or black woman to be very specific like that.

Similarly, P5 stated, "It was a lonely route outside prior to my experience, it was very lonely." In agreement P2 mentioned, "I didn't really have nowhere to go I just had to figure it out on my own." Whereas P10 responded, "The only thing is probably history" when asked about cultural relevancy and familiarity in school. Feeling culturally included school was the overarching theme of the responses of the participants during the interviews in relation to RQ1.

P5, when asked about the type of instruction that took place prior to joining the exemplar STEAM program stated, "No true mentorship, no true coaching." P3 provided direct insight into teacher instruction by declaring, "We were little kids who are already lost and don't have no guidance. There was a lot of false self-discovery." P5 continued to share concerns about the teaching methods implemented for gifted and talented African American students outside of the exemplar STEAM program:

Teachers should understand or try to understand their students... everyone is from a different culture and culture shock is real. You're with different individuals, as a teacher, learn how to understand your classroom... where each person is from. Or like their general background. You don't want to offend individuals; you don't want to be disrespectful to another person's culture.

P5 attributed the lack of teacher responsiveness and relatability to the culture of African American students to the isolation they were subjected to from peers. In corroboration P1 shared a story about experiences as a proud African American gifted

and talented student. P1 stated, “Back when I was in high school. It was not like that. Nobody really liked the afros and loved the locs [dreadlocks]. Okay, everybody wanted to the blonde hair.” P1 continued to report, “People used to actually make fun of us. And it’s so funny now because like now, oh, you want to know Africa.” P5 reiterated “Lonely” when asked about experiences in high school prior to or outside of the exemplar STEAM program, which summed up the experiences of all 10 participants. Prior to joining the exemplar STEAM program all participants discussed the feeling of being culturally unknowledgeable from the lack of culture education at home and the impact it had on them socioemotionally as gifted and talented African American high school students.

Theme 2

The second theme emphasized the lack of cultural education at home which led to the need of more self-awareness and cultural understanding in life for the participants. The participants were asked to share about their experiences of cultural familiarity outside of the program while they were a member. Whereas all the participants expressed a desire for more cultural education at home, one alumni participant reported experiences of cultural relevancy at home with their families through music exploration. The remaining nine participants did not experience culturally embedded lessons at home. The perceptions of the alumni pertaining to their cultural knowledge of self and others directly correlates to the conceptual framework of this study. Varying degrees of the lack of cultural familiarity and education were expressed by the participants.

P3, reflected on cultural experiences at home prior to joining the exemplar program. When probed to share a specific occurrence of experiencing culture outside of the program P3 stated:

The only thing the only thing I can say, like outside of the program will be like music. And that's because that's something that I love. It's something I'm passionate about. And then like my family is a bunch of musicians.

Culture was not taught in detail within the home outside of the type of music the family engaged in, as shared by P1. When asked about levels of cultural familiarity and self-awareness as a follow-up question, P1 talked about being “Americanized” at home, “As a first generation American, I kinda was a little bit, I would like to say detached but I wasn't as well versed as I wanted to be, at that point in time.” Not being well versed culturally and experiences of double consciousness was demonstrated in a brief story shared by P1 to provide insight into the beauty choices between using chemicals to straighten natural African American hair in high school to fit into the mainstream culture expressed by peers. The story by P1 disclosed the cultural, social, and psychological battle of double consciousness for African American high students between maintaining a natural African hairstyle or adopting Eurocentric beauty standards of wearing hair in a chemically relaxed state, with blonde hair coloring, or a combination of naturally curly hair with bleaching to make the hair blonde. To fit in to the mainstream culture of peers and society while maintaining an aspect of African American cultural expression, P1 decided to remove the chemically straightened hair and wear a naturally curly afro with blonde hair coloring to school. P1 stated:

Okay, everybody wanted to the blonde hair, you know I like my blonde, but everybody wanted the 20-inch weaves and stuff like that. So, it was not like that. Nobody, outside of like the Caribbean music, was really into Afro Beat or into African dances and stuff like that. So, outside the program there wasn't anything really that I can say that stood out to me culturally. I want to know the African songs, and you want to know the African dances but back then nobody cared about those types of things. It wasn't like that.

In reflection of their cultural experiences as a gifted and talented African American student prior to joining the exemplar STEAM program, P8 reported, "Before the program, you don't really pay attention to things until somebody points them out to you." In agreement with and expounding on the point made by P8, P6 postulated, "I was kind of not sure of the African roots in that culture. I was very, like blinded to it...but it wasn't until I actually joined you know, the class and the program...and everything's kind of making sense." Prior to joining the exemplar STEAM program all participants discussed the feeling of being culturally unaware in a culturally unresponsive school environment and the impact it had on them socioemotionally as gifted and talented African American high school students.

RQ2

Through RQ2, I was able to gather insight about the high school experiences of gifted and talented African American alumni in relation to CRP while they were members of the program. The following are the two themes developed from the responses related to RQ2. Theme 3 was, the positive experiences of the alumni were attributed to

the personality of the teacher and culturally uplifting instructional methods that provided collaborative strategies to handle life's challenges through a family-like community in the school. Theme 4 was, the alumni credit the program's high achieving environment and the instructional use of the Arts as real-life careers to learn culture for their academic success due to the repetitive interdisciplinary structure and transferable skills they were able to use as adults in their careers.

Theme 3

The participants were asked to share an experience where they believed a specific part of class or lesson assisted in either their academic success or lack thereof. In response to the inquiry, the participants talked about the impact of the teacher of the program, instructional strategies used, and the feeling of safe community cultivated within the program that helped them through their high school career. These accounts developed into the third theme. The experiences of several participants displayed the direct impact of high levels of cultural responsiveness and effective communication on behalf of the teacher, which is in alignment with the conceptual framework of this study.

P5 shared, "How we were communicated [with], the way we were taught things, the way that we were instilled different lessons and morals, were most effective for me as an African American student." P6 provided further insight on what P5 shared by stating:

I felt like the lessons that she provided with us most of the time made me feel validated, understood, seen...I was able to gain something from it and ...walk out with some kind of gems to where I wasn't the same before that lesson or that piece of information.

As asserted by P1, “That program definitely helped us a lot academically, I wouldn’t have done well without the program, I was at my lowest when I couldn’t be a part of it.” Feeling culturally confident and motivated by a teacher in school was described by P8, “Every time you left out of the studio you always felt inspired. You always felt like you know, like, hey, I’m gonna go out and be the President right now. Like you always felt like a confidence within yourself.” In agreement, P9 shared a specific communication strategy that was implemented, “[The teacher], all she did was speak positive affirmations to us...It was really powerful.” Support of the instructional strategies implemented by the teacher of the exemplar program was shown by P9: “When she spoke, she was genuine. When she said that you were a light, she actually meant it...and she reminded us, we’re actually talented, and we can do whatever we have to put our minds to.”

The approaches of the teacher were compared to that of a parent as stated by P2: [The teacher] always tried to reach out to the students...it’s like you had a parent at school, which sounds like a bad thing. But it’s because some students need that and some students need that extra push in order to get them where they should be or where they want to be because it’s high school.

In agreement, P5 expanded on the idea of the teacher as a parent and included peer students in the program as siblings, “It was a less lonely experience because I actually connected with brothers and sisters in the program.” The family environment cultivated in the program created a community for the students as expressed by P6, “From freshman year when I joined [the program], I kind of just felt the community.”

The participants discussed a feeling of family, safety, respect, motivation, mental health support, and encouragement from peers and the teacher. P4 explained this experience: “Being around that environment and feeling like they were like my family...that did help with my confidence throughout school and...It was just a safe space for me.” To further elaborate on this concept of family P4 shared a story of the loss of a parent senior year and how being in the program combined with the motivational words of the teacher pushed P4 to not drop out of high school. P4 described how being in the exemplar STEAM program was the driving force that led to graduating high school on time:

At the time of high school, my last year I did lose one of my parents, and I was going through like really, really tough, really hard depression and stuff like that. I feel like that’s why a lot of the stuff that I’ve learned in dance, a lot of stuff that didn’t really help me as much because I was going through my own stuff, but [the teacher] was one of those people that, one of the teachers that I felt like comfortable with. I don’t remember if it was during class or during a [program] practice. I believe it was during a [program] practice, we were doing salutation earlier in the dance. They do like praise dance almost. I remember I was so emotional one day during class and [the teacher] came up to me, and I can’t remember [the teacher’s] exact words, but I remember after that. That was like towards like the middle or towards the end of high school. I forgot exactly what she said to me. But I remember that helped me finish like school, like finish the last few months because I was ready to drop out of high school. I did not want to

go back. I was sitting in the hallways every period because I didn't want to. I was just so depressed. And I do know is all I wanted to do was dance. And I remember [the teacher] did tell me something during salutation. I don't know. I really don't remember [the teacher's] exact words. But I remember that whatever [the teacher] did say it did push me. It really did, and it pushed me to finish high school because again, I was going through depression and like my friends kind of didn't know how to not only deal with me but like talk to me about it or just like ask the right questions and stuff like that. So yeah, I felt like I was dying as well and maybe two other teachers were one of the only teachers, I felt like we're really motivating when it came to that, and I think [the teacher] just saw in that moment when we were doing the praise dance. And I was just emotional. Everything [the teacher] again, I wish I could remember exactly what [was] said. I remember [the teacher] told me that we were going to perform salutation, and we could like, we can dedicate it to my dad or something, but I remember [the teacher] said something else that was just really, really motivating. I just remember from then I kind of stopped dancing for [the program] also after that, like I kind of just wanted to focus on school. But I remember it helped me finish like I remember I was like okay, maybe I should give all the dancing a break, cheerleading a break, everything a break. But I am going to finish school, so that it did.

Later in the interview P4 revisited their thoughts on the personality of the teacher and shared this anecdote:

[The teacher] made dance really fun. And that's something that's really, really important when it comes to a dance teacher and as a teacher in general, because I'm a very big. I'm very big on mental health. And I feel like kids nowadays really need to be more aware of like mental health and just like what it really can do to the differences between depression and anxiety, stuff like that. And I feel like having a teacher like [the teacher] not only will it help prevent that, but I feel like it can help. Like, it could just help with that, in a way because I saw dance as a safe space. So, I used to come and dance all my feelings away and whatever and having a fun teacher, like [the teacher], being so outgoing. And I knew at the time [the teacher] was in her late 50s, or whatever [the teacher] was, compared to me at that time. [The teacher] was an older lady, you know, so seeing somebody that age and still having so much energy and just so full out and so like, like [the teacher] was just so determined and just [the teacher] had this umph to her like this passion, this fire, and I just feel like every dance teacher needs to be like that every teacher in general needs to be like that. And I wish, I hope that that same way one of the children [I teach], like swear to God I try to channel [the teacher] as much as I can. Just having a teacher like a very, very important the same charisma, the same funky energy the same everything. Like I felt like if [the teacher] wasn't who [the teacher] was I probably wouldn't have danced throughout high school because yes, I came into high school I wanted to learn how to dance, and I used to watch music videos all day. But again, being the person that [the teacher] was that really pushed me to want to dance like [the

teacher] was a very encouraging person and energy which is very addicting. I felt like I was almost a kid version of [the teacher] because I used to be really hyper, and I know that was I was one of those teachers that was you know, it just kinda like it made me wonder like just be myself, because I knew I was also one of those hyperactive people, and you know, it's okay to be like that. It's okay to be a teacher like that, and I just wish [the teacher] the best.

P2 reflected on supportive experiences within the community of the exemplar STEAM program:

Having that community where I can say if I want somewhere to get away from the kids or schoolwork, or I need help with something. I can always go there. It's definitely always been a place where I can go back and say if I have a problem, I know where to go. So, that's always been a good thing for me.

Although, the alumni were students in the program the experiences were positive based on the personality of the teacher and culturally uplifting instructional methods that provided collaborative strategies to handle life's challenges through a family-like community in the school.

Theme 4

Theme 4 was centered around how the high achieving environment of the exemplar STEAM program and the instructional use of the arts as real-life careers through CRP and STEAM countered the deficit thinking approach where African American gifted and talented students are seen as underachievers. The participants were asked their opinion on the main parts of the program that included STEAM or language

on a level that was challenging academically, In response, the participants shared successful experiences with CRP and STEAM related to the interdisciplinary structure and transferable skills learned through real-world arts-based opportunities that are aligned with the conceptual framework of this study. The participants saw learning anatomy and fulfilling the various real-life careers as challenging; however, they transferred the skills of repetition learned to support their fulfilment of those roles. The varying participant experiences detailed how cultural identity through the instructional use of the arts as real-life careers was implemented as an entry point to instruction and upliftment for them as African American gifted and talented high school students.

P9 shared stories about the impact of participating in culturally relevant repetitive arts-based instruction with opportunities for real-world experiences both in high school and in college:

So not only did my grades increase I learned time management. I was more confident. The confidence [in] other parts of class when a person's in class even if you get it wrong, you're gonna learn. So, the class itself in taking [the teacher's] class itself, you see how we always went through the bones and muscles that always helped me in my science classes. Every single time, every single time without fail in science that always helped me even outside of class and outside like exams and stuff like that. I shine because of that. So, that was like always a plus. In terms of my failure academically, I've never experienced that. Because even with adding, [the program], [the program] taught me from time management, so I was always able to do what I got to do for academic wise, my robotics

program, my College Now, everything was always in order, because I was taught time management in [the program]. I would have never looked into arts for anything. I wouldn't have taken an art program I would have never explored my artistic abilities outside of like, just doing it for fun at home. I would have never taken an art class in college. I would never I would have never looked at arts periods. I wanted to strictly stay in a state of my STEM it wouldn't be STEAM it would just be STEM. Well, actually... my parents would have never been open to me leaving robotics, leaving my mechanical engineering for a fashion major. They [my parents] did see the impact [the program] had on me. The number one impact it had on me was how it was it was a mental thing I could come up with come up with the right words to explain it. But back then, the only time I would really speak is if I actually had to. You know I would never really put myself out there. It would be if I actually had to and if it was actually related. That's when I would speak but after [the program], I was actually talking to people who didn't even ask me to talk. I was representing and presenting when people didn't ask me. It almost turned into I'm like [P9] I want you to sit down and allow people to answer. So, that was great, great, great, great impact that I credited to [the program] the confidence that I have built through [the program]. I learned to put myself in a position where opportunities were handed to me awards were handed to me. I even applied [for a] scholarship and when I was applying to it when I first learned about it, I was like no, I'm not gonna do it. And then the year before I started college, I applied for it. And I've got it twice.

The experiences of P9 focused on the increase of academic achievement, personal responsibility, and confidence gained from being a member of the exemplar STEAM program. Whereas P8 included the socioeconomic and socioemotional realities of the students with arts-based instructional strategies. P8 stated:

Coming out of poverty or whatever situation going on...being an African American student. It's hard to get kids engaged...but I think music and dance really engaged them within school. It kept them in school...to do to do better for themselves.

P1 corroborated the experiences of P8 and P9 by saying, "The arts made a difference, kept me focused in school, [since I'm] more creative than academic." P1 shared struggles with academics in high school; however, through success through the arts they were able to transfer the confidence and skills to their academics for success, specifically in biology. P1 reflected:

I'm not good at science. Was never good at science probably like to say it's my least favorite subject, but we definitely did a lot of biology. We learned all our bones and our muscles. To this day, I can stand up and tell you where my ulna is, you know? We definitely learned that. We definitely had to say that every day, sometimes twice a day.

Participants were asked about the most effective lessons experienced as a gifted and talented African American high school students. The response of P7 supported the claims of the other participants by sharing experiences with repetition, receiving a strong

foundation to support learning in traditional academic subjects, and arts-based strategies for learning vocabulary. P7 stated:

So, the most effective [lessons] was the repetition and being able to help others being able to teach their students and then also being able to work on yourself every year to be better. We always got the tools that I felt like we needed to know the foundations. I think the foundation is what helped me learn everything I need to learn as far as academically as well when it comes to science, English, math, history, etc, etc. That's what helped me academically in my classes. I feel like for me, it would be knowing the vocabulary for every dance that we learned every day that we had to learn, no matter the genre, ballet, African, etc, etc. We always had to know the vocabulary we know where everything came from. Like, I also had to utilize that with other academics because I needed to know the vocabulary and where things meant and definition and the terms that I can use going forward or something like that plays a big part in knowing the vocabulary for everything.

When questioned further about how the effective lessons contributed their academic achievement and life-long learning, P7 responded similarly but with more detail:

Me being in the program, I got to learn that I can't be a follower. I have to be a leader. And I feel like that was also something that was instilled in me that I do have the leadership skills, and I do have what it takes to be the leader in the room, and I feel like that also put me in the place to where I didn't have to follow everybody. I didn't have to do certain things at the school. I could go to dance, and I could do this, and I could do that without having to be academically failing

or not, you know, having my grades up to par. As long as my grades being low at a certain point of time and not being able to participate in certain dance shows or dance events that we had at school. So, there also was a tool that I took to put towards my kids was that you need to be passing in school academically in order to be a part of the dance committee because being a part of the dance is opportunity. I felt like [the teacher], I feel like [the program] showed me how to not care about being judged how to just be you and just have fun, do what you want to do. Or the times that you could do it because I wish I could go back and do it again. So, I feel like that's what it showed me the most by being judged by doing what makes you happy. And being in a room that you feel like you're growing in, gaining the most experience that you gain. I feel like I've also met people along the way that I feel like it's installed some knowledge in me as well, who are like former alumni past alumni. I feel that also helped me as well.

When asked to elaborate with specific instances where instruction was arts-based, interdisciplinary, and led to academic success in other areas P5 mentioned, "Physics. It was like the mindset transfer. It was the mindset of [addressing] problems... that helped me transfer into my academics... because] academics are hard." The thought process of critical thinking and problem solving in the arts led to success in the sciences. In response to the same question regarding cultural instructional strategies P4 provided the following insight to cultural familiarity through repetition:

[The teacher's] teaching method that [the teacher] uses, [the teacher] uses like a call and response teaching method. Like don't speak unless spoken to, you know,

like, the “Ago, Ame” [from Ghana, West Africa] kind of stuff. I think that like culturally, it resonates with me because in my home it’s very structured very much in discipline and sounds like those don’t speak unless spoken to.

P2 elaborated on this repetitive instructional strategy that was also shared by P1:

There was something [the teacher] always repeated...There was always some history to it, and it made you enjoy doing the performances even more because you knew the origin...[She] always made it fun...When you’re active. I think it does more, being in an active space...because...everyone learns a little different.

In addition to call and response as a repetitive cultural strategy, the participants provided insight on the real-life arts-based careers they participated in as members of the exemplar program. P2 specified, “There was people in charge of music. [There] was a stage manager or maybe two stage managers. There were specific people in charge of specific dances, you know, teaching specific parts of the dance.” P3 elaborated on the responsibilities of participating in real-life arts-based careers in high school:

There were responsibilities and so...[I] learned how to deal with money. You got to learn how to write things, do things on the computer, and these are things that you’re doing, like as if they’re in the office...It allows you to take responsibility and focus on deadlines, it’s like you’re running a business...You had to deal with being able to communicate with individuals and knowing how to speak to people...Not only in school, but in life in general.

Gratitude for the experiences in the program with the teacher was expressed by all participants because responsibility and transferable life skills were learned through real-world opportunities in the arts. P1 stated:

Thankfully, we had a teacher who actually pushed us. It was you know, you should learn how to do these things. You should learn how to work a computer you should know how to formulate, you know, a document. You should learn how to run a stage, run a studio, you know, and that definitely helps me, you know, when it came to classes and stuff like that. It made me definitely feel a little bit more responsible.

When probed further about the specific jobs each participant held during the program, the related responsibilities, and how the experience supported learning, P1 shared:

[I was the] manager, studio and stage manager so...I had to do the TV and radio, and you know, make sure that the lights are good and just make sure that everything electrically in the studio was up to par ready to be used whenever practice started and things like that. So, the person who was still on stage the year before, I didn't learn because I wasn't supposed to have the job next year. I don't remember exactly what happened. But it was like, oh, you're here. So, now you're sticking to it. So, I was kind of like thrown into the line of fire and, I was like, Okay, I don't know how to work this, but definitely had to learn on the job. There was a lot of trial and error. But you know, kind of figured it out.

P2 fulfilled the role of assistant director as a member of the program and shared this reflection pertaining to responsibility and the collaborative family environment:

There was people in charge of music was a stage manager or maybe two stage managers there were specific people in charge of specific dances you know, teaching specific parts of the dance. And then [the teacher] always would say “each one teach one.” So, if you didn’t know then you ask somebody else and then they tell you. There were times they were alumni that come back, and they’d help out with stuff as well. So, you know, everybody had a specific purpose, but we all knew what the main goal was. So, even if the person that was in charge of that specific thing, didn’t know exactly what to do, or if they were busy with something else, I can always go to somebody else that’s done it before so that they know what to do. And that’s where the alumni come in too because they did it for you know, 4 years or whatever. The case may be before so they know exactly how it would how it’s supposed to be done.

In a similar fashion, P3 responded to the same question about jobs held during the program and responsibility by saying:

I found dance. I found the program. And it helped me to really truly become the person that I am. I will say, I became a lot more organized because before, like, trust me like I’m organized but in my own little way, but it helped me to become a lot more organized as a person and to have more structure. I will say that in terms of structure like before, even now where I am currently, like it’s helped me to be able to run like my business, and things of that nature because of the skills that I learned on because I held a lot of leadership positions. And I was really doing a lot I was I was working with money, like being doing treasurer duties, and like

that really helped me and then running the company was another thing. So, like it was more being mature and growing up faster in that space. So that when you do get into the real world, you're not surprised by the things that you have to do in the real world in terms of jobs, or whatever it is. But before you know there was really nothing to help me like mentally, and I feel like the program helped me mentally from things that are from family issues to everything because it was just a safe space for me to be in.

In reflection on how being a member of the exemplar program affected their lives as professional adults, P6 stated, “[The teacher] really solidified in me the importance of being on time and [the teacher] constantly, and I never take this for granted, gave us the proper channels to go when you have a problem with a person of authority.” As an adult fulfilling an arts-based career, P7 shared:

It helps me now actually, now that I'm a dance coach...I feel like it helped me culturally and historically because now I get to pass all the tools down to my dancers, and I get to teach them things other than dance that will help them outside of things.

In agreement with Participants 6 and 7, P10, who is now a public school teacher discussed how “[Learning about] the blueprint of arts [was most effective] because now I'm pretty much a teacher right now.” When asked to respond to this question, P4 again reflected on the experience of being captain of the program and losing a parent while being a member of this program and shared:

[The teacher] definitely pushed me to be a dance coach, and I just remembered what [the teacher] told me that day when I was talking about my parent. I remember [the teacher] told me one day that I have talent that can move mountains, and I remember ever since [the teacher] told me those words I always use that. I use that to my students whenever they feel like they don't want to keep going or whatever I tell them 'listen so and so, you have talent that will move mountains. You got to do this. You got to be better.' You know, was the words that [the teacher] told me that day during class, and I remember that did push me. Yes, I did stop in art, but it pushed me in other subjects that I was like okay, maybe I do have time, and I can go straight to wherever I want to go and stuff. So, that's why you know finish school for going back to that question. Yeah, I want to say that our class really helped to mold me because I again, every time that I'm teaching or every time or like teaching a dance class, I'm just like I'm in a dance class. Something always puts me back to there. Whether it's something that a kid does or says or experiences Yeah. [the teacher] molded me as a dance coach.

The alumni experienced a high achieving environment and real-life careers in the arts and recounted instances the exemplar STEAM program supported their academic success in high school, increased self-esteem, confidence, and the ability to transfer the interdisciplinary skills learned long-term into adulthood and their careers.

RQ3

Through RQ3, I was able to gather insight about the high school experiences of gifted and talented African American alumni related to how participation in the exemplar

STEAM program related to their cultural competency needs long term. The following are the two themes developed from the responses related to RQ3. Theme 5 was, through culturally diverse arts-based instruction the alumni learned how to be comfortable engaging with people from different cultures and experienced cultural understanding as a long-term value. Theme 6 was, the alumni experienced opportunities to collaborate with different cultures, cultivate multicultural events, and create community in and out of school, which they expressed was beneficial to their overall learning experience.

Theme 5

Learning about culture of self and others through arts-based instruction for increased cultural competence is the basis of the fifth theme and is directly linked to the conceptual framework of this study. All participants mentioned engaging in arts-based instruction and multicultural events, however, six of them shared instances that specifically focused on the cultural instructional strategies implemented by the teacher. When asked about how they felt supported, included, and represented culturally in the program P7 stated, “I felt like [the teacher], I feel like [the program] showed me how to not care about being judged, how to just be you and just have fun, do what you want to do.” P9 supported this feeling by saying, “Inside the program, there wasn’t any discrimination whatsoever.” P8 shared in detail:

[The teacher] always found a way to tie into our lives, to make you look at things in different perspective, rather than just looking at life through one lens. She kind of opened you up and kind of opened us up in for like, different points of view different languages, different worlds, that you would never think about. But when

we speak about the program, it always brought life into a different perspective and into a different view.

P1 supported the perceptions of Participants 7, 8, and 9 about feelings for cultural support, inclusion, and representation by stating, “I learned so much about my culture, different cultures, African cultures, songs, the history we learned, the different languages, the [cultural] practices.” P1 went on to say, “I definitely felt seen and represented and everybody felt comfortable being their selves.” In agreement and expansion P4 shared an experience with specific dances and music learned while in the exemplar STEAM program:

Learning songs and learning Bachata like that was okay, but learning like Goumbe, Sinte, and all those African dances. I felt like it really represented. It really represented for everybody, not just me...I was just honored to be part of that. To be able to say I have a spot and to be able to perform it and didn't just represent me that represented everybody.

In accord with the sentiments of other participants regarding being comfortable learning about, understanding, and working with other cultures, P3 reported:

Not only were we dealing with things from like Africa, we were dealing with a lot of diverse things, and a lot of different people and individuals so that being able to deal with different individuals from different cultures, because everybody's not from the same place. Being in the space allowed me to properly respect the culture of other individuals

P2 shared an experience as a new member of the program. Their West African accent and language was misunderstood. When asked to expand on how that experience affected P2 culturally, the response was:

There were so many different cultures. Everyone felt like they belonged. So, I don't think anyone would feel some type of way about something. In a specific culture, and even if that was the case, we'd always speak about it because either at the end of the beginning of most classes, we would sit down in a circle and have like a circle time so we would talk about, you know, different topics, and most times if you're comfortable enough, we will talk about that while we're talking so we can all discuss it. If someone feels some type of way about something that happened in class, we talk about it, so I don't I don't think me personally No, I didn't have a problem with that. But there were always opportunities where if it felt like your culture wasn't being represented in a certain type of way or you didn't like how something was done, it can be discussed.

Echoing the sentiments of P2, P7 recounted experiences in the program that created a culturally familiar family-like experience that fostered a long-term value of culture. P7 went on to say:

It felt like home. And when I joined [the program], I felt like it felt like home, and for me it was more of a cultural thing because I felt like I had so many people before me who also like big brothers and big sisters. I also had a bunch of big sisters, but once I joined it was just like family-oriented, and also it felt like home in terms of the discipline in the structure because that she felt like somebody from

home. That's why I was so comfortable being involved with so many different things. I want to get into the dance program.

As a leading question, all participants were asked to describe how participation in the program changed their overall educational experience and contributed to their lifelong accomplishments and the person they are today. P5 reflected on their experiences in the exemplar STEAM program and how it affected them as an adult by saying:

The person I am today, first of all being open to different cultures like this. So different. Different groups that are on the same page that are getting forward into positivity positively. And learning is definitely being open to family, like chosen family. Being open and chosen, because that was a chosen family and people, I feel bad for people who opted out of that class.”

Through culturally diverse arts-based instruction the alumni learned how to be comfortable engaging with people from different cultures and experienced cultural understanding as a long-term value.

Theme 6

Having multiple opportunities to experience in-depth collaboration with different cultures, produce multicultural events, and create community in and out of school is the essence of Theme 6. The participants expressed in detail their hands-on experiences with the creation of multicultural events through real-world arts career exploration within the program, which is in alignment with the conceptual framework of this study. When asked to describe how participation in the program changed their overall educational

experience, contributed to their life accomplishments, and the person they are today P2 shared a story about the community they were connected with outside of school.

We always used to go to performances at [prominent theater]. That was always a nice thing. Because that was that you got to see people that are of the same you know, cultural background from different places like it wasn't just people that were in [the program]. It was people from other places as well that like other dance programs, and then even people that were in [the program] before because [the program] is a is a big company. A lot of people don't realize it but it there are [the program] members everywhere. So, going to performances outside of school was also it was also very nice.

Presented with the same question, a story about the program being prevented from operating inside the school building for one year. P9 shared:

Even outside of the program. There was this one year we couldn't use the dance studio in [the school]. I don't exactly remember why. We couldn't use the dance studio. And [the teacher] literally found a studio not too far from [the school] at the Boys and Girls Club. I ended up making great connections there too. Listen, [the teacher] would take us to a potluck and stuff like that. We will be making connections. And somebody will connect us to people outside of our dance [company] which is normally around and in the school.

The participants reflected on their communal experiences outside of the school and multicultural events inside of the school they produced within the program as they fulfilled their real-life arts-based careers. P1 specified:

There was a lot of Caribbeans, Africans, Black Americans. We learned a lot about different cultures, food festival twice a year, we got to learn a lot more about peoples' cultures, ideas, history.

In acknowledgement and celebration of the diverse cultures in the program, P6 shared the following experience:

[The teacher] would have like a cultural kind of day where she would you know, have us bring our flags or like you could wear your country-of-origin colors and things of that nature to represent [our cultures].

P2, reflecting on the same multicultural event stated:

Everybody just came together and ate, and food is a good way to bring [everyone] together. So, that was definitely one thing that made you realize, the love that you have in the program, and in the school in general because it was open to the entire school so other people were coming, and they were supporting, we were having fun.

P7 went into detail about the multicultural events and included how they directly affected their academic success and ability to work collaboratively with other cultures. P7 went on to say:

So, like [the program] always had this yearly thing where we do like IFF [International Food Festival] so IFF became to where like we had to do, we had to participate in order to get a grade. So, we always had to be there. We always had to make sure that we helped on being that a lot of us my peers. So, say we're involved in [the program], we always had to do above and beyond. We always

have to be there early. We had to stay later and see who's at the cleanup extra. You always had to make sure that the other people [who] weren't a part of the company, we had to take care of them first, and we put ourselves last. I feel like that helped me as far as getting my grade up, as far as getting extra credit, as well as getting to give a hand to new freshmen, and we're coming in, like that helped me academically.

Upon further inquiry about how the experience with the multicultural events and program helped participants feel supported included, or represented culturally, P7 went on to say:

I felt supported because I was surrounded by, I don't know, like family. I feel like it was family oriented. And I felt like I was worried about people of my kind, people, all shapes, all sizes, all colors. And so, I feel like that also made me feel at home that I know that people just like me here, if he will, who once was like me here. So, I feel like the people who came after me who's just like me, something like that. So, I felt supported. And I also was supported by peers in school who wasn't a part of the company, as well as teachers. Teachers are also attracted to us and also like the idea of the family-orientated thing that we do in our [program].

That's our culture.

At the end of the interviews, to reflect further on their experiences, participants were asked if there was anything else they would like to share regarding what they learned or what their teacher did in class to benefit the academic success of gifted and talented African American high school students. P3 stated the benefits of working with culturally diverse people by stating:

In the program that's more interactive, you're interacting with other individuals. You're not working with the same people over and over. It doesn't matter if you like the person or not, you're still gonna work with the person. You know, you have to put your differences aside, and you have to learn how to do that in the real world.

In agreement, P8 shared:

Working with other people, learning about other cultures other than even though [the program] was kind of heavily African American...I still learned [a] whole bunch of other things, other cultural things within [the program], which I really loved.

The alumni experienced opportunities to collaborate with different cultures, cultivate multicultural events, and create community in and out of school, which they expressed was beneficial to their overall learning experience.

Evidence of Trustworthiness

As stated in Chapter 3, the value of a qualitative study is often determined by the quality, trustworthiness, and credibility of the qualitative research. Trustworthiness is an ethical issue with the understanding of communication with participants as a key factor (Ravitch and Carl, 2020). To increase trustworthiness, I interviewed 10 gifted and talented African American alumni of the exemplar STEAM program. By upholding the key criteria of credibility, transferability, dependability, and confirmability as discussed in chapter 3, I achieved trustworthiness in my study.

Credibility

The credibility and accuracy of the findings are most vital throughout the data analysis process. Ravitch and Carl (2020) suggested respondent validation, or member checks, as a method to ensure credibility, whereas Motulsky (2021) discussed the possible pitfalls of member checks as the only strategy for credibility. In agreement with Motulsky (2021), Merriam and Grenier (2019) explained the benefits of multiple strategies including an external review of data as a strategy for credibility. To achieve credibility throughout the data collection and analysis process, I did the following: conducted confidential semistructured interviews on Zoom with alumni who met the study criteria, incorporated field notes, used my doctoral committee as an external review, and implemented member checks. After collecting data, I presented my process and findings to my doctoral committee for an expert external review to support credibility. To incorporate member checks with transparency, I emailed transcripts, my findings, and conclusions to the participants to receive their overall feedback and review. Eight of 10 participants responded to the member checking requests. All eight responses shared their agreement with my findings with no additional information added. The participants also shared their appreciation and gratitude for being included and for the study's focus.

Transferability

Transferability is a key criterion for ensuring the findings of a qualitative study can be transferred to other contexts. Transferability for qualitative research is related to the generalizability of the findings and whether the reader can apply the findings to their

own studies (Ravitch & Carl, 2020). To ensure transferability, I used the background information for the study and provided detailed descriptions of the perceptions and experiences of the participants. I also improved the transferability of my findings to other contexts, using descriptive memos from the interviews as field notes and data analysis processes (see Amanfi, 2019). Detailed descriptions of the participants' perceptions and experiences, along with detailed descriptions of the literature for my study, equip other researchers to interpret participant responses and apply findings to other research areas (see Amanfi, 2019; Merriam & Grenier, 2019). Readers in similar settings, such as educational professionals, traditional classroom teachers, and administration, may find the information useful in working with diverse populations and gifted and talented students.

Dependability

In qualitative research, dependability refers to the stability of the data and research process consistency (Amanfi, 2019; Ravitch & Carl, 2020). To ensure dependability, I used a transparent data collection and analysis process with an audit trail (see Lincoln & Guba, 1985; Merriam & Grenier, 2019; Ravitch & Carl, 2020). The audit trail consisted of a detailed description, through memos, of how data was collected, how the categories were developed, and how I made decisions throughout the inquiry process. Through participants' interviews, member checking processes, and regular conversations with my dissertation committee chair to discuss data collection, analysis, I also addressed the dependability of my study. Future researchers could take the research design,

questions, methods of data collection and analysis, and reflective processes to replicate my study to possibly yield similar results.

Confirmability

Confirmability is the acknowledgment that biases exist and inform interpretations of data, however, the researcher remained neutral during the study (Merriam & Grenier, 2019; Ravitch & Carl, 2020). As founding alumni of the exemplar STEAM program, educator, and curriculum specialist, I had my own biases about how gifted and talented African American high school students should be taught. To reduce bias in my study and remain neutral, I developed interview questions to evoke only the perceptions and experiences of the alumni participants. As the interviews were conducted, I limited my responses and avoided stating any agreement or disagreement with what the participants shared. In my field notes, I wrote reflectively about each interview, utilized the qualitative codebook as a matrix to determine areas of agreement between the participants' quotes, and maintained my neutrality.

To support confirmability, I used member checking to confirm accuracy of my findings throughout the data collection and analysis processes. Through checking with my participants after the interviews were completed to verify transcript accuracy and sharing my findings with the participants, I was able to confirm accurate reporting of their responses. First, I emailed all participants their individual confidential transcripts and asked for their review. Second, I emailed all participants my findings and asked for their review and to state whether they were in agreement. All responses stated their agreement and accurate capture of their answers to my interview questions. Six of the

participants mentioned their appreciation for the content of my study and their gratitude for being a part. The participants' responses to the member checking confirmed the accuracy of my findings.

As stated in Chapter 3, I paid attention to reflexivity and researcher-generated data, the data collection process, and included dialogic design complexity enabling the use of internal and external sources for systematic assessment of myself as the researcher (see Ravitch & Carl, 2020). Through reflexivity, my influence and role of myself as the researcher were actively monitored and addressed throughout the data collection process. The creation and relational connections to the meaning and interpretation of participants' responses throughout the data collection process were also actively monitored both by myself as the researcher and externally by my committee chair.

As another method to ensure confirmability, I intentionally structured dialogic engagement practices based on the suggestions of Motulsky (2021) to include external sources for systematic assessment of myself as a researcher and the interview instrument. After creating my interview instrument, I followed up with Walden University's methodology department and my doctoral committee chair for external review of myself and the interview instrument. The external review of myself and the interview instruments allowed objective perspectives to be a part of the systemic assessment. After conducting a few interviews, I met with my committee chair and determined the instrument helped to answer the research questions, my biases were not reflected in how I asked participant questions, and I responded to interviewees in a neutral manner. With these necessary steps, I addressed confirmability and ensured the study's findings

reflected only the perceptions and experiences of the participants, rather than my ideas as the researcher.

Summary

In Chapter 4, I presented findings of my study based on the data collection and analysis in order to answer three research questions. Six emergent themes were developed from data and coded from responses of 10 participants to open-ended questions. Participants were all gifted and talented African American alumni from the exemplar STEAM program.

Results of the study indicated how gifted and talented African American alumni's perceptions and experiences as members of the exemplar STEAM program impacted their lives as high school students and adults. Participants shared their perceptions and experiences with CRP, STEAM, and the arts in high school in relation to membership in the exemplar STEAM program. They shared valuable insights regarding effective instructional strategies, as well as areas of opportunity to further understand socioemotional effects, teacher impact, peer relationships, community, and arts-based instruction on academic and long-term success of gifted and talented African American high school students. In Chapter 5, I present my discussion, conclusions, and recommendations. I discuss the purpose of the study, interpretations of findings, limitations of the study, recommendations, and how this study can contribute to positive social change.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative study was to explore perceptions of gifted and talented African American former high school students of an exemplar STEAM program with culturally relevant instruction regarding its curricular and instructional practices for academic success. Ten gifted and talented African American alumni who attended the exemplar STEAM program between 2013 and 2019 were interviewed for my study.

Interview questions were posed to seek answers to three research questions which guided this study. These research questions were framed to gain an understanding of participants' experiences prior to joining and during the exemplar STEAM program, as well as the impact of the program on their overall cultural competency needs. Six themes emerged from interviews.

The first theme was that before joining the exemplar STEAM program, gifted and talented African American alumni perceived themselves to be lonely and isolated due to lack of culture in school, absence of discussion, teachers who were uninvolved with cultural and social-emotional needs of their students, and peer exclusion, but yearned to feel inclusion, understanding, motivation, mentorship, community, and safety at school. The second theme was participants perceived themselves to be unaware of other cultures due to inadequate cultural education and practices with their families at home, even though they desired more self-awareness and cultural understanding. The third theme was positive experiences of participants were attributed to personalities of teachers and culturally-uplifting instructional methods that provided collaborative strategies to handle life challenges through a family-like community in the school.

The fourth theme was participants credited the program's high-achieving environment, instructional use of the arts to explore real-life careers, and the teacher's repetitive interdisciplinary class structure for the transferable skills they were able to use as adults in their careers. The fifth theme was through culturally diverse arts-based instruction, participants learned how to be comfortable engaging with people from different cultures and experienced cultural understanding as a long-term value. The sixth theme was participants experienced opportunities to collaborate with different cultures, curate multicultural events, and create communities in and out of school, which they expressed was beneficial to their overall learning experience. In this chapter, I present my interpretations of findings, limitations of the study, recommendations, implications, and conclusions.

Interpretation of the Findings

In this section, I describe how my findings confirm, disconfirm, or extend knowledge in the discipline compared to peer-reviewed literature in Chapter 2. I also interpret findings using Ladson-Billings' theory of CRP. To narrate my findings clearly, I addressed research questions, their corresponding themes, and the conceptual framework. There were three research questions that guided this study and six corresponding themes.

Findings Related to Themes and Research Questions

The first finding was that cultural loneliness and isolation decreased when the classroom environment provided adequate motivation and opportunities for students to connect with peers. I highlighted participants' perceptions of their home life and in-school cultural experiences prior to joining the exemplar STEAM program.

RQ1 involved perceptions of gifted and talented African American alumni with culturally relevant instruction during their high school careers before joining the program and in other classes or programs while a member of the exemplar STEAM program. Participants perceived themselves to be lonely and isolated due to lack of culture in school and absence of discussion, as well as teachers who were uninvolved with cultural and social-emotional needs of their students and peer exclusion. Participants indicated that prior to joining the exemplar STEAM program, their teachers avoided cultural connections and failed to use motivational teaching styles. Their teachers' lack of motivation and inclusive cultural practices created barriers in terms of building positive relationships with their peers in the classroom, leading to isolation. Participants perceived themselves to be unaware of their own culture as well as cultures of others due to inadequate cultural education and practices at home with families, even though they desired more self-awareness and cultural understanding. Increased cultural knowledge would have been beneficial for home life and in-school experiences prior to joining the exemplar STEAM program.

Participants shared personal experiences involving lack of culture being taught at home and believing they were Americanized to fit in instead of being taught who they were culturally as African Americans. As a result, they expressed that although they knew what cultures they belonged to, feelings of insecurity arose when confronted with racial stereotypes and lack of understanding from teachers and peers in school. Lacking sufficient cultural knowledge, participants recounted struggles with low self-efficacy and inadequacy in response to these encounters. The participants shared when experiences in

the classroom were similar to their interactions at home, they felt secure and included in school. However, these familial classroom experiences were isolated occurrences prior to joining the exemplar STEAM program. Due to decreased cultural competence, deficit thinking and feelings of inadequacy can present in gifted and talented African American students which do not promote academic achievement (Ford et al., 2018; Sewell & Goings, 2020; Terzian, 2021).

Prior to joining the exemplar STEAM program, participants in my study were members of STEM programs or arts programs separate from the local site. My findings corroborated previous research involving benefits of incorporating student motivation alongside cultural and social norms within classrooms through storytelling, language, and community for gifted and talented African American high school students. After joining the exemplar STEAM program, participants in the study reported increased engagement, positive communal relationships with peers, and improved academic achievement when their teachers implemented motivational strategies and communicated with them using languages or customs which were familiar to them in their home lives.

In responding to RQ2, findings were motivational teachers who engage students through cultural and social-emotional community building are beneficial for positive learning experiences and academic achievement.

RQ1 involved participants' experiences prior to joining the exemplar STEAM program, and their responses provided insight into the lack of motivation by their teachers, which led to negative learning experiences. RQ2 involved experiences of participants with culturally relevant instruction in the exemplar STEAM program. Theme

1 showed participants' need for motivational teachers on cultural and social-emotional levels. However, Theme 1 also highlighted the participants' yearning to feel inclusion, understanding, motivation, mentored, community, and safety at school. Theme 3 illuminated the participants perceived benefit of teachers with high cultural competence, cultural and social-emotional awareness, with corresponding instructional methods. Based on Theme 1 and Theme 3, participant responses answered Research Question 2 and speak to the positive learning experiences and academic achievement participants found once they became members of the exemplar STEAM program.

First, participants' responses answered Research Question 2 by providing their insight from experiences as gifted and talented African American alumni with culturally relevant instruction in the exemplar STEAM program. The participants recounted their experiences walking into the dance studio, hearing music from the African diaspora while being greeted both formally and colloquially by their teacher, which established community building and a sense of cultural and social-emotional safety. Second, the participants shared how the cultural and social-emotional awareness of their teacher created a culturally safe, positive teaching and learning environment prior to the commencement of an official lesson. Third, the participants recalled the culturally familiar positive affirmations spoken daily by the teacher in group and individual interactions, which increased their feelings of self-efficacy and adequacy through teacher motivation. Fourth, participants discussed their ability to achieve academically due to the repetitive and interdisciplinary teaching strategies used by the teacher that was relevant to the cultural demographics of the students. Two studies found a lack in the identification

of specific actions that teachers can take to increase self-efficacy, academic achievement, and positive school experiences for gifted and talented African American students (King Miller et al., 2021; Sewell & Goings, 2020). My findings confirmed and extended the studies of King Miller et al. (2021) and Sewell and Goings (2020) by detailing specific curricular and instructional strategies that were gained through insight from the perceptions and experiences of gifted and talented African American alumni of an exemplar STEAM program.

As members of the exemplar STEAM program, the participants in my study experienced curricula that was culturally relevant and taught by a teacher they perceived as motivational. The participant's responses identified specific methodologies using CRP and STEAM, the teacher of the exemplar STEAM program implemented to support their academic achievement and support them culturally and social-emotionally. My findings substantiated previous research that showed the increase in academic achievement and self-efficacy of gifted and talented African American high school students when instructed by culturally aware, motivational teachers (King Miller et al., 2021; Sewell & Goings, 2020). Learning subject matter through STEAM and cultural arts from a motivational teacher was a main factor of academic achievement and feelings of adequacy from participation in the exemplar STEAM program, as reported by the participants of my study.

The third finding was that using a repetitive interdisciplinary structure and CRP with STEAM through real-world arts career experiences increase transferable skills and promotes life-long learning. Finding 3 developed from Theme 4, which illuminated the

benefits of immersive cultural arts experiences with STEAM for the academic achievement of gifted and talented African American Students. Finding 3 also answers Research Question 2.

As explored with Finding 2, Research Question 2 addressed the participant experiences with CRP and STEAM instruction as members of the exemplar STEAM program. Theme 4 showed the consensus of participant responses on their increase of academic achievement when CRP and STEAM are experienced repetitively through real-life arts career experiences. Theme 4 also uncovered participants' perceptions of the transferable skills gained in the exemplar STEAM program through CRP and STEAM that supported academic achievement in other subject areas and assisted their careers as adults. Theme 4 responded to Research Question 2 by specifying CRP and STEAM instructional strategies implemented through real-world arts experiences in the exemplar STEAM program.

First, Finding 3 answered Research Question 2 by the identification of participation in real-life arts careers and repetitive interdisciplinary structures as specific experiences of CRP and STEAM instructional strategies in the exemplar STEAM program. First, participants emphasized how their academic achievement in other subject areas and self-efficacy increased from fulfilling roles in the exemplar STEAM program that mimicked nonprofit arts organizations. The participants detailed their experiences fulfilling roles, such as the executive board, choreographers, technical crew, graphic artists, communications, company managers, and rehearsal captains to present student-led multicultural events as members of the exemplar STEAM program. Second, participants

were in consensus on the increase in feelings of adequacy and cultural awareness through the responsibilities and acquired skills of their real-life arts career experiences in the exemplar STEAM program. Third, participants reported their sense of community in school expanded beyond the exemplar STEAM program through learning culturally relevant customs and history. Fourth, the use of daily repetition to learn the STEAM concepts necessary to fulfill their real-life arts career roles as members of the exemplar STEAM program was transferable to other subject areas and long-term in their careers. My findings confirmed the findings of three studies that showed the benefit of CRP and STEAM instructional strategies implemented to increase academic achievement for gifted and talented African American students (Abacioglu et al., 2020; Buono & Burnidge, 2020; Solomon et al., 2022).

As members of the exemplar STEAM program participants experienced increased academic achievement and cultural awareness through participating in the arts as real-life careers. The participant responses highlighted the fulfillment of real-life arts careers through repetitive CRP with STEAM education-based teaching and learning as successful strategies for academic achievement. The participants in my study identified experiences repeating daily related science, history, and cultural terms connected to the subject matter, which supported their ability to learn and retain the information learned as members of the exemplar STEAM program. My findings confirmed previous research that found CRP and STEAM strategies implemented through real-life arts experiences as beneficial for the academic achievement and cultural awareness of African American gifted and talented high school students (Abacioglu et al., 2020; Buono & Burnidge,

2020; Solomon et al., 2022). Correspondingly, the participants in my study reported increased academic achievement and retained cultural knowledge and understanding from the transferable skills learned through real-life arts careers as members of the exemplar STEAM program.

The fourth finding was that cultural competence increases with arts-based STEAM instruction with CRP and student-led multicultural arts events in school. Finding 4 developed from Themes 5 and 6, which highlighted culturally diverse arts-based instruction and the creation of student-led multicultural events as beneficial for the overall learning experience and long-term cultural competence of African American gifted and talented high school students. Finding 4 also responded to Research Question 3.

Research Question 3 addressed the participants' perceptions of how participation in the exemplar STEAM program contributed to their cultural competency needs. Theme 5 illustrated culturally diverse arts-based instruction as a successful instructional strategy to increase cultural competence in gifted and talented African American high school students as perceived by the participants of my study. Theme 6 illuminated the participants' perceptions of their opportunities to collaborate and build community through student-led multicultural events as beneficial to their overall learning experience. Themes 5 and 6 answered Research Question 3 by detailing how participation in the exemplar STEAM program contributed to their cultural competency needs.

First, finding 4 responded to Research Question 3 by demonstrating the participants' perceptions of their increase in cultural competence as a direct correlation

with participation in culturally diverse arts-based instruction and student-led multicultural events. The participants in my study detailed their experiences learning the history, societal norms, traditional clothing, notable people, language, dances, and customs of the cultures featured with their student-led multicultural events produced as members of the exemplar STEAM program. Second, participants reported that learning about their own and diverse cultures through curating multicultural arts events, such as dance performances and international food festivals, increased their cultural understanding and awareness. Third, as explained by participants, learning culturally relevant customs and history as the foundation to create multicultural events enhanced their ability to connect interpersonally in school, which decreased isolation and built community. Fourth, participants indicated their cultural knowledge increased as members of the exemplar STEAM program through arts-based STEAM instruction with CRP. My findings confirmed five studies that found arts-based STEAM instruction with CRP are beneficial for the academic achievement, cultural and social awareness, and cultural competence of African American gifted and talented high students (Abacioglu et al., 2020; Bonner et al., 2019; Hunter-Doniger et al., 2018; King Miller et al., 2021; & Solomon et al., 2022).

As members of the exemplar STEAM program, participants reported increased cultural competence from learning the history, language, geography, and social customs of cultures to choreograph, produce a concert, and curate a festival to celebrate food of different cultures. Participant responses identified specific CRP and STEAM education instructional strategies that support the cultural competence needs of African American gifted and talented high school students. My findings confirmed previous research by

showing instructional strategies based on arts integration, art productions, and real-life experiences are beneficial for academic achievement and cultural competence of gifted and talented African American high school students. Likewise, the participants in my study illuminated that learning arts-based STEAM concepts through student-led multicultural arts events created the opportunity for understanding and connecting with their own culture and people of diverse cultures.

Findings Related to the Conceptual Framework

I found consistency between the literature and practice when exploring the perceptions and experiences of gifted and talented African American alumni from a STEAM program. The four findings were consistent with Ladson-Billings (1995) theory of CRP as they showed there should be more than an educational response to the academic challenges African American students face in a school setting to prepare them socially for mainstream culture (see Ladson-Billings, 1995). The case for CRP was presented through three main elements: produce students who can achieve academically, produce students with demonstrable cultural competence, and develop students who can understand and analyze the current social order (see Ladson-Billings, 1995). Focusing on CRP based instructional strategies for the benefit of gifted and talented African American students can increase self-esteem, positive self-efficacy, inclusion, build community, and promote academic achievement.

According to King Miller et al. (2021), ensuring gifted and talented African American students are presented with educational experiences that include cultural relevancy and STEAM to increase cognitive development is an opportunity to

incorporate social justice in the curriculum while cultivating positive self-efficacy. Finding 1 was consistent with the conceptual framework of Ladson-Billings' (1995) theory of CRP through the assertion that deficit-thinking approaches do not address the needs of gifted and talented African American students whereas identity and demonstrating cultural competence have been shown to address their needs (see Du Bois, 1903; Ford et al., 2018; Ladson-Billings, 1995; Sewell & Goings, 2020; Terzian, 2021). Sewell and Goings (2020) recommended schools invest time in parent education on school choice based on the previous academic experiences of gifted and talented African American students from the perspective of the students. The participants in my study shed light on the need for more parent understanding with daily occurrences and cultural awareness in the school environment. Finding 1 supported the knowledge presented in the conceptual framework by outlining the alumni's perspective on the impact of home life and the importance of learning about culture from family to promote high self-esteem, feelings of positive self-efficacy, and increased cultural competence.

The experiences highlighted by the participants within Finding 2 are in alignment with the conceptual framework of the study in terms of producing African American students who can achieve academically through CRP, which related to practice (Ladson-Billings, 1995). The participants experienced a motivated, culturally aware teacher that provided a teaching and learning environment centered on the cultural demographics of the students as members of the exemplar STEAM program. Culturally aware teachers able to step outside of their own personal experiences to understand where their students come from, develop positive multicultural attitudes, and obtain knowledge of their

students' cultures were able to successfully engage ethnically marginalized students for academic achievement (see Abacioglu et al., 2020). Aligned with the conceptual framework, Finding 3 identified a repetitive interdisciplinary structure and STEAM through real-world arts career experiences as successful CRP instructional strategies that promote academic success, cultural competence, and sociopolitical consciousness (see Ladson-Billings, 2014).

The arts were also seen as critical to these efforts, especially for African American gifted and talented students (Buono & Burnidge, 2020; Du Bois, 1903; Harris & de Bruin, 2018). Psychological factors such as self-esteem, personal habits, and overall feelings about school were also seen as a method to reach African American students (Bonner et al., 2019; Brown et al., 2019; Gay, 2018; Manns, 2021). The participants in my study detailed experiences where they navigated school bureaucracy as they fulfilled roles, such as, artistic directors, company managers, and treasurers to present their student-led multicultural arts events, which required them to communicate, delegate, and relate to people of diverse cultures. Participant perceptions of arts-based STEAM with CRP instructional strategies demonstrated the argument of Ladson-Billings (1995, 1998) that CRP should include more than an educational means for African American students to fit in socially with mainstream culture and achieve academically.

The participants explained that as members of the exemplar STEAM program, their educational experiences were centered on subject matter and instructional strategies that related to their individual and collective realities as African Americans. The alumni of the exemplar STEAM program in the study experienced real-life arts careers through

the creation of student-led dance productions and festivals with focus on cultures from African diaspora. As the curators of the multicultural arts events, the participants in my study were engaged in communication and collaboration with members of the exemplar STEAM program and the wider school community. As a result, the participants felt expanded community, acceptance by their peers and teachers, and in some instances, praised in school. The need for teachers of African American students to be aware of their own cultural responsiveness so they can communicate and interact with students as diverse human beings is also asserted by the theory of CRP (Ladson-Billings, 1995). The participants expressed they experienced cultural inclusion at school with support from their teachers and felt understood when their cultural practices, which include self-expression, communication, and learning styles, were in harmony with the expectations and instructional strategies presented by their teachers.

The premise of my findings through the conceptual framework of CRP was when teachers of gifted and talented African American high school students have personal cultural experiences that are used as the basis of arts-based STEAM with CRP instructional strategies, students have feelings of increased self-efficacy, community, and cultural competence (see Bonner et al., 2018; Hunter-Doniger et al., 2018; King Miller et al., 2021; Tseng, 2019). Additionally, to promote academic success of gifted and talented African American students, cultural communication standards used in the classroom should reflect those of their students, as discussed within Finding 1 and Finding 2 (see Abacioglu et al., 2020; Bonner et al., 2018; Hunter-Doniger et al., 2018; King Miller et al., 2021; Tseng, 2019). My findings were consistent with the conceptual framework by

highlighting the impact of teacher instructional choices in relation to the inclusion of cultural relevancy on the interactions and reception of peers in the classroom leading to peer-to-peer connections and individual engagement in the learning process for gifted and talented African American high school students.

Limitations of the Study

As discussed in Chapter 1, this study had five possible limitations: inclusion criteria, sample size, virtual interview time constraints, virtual connections, and time elapsed since graduation from high school. Firstly, the inclusion criteria only called for gifted and talented African American alumni of the exemplar STEAM program from the years 2014-2019 to be studied. Secondly, the number of participants was 10. Thirdly, although the participants were all gifted and talented and African American, the sample size and inclusion criteria presented a small sample of gifted and talented African American students in the nation. Fourthly, the 1 hour time constraints on the virtual interviews presented limitations on one interview where the participant had technical difficulties due to their remote location. The remaining nine interviews were able to be conducted within the given time. Finally, virtual interviews placed minor limitations on the ability to study body language in reaction to the interview questions.

Recommendations

The findings of my study confirmed and extended existing research on CRP with STEAM education as a successful instructional strategy for gifted and talented African American high school students. In this study I focused on the perceptions and experiences of gifted and talented African American alumni of an exemplar STEAM program, a topic

of where there is a gap in practice. By obtaining insight from gifted and talented African American alumni of an exemplar STEAM program, specific instructional and curricular strategies using CRP and STEAM for the academic achievement of this population were identified. Little had been written specifically about CRP and STEAM as successful instructional strategies for gifted and talented African American high students, and even less from the perspective of former students.

Through interviews with gifted and talented African American alumni from an exemplar STEAM program, I was able to identify six themes. From these themes, four findings developed. The findings led to the following recommendations for teachers, administrators, curriculum writers, and education policy makers to better meet the curricular and instructional needs of gifted and talented African American high school students.

Teachers of gifted and talented African American high school students need more comprehensive training in providing instruction for diverse cultures, specifically of the African diaspora. Teaching and learning environments that are culturally understanding, social-emotionally aware, openly communicative, and build community need to be created by teachers of gifted and talented African American high school students. Teachers of gifted and talented African American high school students should also include repetitive interdisciplinary structure to teach subject matter. Therefore, I recommend administrators of schools with gifted and talented African American high school students provide professional development workshops for teachers to receive

training in multicultural education, social-emotional awareness, CRP, and incorporating real-life career experiences for the academic achievement of this population.

Additional recommendations are teachers of gifted and talented African American high school students should learn about the cultures of their students to make familiar cultural connections with the subject matter for their students. Interdisciplinary arts experiences should be included within the content areas of teachers of gifted and talented African American high school students. Gifted and talented African American high school students would benefit from the inclusion of opportunities to learn subject matter through real-life career experiences where students assume responsibilities. Teachers of gifted and talented African American high school students should provide opportunities for student-led production of events related to the subject matter. Curriculum developers for gifted and talented African American high school students need to incorporate arts-based STEAM with CRP instructional strategies centered on the African diaspora to support teachers and students achieve academic success for this population.

By implementing these recommendations, gifted and talented African American high school students could have the curricular and instructional support need to achieve academically. Teachers can improve the academic outcomes of their gifted and talented African American students by providing arts-based STEAM with CRP taught through a repetitive interdisciplinary structure for their academic achievement. Administrators could use these recommendations to increase the cultural and social-emotional awareness, CRP knowledge of their teachers. Curriculum developers could use these recommendations to provide teachers of gifted and talented African American high

school students with a blueprint of CRP and STEAM education related instructional strategies to implement in the classroom. Additionally, education policy makers could use these suggestions to create guidelines to support teachers, administrators, and curriculum developers for the benefit of gifted and talented African American high school students.

Future research should be conducted to further identify successful instructional strategies using CRP and STEAM for gifted and talented African American high school students. This research could be conducted by replicating this basic qualitative study with current gifted and talented African American high school students, alumni, and teachers from similar programs. Research could as take place using a mixed method study to examine the CRP with STEAM instructional strategies experienced by gifted and talented African American high school students in similar programs and compare the academic achievement and graduation rates of the same population not enrolled in similar programs.

Implications

This study contributed to filling the gap in practice based on current instructional strategies. There were a limited number of studies researching successful instructional strategies for gifted and talented African American high school students. Studies researching the perceptions and experiences of gifted and talented African American high school students on CRP and STEAM education instructional strategies as alumni were nonexistent. This study can bring forth social change in several areas.

This study brought to light the perceptions and experiences of gifted and talented African American high school students, which provided information on how to successfully increase academic achievement, cultural competence, and cultural and social-emotional awareness of this population long-term. Teacher trainings and professional development in multicultural education, social-emotional awareness, CRP with STEAM education, and real-life career experiences may help increase the self-efficacy, motivation, cultural competence, and academic achievement of gifted and talented African American high school students (Abacioglu et al., 2020; Bonner et al., 2018; Hunter-Doniger et al., 2018; King Miller et al., 2021; Sewell & Goings, 2020; & Solomon et al., 2022). Participation in teacher trainings may also help increase the development of more culturally and social-emotionally aware teachers (Abacioglu et al., 2020; Bloxham & Pliego, 2022; Brown et al., 2019; Ladson-Billings, 1995 & 2014; Terzian, 2021).

In alignment with Walden University's value of social change, this study provided insight into a pathway for gifted and talented African American high school students to achieve academically and retain cultural competence and positive self-efficacy long term as adults. Creating the opportunity for teachers to become more culturally and social-emotionally aware can have a positive long-term impact of gifted and talented African American high school students and the public education system. Gaining insight from alumni perspectives and experiences on the successful instructional strategies for gifted and talented African American high school students can lead to increased equity and representation within the public education system. Additionally, conclusions based on the

research can provide best-practice guidelines to help teachers instruct gifted and talented African American high school students utilizing new methods that could lead to higher rates of academic success, which is a benefit to society. Understanding the perceptions and experiences of gifted and talented African American alumni from an exemplar STEAM program can contribute to further knowledge in the field of education.

This study may also have methodological implications because similar studies can be conducted with other groups of gifted and talented African American alumni from other programs. Recruiting gifted and talented African American alumni who are in similar programs and those who are not could further the breadth of the study. Studying current gifted talented African American high school students and their teachers would also bring another set of perspectives to the area of study. Extending this area of study would provide the education community with information to support not only gifted and talented high school students but their teachers as well.

Conclusion

In this study, I explored perceptions and experiences of gifted and talented African American alumni of an exemplar STEAM program. The conceptual framework for this study was Ladson-Billings' (1995) theory of cultural relevant pedagogy. I used this theory to gain insight into the perceptions and experiences of gifted and talented alumni of an exemplar program to understand how CRP with STEAM instructional strategies supported their curricular and instructional needs for academic achievement and cultural competency. There had been limited research on gifted and talented African American alumni and no previous studies on the perceptions and experiences of gifted

and talented African American alumni from an exemplar STEAM program to identify successful instructional strategies using CRP with STEAM education. I conducted the current study to fill the gap in practice.

Based on the responses of the participants in my study, the CRP and STEAM instructional strategies implemented in the exemplar STEAM program provided the opportunity to gain a holistic view of the subject matter in a culturally relevant teaching and learning environment. Through arts-based STEAM with CRP instructional strategies taught through a repetitive interdisciplinary structure gifted and talented African American alumni of the exemplar STEAM program experienced academic achievement that was transferable to other content areas. To achieve academic success, gifted and talented African American high school students need knowledge of self and others, encouragement, upliftment, real-life opportunities to experience success, and community. Learning from the perceptions and experiences of gifted and talented African American alumni of an exemplar STEAM program regarding CRP with STEAM education instructional strategies provides information for teachers, administrators, and curriculum developers for this population in public education systems. Education policymakers can also use the information to understand the curricular and instructional needs of gifted and talented African American high school students.

References

- Abacioglu, C. S., Volman, M., & Fischer, A. H. (2020). Teachers' multicultural attitudes and perspective taking abilities as factors in culturally responsive teaching. *British Journal of Educational Psychology, 90*(3), 736–752.
<https://doi.org/10.1111/bpjep.12328>
- Alemán, E. (2009). Critical race theory. *Encyclopedia of the Social and Cultural Foundations of Education, 200–201*. <http://doi.org/10.4135/9781412963992.n96>
- Allen, J. K. (2017). Exploring the role teacher perceptions play in the underrepresentation of culturally and linguistically diverse students in gifted programming. *Gifted Child Today, 40*(2), 77–86. <http://doi.org/10.1177/1076217517690188>
- Amanfi, M. (2019). *A step-by-step guide on writing the dissertation: Using the qualitative research methodology*. Amazon Digital Services LLC.
- Archer, L., Dewitt, J., & Osborne, J. (2015). Is science for us? Black students' and parents' views of science and science careers. *Science Education, 99*(2), 199–237.
<https://doi.org/10.1002/sce.21146>
- Aronson, B., & Laughter, J. (2016). The theory and practice of culturally relevant education: A synthesis of research across content areas. *Review of Educational Research, 86*(1), 163–206. <https://doi.org/10.3102/0034654315582066>
- Babbie, E. R. (2017). *The basics of social research*. Cengage Learning.
- Bakx, A., Houtert, T. V., Brand, M. V. D., & Hornstra, L. (2017). A comparison of high-ability pupils' views vs. regular ability pupils' views of characteristics of good primary school teachers. *Educational Studies, 45*(1), 35–56.

<https://doi.org/10.1080/03055698.2017.1390443>

- Billings, S. (2018). Culturally responsive teaching. *Culturally responsive teaching -- Research Starters Education*, 1, 1–7.
- Bloxham, J. C., & Pliego, D. A. (2022). Improving academic outcomes for minority students by highlighting the work of Norbert Rillieux. *Education for Chemical Engineers*, 39, 1–5. <https://doi.org/10.1016/j.ece.2022.01.001>
- Bonner, L., Hicks, J., & Pennie, G. (2019). Recreating community among gifted African American students through group counseling. *Journal for Specialists in Group Work*, 44(4), 271–285. <https://doi.org/10.1080/01933922.2019.1669752>
- Bonner, P. J., Warren, S. R., & Jiang, Y. H. (2018). Voices from urban classrooms: Teachers' perceptions on instructing diverse students and using culturally responsive teaching. *Education & Urban Society*, 50(8), 697–726. <https://doi.org/10.1177/0013124517713820>
- Brown, B. A., Boda, P., Lemmi, C., & Monroe, X. (2019). Moving culturally relevant pedagogy from theory to practice: Exploring teachers' application of culturally relevant education in science and mathematics. *Urban Education*, 54(6), 775–803. <https://doi.org/10.1177/0042085918794802>
- Bubb, S., & Earley, P. (2013). The use of training days: Finding time for teachers' professional development, *Educational Research*, 55(3), 236–248. <http://doi.org/10.1080/00131881.2013.825161>
- Bullock, E. C. (2017). Only STEM can save us? Examining race, place, and STEM education as property. *Educational Studies*, 53(6), 628–641.

<http://doi.org/10.1080/00131946.2017.1369082>

Buono, A., & Burnidge, A. (2020). Dancing our microbiome at the science museum: A dance/STEAM collaboration. *Journal of Dance Education*, 22(2), 98–107.

<http://doi.org/10.1080/15290824.2020.1790568>

Burkholder, G. J., Cox, K. A., & Crawford, L. M. (2016). The scholar-practitioner's guide to research design. Laureate Publishing.

Burnafor, G. (2009). Arts education policy. In E. F. Provenzo & A. B. Provenzo (Eds.), *Encyclopedia of the social and cultural foundations of education* (pp. 54–55). <http://doi.org/10.4135/9781412963992.n30>

Caelli, K., Ray, L., & Mill, J. (2003). 'Clear as mud': Toward greater clarity in generic qualitative research. *International Journal of Qualitative Methods*, 2(2). 1–13.

<https://doi.org/10.1177/160940690300200201>

Cameron, R. K. C., & McCall, R. (2020). Coming from where we're from: The stories and experiences of African American students in predominantly white high schools. *VUE (Voices in Urban Education)*, 49(2). <https://doi.org/10.33682/qpmj-e2he>

Caraballo, L., Martinez, D. C., Paris, D., & Alim, H. S. (2020).: Culturally sustaining pedagogies in the current moment: A conversation with Django Paris and H. Samy Alim. *Journal of Adolescent & Adult Literacy*, 63(6), 697–701.

<https://doi.org/10.1002/jaal.1059>

Castro, E. L. (2021). "They Sellin' Us a Dream They Not Preparin' Us for": College Readiness, Dysconscious Racism, and Policy Failure in One Rural Black High

School. *The Urban Review*, 53(4), 617-640. <https://doi.org/10.1007/s11256-020-00585-9>

Collins, K. H. (2018). Confronting color-blind STEM talent development: Toward a contextual model for Black student STEM identity. *Journal of Advanced Academics*, 29(2), 143–168. <http://doi.org/10.1177/1932202X18757958>

Congress of the U.S., W.D. (1991). America 2000 excellence in education act. Proposed legislation. Message from the President of the United States transmitting a draft of proposed legislation entitled, “America 2000 Excellence in Education Act.” 102d Congress, 1st session. <https://files.eric.ed.gov/fulltext/ED341115.pdf>

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. 4th edition. Sage Publications.

Debnam, K. J., Pas, E. T., Bottiani, J., Cash, A. H., & Bradshaw, C. P. (2015). An examination of the association between observed and self-reported culturally proficient teaching practices. *Psychology in the Schools*, 52(6), 533–548. <https://doi.org/10.1002/pits.21845>

Dee, T. S., & Penner, E. K. (2017). The causal effects of cultural relevance: evidence from an ethnic studies curriculum. *American Educational Research Journal*, 54(1), 127–166. <https://doi.org/10.3102/0002831216677002>

Dixson, D. D., Roberson, C. C. B., & Worrell, F. C. (2017). Psychosocial keys to African American achievement? Examining the relationship between achievement and psychosocial variables in high achieving African Americans. *Journal of Advanced Academics*, 28(2), 120–140. <https://doi.org/10.1177/1932202x17701734>

- Du Bois, W. E. B. (1903). "The Talented Tenth". *Teaching American History*.
<http://teachingamericanhistory.org/library/document/the-talented-tenth/>
- Dulude, E., Spillane, J. P., & Dumay, X. (2017). High stakes policy and mandated curriculum: A rhetorical argumentation analysis to explore the social processes that shape school leaders' and teachers' strategic responses. *Educational Policy*, 31(3), 364–403. <https://doi.org/10.1177/0895904815598396>
- Flynn, J. E. (2017). Speaking up and speaking out? Long-term impact of critical multi-cultural pedagogy. *Multi-cultural Perspectives*, 19(4), 207–214.
<http://doi.org/10.1080/15210960.2017.1365611>
- Ford, D. Y., & Harris, J. J. (1993). Educational reform and the focus on gifted African-American students. *Roeper Review*, 15(4), 200–204.
<https://doi.org/10.1080/02783199309553505>
- Ford, D. Y., Wright, B. L., Sewell, C. J. P., Whiting, G. W., & Moore, J. L., III. (2018). The nouveau talented tenth: Envisioning WEB Du Bois in the context of contemporary gifted and talented education. *Journal of Negro Education*, 87(3), 294–310. <https://doi.org/10.7709/jnegroeducation.87.3.0294>
- Gay, G. (2002). Preparing for culturally responsive teaching. *Journal of Teacher Education*, 53(2), 106–116. <https://doi.org/10.1177/0022487102053002003>
- Gay, G. (2018). *Culturally responsive teaching*. 3rd ed. Teachers College Press.
- Groenwald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods*, 3(1), 42–55.
<https://doi.org/10.1177/160940690400300104>

- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Guyotte, K. W., Sochacka, N. W., Costantino, T. E., Kellam, N. N., & Walther, J. (2015). Collaborative creativity in STEAM: Narratives of art education students' experiences in transdisciplinary spaces. *International Journal of Education & The Arts, 16*(15), 1–39. <http://www.ijea.org/v16n15/v16n15.pdf>
- Harrell-Levy, M., Kerpelman, J. L., & Henry, D. J. (2016). Practices of exemplary transformative teachers, as perceived by students transformed by an urban high school social justice course. *The Urban Review, 48*(1), 73-100. <https://doi.org/10.1007/s11256-015-0346-5>
- Harris, A., & de Bruin, L. R. (2018). Secondary school creativity, teacher practice and STEAM education: An international study. *Journal of Educational Change, 19*(2), 153–179. <https://doi.org/10.1007/s10833-017-9311-2>
- Henry, G. M. (2020). A critical analysis of the general problems associated with gifted children. *International Journal of Education, Science, and Technology, 4*(3), 48–57. <https://doi.org/https://www.globalacademicstars.com/article/709/a-critical-analysis-of-the-general-problems-associated-with-gifted-children>
- Holzman, M., Jackson, J., & Beaudry, A. (2012). The urgency of now: The Schott 50 state report on public education and black males. <http://schottfoundation.org/report/urgency-now-schott-50-state-report-publiceducation-and-black-males>

H.R. 5581 (IH) - *Arts Education for All Act*. Govinfo. (202).

<https://www.govinfo.gov/app/details/BILLS-117hr5581ih>

Hudley, A. H. C., & Mallinson, C. (2017). “It’s worth our time”: A model of culturally and linguistically supportive professional development for K-12 STEM educators. *Cultural Studies of Science Education*, 12(3), 637–660.

<https://doi.org/10.1080/00043125.2018.1389593>

Hunter-Doniger, T., Howard, C., Harris, R., & Hall, C. (2018). STEAM Through Culturally Relevant Teaching and Storytelling. *Art Education*, 71(1), 46–51.

<https://doi.org/10.1080/00043125.2018.1389593>

Kahlke, R. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods*, 13, 37–52. <https://doi.org/10.1177/160940691401300119>

King Miller, B. A., Stevenson, A. D., & Casler-Failing, S. L. (2021). Expanding STEM membership: Using science process skills in a social justice curriculum to combat stereotype threats and build self-efficacy in African American students. *Journal of Educational Research and Practice*. 11(1), 259-278.

<https://doi.org/10.5590/JERAP.2021.11.1.19>

Lac, V. (2017). In real time: from theory to practice in a critical race pedagogy classroom. *I.E.: Inquiry in Education*, 9(1), 1–21.

<https://digitalcommons.nl.edu/ie/vol9/iss1/3/>

Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32(3), 465–491.

<https://doi.org/10.3102/00028312032003465>

Ladson-Billings, G. (1998). Just what is critical race theory and what's it doing in a nice field like education? *International Journal of Qualitative Studies in Education (QSE)*, 11(1), 7–24. <http://doi.org/10.1080/095183998236863>

Ladson-Billings, G. (2014). Culturally relevant pedagogy 2.0: A.k.a. the Remix. *Harvard Educational Review*, 84(1), 74–84.

<https://doi.org/10.17763/haer.84.1.p2rj131485484751>

Ladson-Billings, G. (2021). Three decades of culturally relevant, responsive, & sustaining pedagogy: What lies ahead? *Educational Forum*, 85(4), 351–354.

<https://doi.org/10.1080/00131725.2021.1957632>

Ladson-Billings, G., & Tate, W. F. (1995). Toward a critical race theory of education. *Teachers College Record*, 97(1), 47–68.

<https://doi.org/10.1177/016146819509700104>

Lewis Ellison, T., Robinson, B., & Qiu, T. (2019). Examining African American girls' literate intersectional identities through journal entries and discussions about STEM. *Written Communication*, 37(1), 3–40.

<https://doi.org/10.1177/0741088319880511>

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.

Manns, M. (2021). An introduction to the culturally responsive education model (CREM): A personal and professional journey to reflective and transformative pedagogy. *Virginia English Journal*, 71(1), 1–14.

Mayes, R. D., & Moore, J. L. (2016). The intersection of race, disability, and giftedness:

understanding the education needs of twice-exceptional, African American students. *Gifted Child Today*, 39(2), 98–104.

<https://doi.org/10.1177/1076217516628570>

McCarthy, S. M., & Davis, D. M. (2017). Culturally relevant pedagogy twenty-plus years later: How an arts approach to teaching and learning can keep the dream alive. *American Educational History Journal*, 44(2), 103–113.

<https://www.infoagepub.com/products/American-Educational-History-Journal-Vol-44>

Merriam, S. B., & Grenier, R. S. (2019). *Qualitative research in practice: Examples for discussion and analysis* (Second edition). Jossey-Bass.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (Fourth edition.). Jossey-Bass.

Mills, K. A., & Unsworth, L. (2018). The multimodal construction of race: A review of critical race theory research. *Language and Education*, 32(4), 313–332.

<https://doi.org/10.1080/09500782.2018.1434787>

Motulsky, S. L. (2021). Is member checking the gold standard of quality in qualitative research? *Qualitative Psychology*, 8(3), 389–406.

<https://doi.org/10.1037/qup0000215>

NYC Department of Education. (2020). *School quality*. Web.

<https://www.schools.nyc.gov/about-us/reports/school-quality>

NYC Department of Education. (2021). *Gifted and talented*. Web.

<https://www.schools.nyc.gov/enrollment/enroll-grade-by-grade/gifted-and->

talented

- Percy, W. H., Kostere, K., & Kostere, S. (2015). Generic qualitative research in psychology. *The Qualitative Report*, 20(2), 76–85.
<http://nsuworks.nova.edu/cgi/viewcontent.cgi?article=2097&context=tqr>
- Popkewitz, T. S. (2009). Curriculum study, curriculum history, and curriculum theory: The reason of reason. *Journal of Curriculum Studies*, 41(3), 301–319.
<https://doi.org/10.1080/00220270902777021>
- Ravitch, S. M., & Carl, N. M. (2020). *Qualitative research: Bridging the conceptual, theoretical, and methodological* (Second edition). Sage Publications.
- Roth, W.-M., & von Unger, H. (2018). Current Perspectives on Research Ethics in Qualitative Research. *Forum: Qualitative Social Research*, 19(3), 798–809.
<https://doi.org/10.17169/fqs-19.3.3155>
- Rubin, H. J., & Rubin, I. S. (2015). *Qualitative interviewing: The art of hearing data*. SAGE.
- Saldana, J. (2016). *The coding manual qualitative researchers*. Sage Publications.
- School Quality Guide - Online Edition - New York City Department of Education. (2019). <https://tools.nycenet.edu/guide/2019/>
- Sewell, C. J. P., & Goings, R. B. (2020). “I struggled but I made it”: Black gifted underachievers on transitioning to college. *Journal of Advanced Academics*, 31(2), 111–128. <https://doi.org/10.1177/1932202x20901506>
- Solomon, F., Champion, D., Steele, M., & Wright, T. (2022). Embodied physics: Utilizing dance resources for learning and engagement in STEM. *Journal of the*

- Learning Sciences*, 31(1). 1–34. <https://doi.org/10.1080/10508406.2021.2023543>
- Spillane, S. (2015). The failure of whiteness in art education: A personal narrative informed by critical race theory. *Journal of Social Theory in Art Education*, 35(1), 1–12. <https://scholarscompass.vcu.edu/jstae/vol35/iss1/6/>
- Stipanovic, N., & Woo, H. (2017). Understanding African American students' experiences in STEM education: An ecological systems approach. *The Career Development Quarterly*, 65(3), 192–206. <https://doi.org/10.1002/cdq.12092>
- Tanase, M. F. (2021). Culturally responsive teaching in urban secondary schools. *Education & Urban Societe*, 54(4), 363–388. <https://doi.org/10.1177/00131245211026689>
- Taylor, J. A., & Iroha, O. (2015). Social studies education and public art: The Detroit billboard project. *Journal of Social Studies Education Research*, 6(1), 1–25. <https://doi.org/10.17499/jsse.40975>
- Terzian, S. G. (2021). “Subtle, vicious effects”: Lillian Steele Proctor’s pioneering investigation of gifted African American children in Washington, DC. *History of Education Quarterly*, 61(3), 351–371. <https://doi.org/10.1017/heq.2021.22>
- Thomas, G. (2017). *How to do your research project: A guide for students* (3rd ed.). Sage Publications.
- Tseng, A. (2019). Culturally sustaining pedagogies: Teaching and learning for justice in a changing world, edited by D. Paris and H.S. Alim, New York City, Teachers College Press, 2017, pp. x + 305. *Language & Education: An International Journal*, 33(2), 182–186. <https://doi.org/10.1080/09500782.2018.1516224>

- Van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. SUNY Press.
- Vinz, R. (2009). Culturally responsive teaching. In E. F. Provenzo & A. B. Provenzo (Eds.), *Encyclopedia of the social and cultural foundations of education* (pp. 211–212). <http://doi.org/10.4135/9781412963992.n102>
- Walls, L. I. (2016). Awakening a dialogue: A critical race theory analysis of U. S. nature of science research from 1967 to 2013. *Journal of Research in Science Teaching*, 53(10), 1546–1570. <http://doi.org/10.1002/tea.21266>
- Wiggan, G., & Watson, M. J. (2016). Teaching the whole child: The importance of culturally responsiveness, community engagement, and character development in high achieving African American students. *The Urban Review*, 48(5), 766–798. <https://doi.org/10.1007/s11256-016-0377-6>
- Woodson, C. G. (1933). *The Mis-Education of the Negro*. Hakim's Publications.
- Wright, B. L., Ford, D. Y., & Young, J. L. (2017). Ignorance or indifference? Seeking excellence and equity for under-represented students of color in gifted education. *Global Education Review*, 4(1), 45–60. <https://ger.mercy.edu/index.php/ger/issue/view/27>

Appendix A: Virtual Interview Protocol

A Qualitative Study Exploration of Perceptions and Experiences of Gifted and Talented
African American Alumni on an Exemplar STEAM Program

Interviewer: _____

Participant: _____

Career of Participant: _____

Time: _____

Date: _____

Location: _____

- A. I will greet the participant and identify myself as Hanan Hameen, a doctoral candidate from Walden University, conducting a study focused on science, technology, engineering, arts, mathematics, and culturally relevant instructional strategies to identify successful strategies for gifted and talented African American high school students.
- B. The participant will be thanked for volunteering their time to participate in the study and share their experiences and perceptions.
- C. The participant will be asked to verbally consent to a digital recording of their interview for further analysis.
- D. The participant will be given the option to turn their camera on or off.
- E. The digital recording feature will be turned on, and I will note the time, date, and location of the interview.

- F. The participant will be given a coded sequential interpretation as a name, for example, “A1”, which will be stated for the digital recording, documented on my copy of the written consent form, and then I will begin the interview.
- G. I will ask the participant several questions to serve as an interview guide.
- H. I will encourage participants to share their experiences and perceptions of the instruction they received as students in the exemplar STEAM program. To support in-depth discussions and robust descriptions, I will ask follow-up, probing, and clarifying questions.
- I. I will wait after posing a question to allow participants time to fully express their thoughts and perspectives. When needed, I will ask participants to elaborate on their thoughts with personal examples from experiences.
- J. The interview is expected to last approximately 45 minutes to one-hour maximum. Less time may need to be allocated, however, as I explore the answers follow-up questions may be required.
- K. At the end of the interview, the participant will be thanked again for their time. I will inquire if the participant would like a copy of the executive summary of the research findings, and the digital recording will be turned off.

Virtual Interview Questions

1. What were your experiences as a gifted and talented African American student prior to joining the program and outside of the program while you were a member?
2. From your perspective, prior to or outside of the program, was there anything that you felt related directly to your familiar cultural experiences?
3. In your opinion, as a member of the program, which specific parts of class or lessons were least effective and most effective for you as an African American student and why?
4. From your experience, was there anything you were taught or exposed to that made you feel misjudged, misrepresented, or bad about yourself culturally as an African American student?
5. In your opinion, what were the main parts of the program that included the sciences, technology, mathematics, engineering, arts, mathematics, or language on a level that was challenging academically?
6. From your perspective, was there anything you were taught in the program that you felt related directly to the achievements or contributions in science, technology, engineering, arts, or mathematics of people belonging to your same culture?
7. Please share an experience where you believe a specific part of class or lesson assisted in either your academic success or lack thereof as an African American student.

8. Did the academic experiences in the program seem relatable to your way of life culturally?
9. Please describe how you felt supported, included, and/or represented culturally.
10. Please share a specific story highlighting how your participation in the program supported your advanced academic achievement in other subject areas.
11. Please describe how participation in the program changed your overall educational experience and contributed to your life accomplishments and the person you are today.
12. Is there anything else you would like to share regarding what you learned or what your teacher did in class to benefit the academic success of gifted and talented African American high school students?