

Searching for the Third R: An Exploration of the Mathematics Experiences of
African Americans Born in, and Before 1933

by

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ABSTRACT

The early desire for and the pursuit of literacy are often mentioned in the teeming volumes devoted to African-American history. However, stories, facts, and figures about the acquisition of numeracy by African Americans have not been equally documented.

The focus of this study was to search for the third R, this is the numeracy and mathematics experiences of African Americans who were born in, and before, 1933. The investigation of this generational cadre was pursued in order to develop oral histories and narratives going back to the early 1900s. This study examined formal and informal education and other relevant mathematics-related, lived experiences of unacknowledged and unheralded African Americans, as opposed to the American anomalies of African descent who are most often acknowledged, such as the Benjamin Bannekers, the George Washington Carvers, and other notables.

Quantitative and qualitative data were collected through the use of a survey and interviews. Quantitative results and qualitative findings were blended to present a nuanced perspective of African Americans learning mathematics during a period of Jim Crow, segregation, and discrimination. Their hopes, their fears, their challenges, their aspirations, their successes, and their failures are all tangential to their overall goal of seeking education, including mathematics education, in the early twentieth century. Both formal and informal experiences revealed a picture of life during those times to further enhance the literature regarding the mathematics experiences of African Americans.

*Key words: Black students, historical, senior citizens, mathematics education
oral history, narrative, narrative inquiry, socio-cultural theory, Jim Crow*

DEDICATION

“When an older person dies, it’s as if a whole library is burned down.”

--African Saying from Japanese Americans in Arizona Oral History Project

This dissertation is dedicated in memory of my late mother, Anna Belle Seay Radney, who was born in 1916 and my late father, William McKinley Radney, who was born in 1917. Their life stories were reflective of many of the experiences herein presented and their lives were contextualized by many of the economic, political, social, and educational issues that are addressed in this research study. Their positive encouragement and support in the past has bolstered me in my current reach to new heights and wider horizons.

This dedication is also in memory of Sophia Beatrice Wilson Shuman, my late mother-in-law, who was born in 1923. Her kind words and encouragement were always an inspiration to me.

Knowing that my focused population included potential participants who lived with age-related vulnerabilities, I also dedicate this work in their memory. The following prospective participants did not live to see the culmination of this project. I herein express my gratitude posthumously.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES	viii
 CHAPTER	
1. INTRODUCTION.....	1
Statement of the Research Problem	5
The Significance of the Study	5
2. REVIEW OF SUPPORTING SCHOLARSHIP	9
Schooling Expands	10
A Cacophony of Philosophies and Theories in Mathematics	
Education	11
An Overview of Life for Blacks	17
An Overview of Education for Blacks	19
Teachers: The Heroes and Heroines	23
Two Educated Progressive Black Leaders	26
Tuskegee: The Model for Black Education	30
Mathematics Education for Black Students	34
Textbooks, Mathematics Exercises, and Tools	36
3. THE METHODS	43
A Qualitative Research Study	44
The Method: Oral History	46
Why Oral History?.....	46

CHAPTER	Page
The Methodology.....	47
A Sociocultural Theoretical Framework	47
Data Collection	49
Triangulation	53
Strategies to Reduce Researcher’s Bias	54
4. RESULTS AND FINDINGS	59
Questionnaire Results – Quantitative	60
Questionnaire Findings – Qualitative	69
Interview Findings – Qualitative	77
5. DISCUSSION	93
Research Question 1	93
Research Question 2	99
Research Question 3	101
Summary	103
REFERENCES	105
APPENDIX.....	113
A. RECRUITMENT PACKAGE	113
COVER LETTER/CONSENT FORM.....	114
RECRUITMENT SCRIPT.....	116
RECRUITMENT FLYER.....	117
INSTRUCTIONS FOR COMPLETING QUESTIONNAIRE.....	118
SIX-PAGE SURVEY QUESTIONNAIRE.....	119

APPENDIX	Page
B. INTERVIEW QUESTIONS.....	125
C. INSTITUTIONAL REVIEW BOARD APPROVAL – ASU.....	130
D. PARTICIPANTS’ INTERVIEWS: THEIR STORIES	132
INTERVIEW INDEX.....	134
CITATION FOR INTRODUCTORY POETRY	135
PARTICIPANTS’ INTERVIEWS.....	137

LIST OF TABLES

Table	Page
1	Participants’ Responses about Their Primary School Setting61
2	Mathematics Courses/Curricula Taken by Participants63
3	Formal and Informal Tools Used in Mathematics Instruction.....64
4	Disposition of Participants When Learning Mathematics.....65
5	Number of Participants’ Choices for Favorite Subjects or Courses66
6	Participants’ Favorite Arithmetic/Mathematics Courses67
7	Highest Grade Completed K-12 68
8	Themes, Theme-Related Components and Assertions for the Questionnaire69
9	Themes, Theme-Related Components and Assertions for the Interviews 78

LIST OF FIGURES

Figure	Page
1 Name Change for Historically Black Colleges and Universities	32

Chapter 1

INTRODUCTION

“The history of arithmetic education and blacks in the post emancipation period is one yet to be written, although its outlines can be guessed at in light of the manual arts training promoted by black and white educational leaders. The details of how the most basic numeracy was imported to a population just on the threshold of literacy will likely be an important story, however, in view of the persistent race differentials in mathematics achievement in the late twentieth-century America.” -Patricia Cline Cohen, 2003, (p. 16)

History provides a sense of time, both present and past. Reaching back in time was once considered unimaginable. It was difficult, to impossible, to pin down the authenticity of past events that took place “far away,” “long ago” or “once upon a time.” Time was once considered a void with allusions of vanished eras and long-forgotten relics and artifacts. Things have changed and today there are a variety of scientific and investigative techniques that seemingly pause time and allow for a closer look at important, infamous, and even horrific events of the past.

One place that captures time is the Civil Rights Museum in Birmingham, Alabama. This special place contains exhibits, paused in time, that display scenes from a vanished era – school life for African Americans in the early to middle 1900s. Schooling during that time is captured as a side-by-side comparison of authentic classrooms of 1953, one from a southern White school and the other from a southern Black school. The students’ desks, the textbooks, the blackboards, and the teacher’s desk mentally and emotionally transport the observer from now to then. The comparison of classroom furnishings and materials clearly indicates the differential schooling that took place during this time of segregation. Between the two classrooms one can view the newness and brightness of the White classroom versus the old, shabbiness of the starkly

furnished Black classroom. When touring the museum the exhibition guide explains that much of the furnishings and resources for the Black school had previously been used at, and discarded by, the White school. Because of inadequate funding it was a customary practice in the early 20th century, for Black schools in the north and the south, to use the hand-me-down furnishings, materials and supplies discarded by White schools (PBS: *Only A Teacher*, 2000). All that is needed from this exhibition is to hear the words, “lights, camera, action” to imagine the bustling activity that took place in these vintage classrooms.

In the PBS documentary, *School: The Story of American Public Education*, Vanessa Siddle Walker, a historian, quotes the words of the renowned Black educator, Booker T. Washington who said, “Reconstruction was an entire (black) race trying to go to school.” The foremost pursuit was to learn to read and write. Schools established for African Americans initially had only one room and one teacher with dozens of eager students of varying ages. When the opportunity to go to school came to African Americans, no one was considered too young or too old to attend (Snyder, 1993). For those who were formerly enslaved, being literate, or having the opportunity to learn how to read and write, symbolized freedom, or a state of no longer living in illiteracy and bondage.

Reading and writing were and continue to be key curricular components in the human educational experience, but they are not the only important factors. Arithmetic/mathematics is an equally important component. Thus, the continual pursuit to learn the three Rs – reading, (w)riting, and (a)rithmetic has been, and continues to be, paramount in the realm of education. Having these abilities and skills are foundational

and rudimentary to becoming an educated person. However, not all maintain an equal status. There has been a coupling of reading and writing into a literary genre which today is called language arts. Garnered in this pairing are other text-based curricular components, such as history and social studies, which have ideologically pushed the third R, arithmetic or mathematics, into isolation. Reading and writing, grouped together, are taught with a natural and acceptable interconnectedness. In contrast, the third R is usually taught as a separate subject that has no relationship or connections to the remainder of school curricula (Richardson & McCallum, 2003). Thus, it is not unusual to hear and believe the proverbial adages: “I am good with words but not with numbers.” “I can read and write well, but I am not a math person.” “You can either do math or you can’t.” “You are born with a mathematical ability or you are not.” With the ubiquitous pursuit of the first two R’s, reading and writing, the acknowledged pursuit of the third R, arithmetic, seems to have been minimized or sequestered in the learning experiences of African American students after the Emancipation Proclamation and well into the 20th century.

Through the years millions of people and cultures across the globe have embraced abstractions and models that have strong and relevant mathematical foundations. Ironically, in the area of mathematics education, much of the literature places the African American student in an inferior and low-achieving status when compared with White and Asian students. Using statistical data Haycock (2002) reported that, “26% of Whites students and 20% of Asians fall below basic at the end of high school. The fact that 69% of African American youth and 56% of Latinos are in this category is potentially devastating for them and for our country” (p. 6). In addition, high school completion rates remain markedly lower for students of color. Close inspection of national

graduation gap data show that only 50% of Blacks graduated from high school in 2001. High-stakes testing policies may have some bearing on these data (Orfield, Losen, Wald, & Swanson, 2004). Substantial research has tried to explain learning gaps. We know that it begins early, community resources matter, and what students are taught is one of the most powerful predictors of how they will perform (Halle, Forry, Hair, Perper, Wander & Vick, 2009; Mead, 2012; Nelson, 2006; Schwarz, 2010; Haycock, 2001). Each of these has implications for mathematics. Negative stigma and the stereotype of failure have been ascribed to the learning of mathematics for the African-American population, both past and present. Mathematics education research literature and reports do not show a healthy growth of knowledge or experience in mathematics for African Americans (Ladson-Billings, 1997)).

In uncovering folkways of the past, one might sense that the population of Blacks freed from slavery and their succeeding generations who had positive attitudes, dispositions, and self-efficacies toward learning to read and write, may have had similar attitudes, dispositions, and self-efficacies toward numbers, counting, numeracy, and mathematics in general. However, there is minimal literature about African Americans and their engagement in arithmetic and mathematical activities in the early 1900s..

It should be noted that historians, authors, and documents will be referenced regarding persons of African descent, who were the subjects of this study. These persons of African descent have been referred to as African or its nomenclature (African American and Afro-American), Negroes, Blacks, Black Americans, colored people, and so on. In this dissertation, these terms will be used interchangeably to refer to the same group of people. Interestingly, these designations are alluded to in the following quote

from Brown American Magazine, 1941: “Trying to be black and an American is such a complicated task, it’s remarkable that so many of us have kept at it as long as we have” (Berry & Blassingame, 1982, p. 388).

Statement of Research Problem

As quoted by Cohen in the opening of this dissertation, the history of arithmetic/mathematics education and Blacks has yet to be written. The early desire for and the pursuit of literacy are often mentioned in the teeming volumes devoted to African-American history. However, stories, facts, and figures about the acquisition of numeracy by African Americans have not been equally documented.

The focus of this study was to search for the third R in the numeracy and mathematics experiences of African Americans who were born in, and before, 1933. The investigation of this generational cadre was used to develop oral histories and narratives going back to the early 1900s. Both formal and informal experiences were investigated to further enhance the literature regarding the mathematics experiences of African Americans. The work of this research study was examine formal and informal education and other relevant mathematics-related, lived experiences of unacknowledged and unheralded African Americans as opposed to the historical American anomalies of African descent who are most often acknowledged, such as the Benjamin Bannekers, the George Washington Carvers, and other notables.

Significance of the Study

The historical context under which African Americans sought an education in the early 20th century has been well documented in the literature. Many writings show that African Americans suffered injustices at every turn – economically, politically, socially,

and educationally – while they were enslaved, after slavery, and well into the 20th century when freedom had been nominally granted (Thomas, 1901; Warner, Havighurst, & Loeb, 1944; Mellon, 1988). The literature has posited that because of their past status of servitude and because African Americans did not look as some believed Americans should look, they were dismissed and excluded from American ways of life (Tyack & Cuban, 1995). Historical enigma maybe disclosed, but these serve to contextualize the life and educational experiences of a people seeking at least a semblance of a level societal playing field for themselves and their posterity. Yet, for African Americans it was not to be found during the early 1900s. This study aimed to document the societal and educational injustices these individuals endured along with clues that may have significance for the present mathematics teaching of, and learning by, African American students. Understandings of the past might reveal not-before-seen contexts and complexities with plausible analogies and visions for the future.

Historical research can have many unintended consequences that could prove beneficial to present issues for mathematics education and African American students. Tyack and Cuban (1995) support this idea in the following passages.

History provides a whole storehouse of experiments on dead people. Many educational problems have deep roots in the past and many solutions have been tried before. If some “new” ideas have already been tried, and many have, why not see how they fared in the past? (p. 6).

Finally, history provides a generous timeframe for appraising reforms. When reforms aim at basic institutional changes or the eradication of deep social injustices, the appropriate period for evaluation may be a generation or more. (pp. 6, 7, and 15)

This research uncovered data with deep and rich descriptions of the experiences of African Americans who endured negative political, economic, social, and educational

forces while pursuing an education, specifically numeracy or mathematics. Building upon the work of Janice E. Hale's book, *Learning While Black* (2001), and Danny Bernard Martin's educational journal article, *Learning Mathematics While Black* (2012), this study displays the act of doing exactly that, learning arithmetic/mathematics while Black in the early twentieth century. The study also describes experiences of formal course-taking, the pursuit of mathematics-related trades and occupations, formal and informal mathematics activities as well as mathematics attitudes, dispositions, and self-efficacies of the research participants individually and in aggregate.

Investigating these suspected divergent dimensions and their import through the collection of historical evidence and oral histories of those who lived and attended school, or not, during an era of segregation and discrimination, may provide insight into the challenges of today's African American students in mathematics education.

Given the need to answer some important questions about the mathematics education of African Americans in the early 1900s. The following three overarching research questions were the focus of this study.

Question 1:

What instruction and support did African Americans born during the early 1900s receive and what attitudes/dispositions did they internalize and/or exhibit while learning and learning about mathematics?

Question 2:

In the pursuit of mathematical knowledge and capabilities, what formal (schools, vocational training, etc.) and/or informal (churches, civic organizations, family, etc.)

educational experiences, supports, and institutions assisted African Americans in the acquisition of their skills, and attitudes/ dispositions?

Question 3:

What encouragement or admonitions did African Americans received from their parents, and what encouragement or admonitions did they give to their children regarding the importance of and the need for mathematics education?

Chapter 2

REVIEW OF SUPPORTING SCHOLARSHIP

America from 1900 to 1933 was a country in societal flux. The economy waxed and waned as the political leadership migrated from one party to the other. At the same time child labor laws were assailing agriculture and labor. Schooling for a few was being replaced with a mandate of schooling for all, resulting in an enormous increase in potential student populations. Urban blight was developing as the population moved from agrarian life to urban life. The country entered World War I in 1917. Higher taxes and the purchase of war bonds was the norm. Non-black, ethnic minorities were being targeted as un-American or unpatriotic. America entered the world government through the League of Nations. Business productivity increased in the middle of this period such that Americans enjoyed the best lifestyle ever. Finally, the stock market crashed leading to the Great Depression of the 1930s (Walmsley, 2007).

Pursuing education, including mathematics education, was a new venture for the general population of America during the early 1900s. This pursuit was attended by novel ideas, philosophies and theories regarding how to educate the masses as well as who to educate. These ideas were critical to this time so the first part of this literature review introduces key personalities, organizations, and efforts that took a reformist stance and led in the education of the majority population. The review later parallels educational efforts for African Americans, the population that was not included in grand plans to educate the masses.

Schooling Expands

In 1900, education in America was aligning itself with new theoretical, pedagogical, and curricular models. In the first half of the twentieth century, seeking an education was becoming a way of life. For example, though it had existed some thirty years prior to 1900, kindergarten was becoming a more acceptable way to educate the very young, and Maria Montessori introduced innovative teaching methods such as discovery learning, and child focused curricula (American Cultural 1900-1909).

One decade before the beginning of the twentieth century, school-population demographics were quite interesting. Enrollment increased dramatically. The nations' public schools, which had replaced the common school, had almost 13 million students housed in 224,526 elementary school buildings, and there were another 222,000 students in high schools (Cuban, 1984). The school year was approaching 100 days for the first time. Yet, even with these advances a very small percentage of the students enrolled in high school graduated (Tyack & Cuban, 1995). Similarly, from 1900 to 1919, eighth-grade status was achieved by less than half of the student population. It was also common for students not to be promoted on a yearly basis. In 1910, 65% of students who were 17 years old were not in high school (Conant, 1959).

Elementary schooling further expanded to more than 24 million students during the decades between 1900 and 1930. In the past four years of high school had followed eight years of elementary school. During this period, modifications were put in place; six years of elementary school and three years of the new junior high school level were followed by three years of high school.

Elementary schools became the stage for the arithmetic that was once taught in

college and high schools. For example, in viewing arithmetic as “different types of numbers – concrete, abstract, and denominate” different approaches to arithmetic were required (NCTM, 32nd Yearbook, 1970, p. 37-38). In prior decades, concrete or developmental approaches were taught in the elementary grades, while abstract and denominate approaches were taught in college and secondary schools. Then algebra transitioned to the elementary school, and along with it transitioned the abstract and denominate approaches to arithmetic which were foundational to algebra instruction (NCTM, 32nd Yearbook, 1970).

A Cacophony of Philosophies and Theories in Mathematics Education

Mathematics education was finding its place as a professional area in academia at the beginning of the 20th century (Jones, 1970). With its recognition came changes in the theoretical tenets of some mathematics educators. Mathematics curriculum’s place in the school was questioned. Consequently, with the expanding school population and the curriculum issue came a flurry of academic unrest in a variety of different camps. The unrest reached a level that some categorized as a crisis by the first few decades of the 1900s. A crisis as to who should be taught mathematics and what mathematics curriculum should be taught. Some had even begun to question the viability of mathematics and its role as part of the high school curriculum, (Hedrick, 1936).

Walmsley (2007) revealed that mathematics education tends to swing on a pendulum from one philosophy of education with its aligned mathematics content to another philosophy with its particular content. Philosophies and theories of mathematics education were promoted from many different vantage points. The mental discipline theory and the classical humanism theory prevailed at the turn of the 20th century (Good,

2000). Those favoring the mental discipline theory believed that the mind, in order to be strong, needed exercise like a muscle. On the other hand, the classical humanist saw traditional mathematics as part of our cultural heritage and believed it should remain a cornerstone of America education (Good, 2000). The traditional mathematics-subject sequence of arithmetic, algebra, geometry, and trigonometry was considered important to school and as a cultural underpinning for education in general, and mathematics in particular.

Traditional education was the approach to teaching in American schools at the turn of the century. Drill, practice and recitation in austere classroom settings were well-established. Basic facts were memorized, such as for multiplication, and becoming proficient in arithmetic algorithms with one operational step following another were the mathematics expectations of the time. These practices were foundational in schools until progressive education began to displace them beginning in 1910 and continuing well beyond 1930 (Walmsley, 2007). Two theories shared the stage at the beginning of the 1900s, the mental discipline theory and the classical humanism theory which focused traditional mathematics.

Four interest groups came to the forefront to voice their agreement with or opposition to some of the existing and proposed philosophies and theories regarding mathematics education. At the same time, these groups offered their own ideas as a solution to the problem during this ideological tug-of-war. The interest groups were the already-established humanists and three reformists groups – the developmentalists, the efficiency educators, and the social meliorists (Stanic, 1986).

According to Stanic (1986), the humanist group had Charles William Eliot and William Torrey Harris as its leaders. Since their ideas had already been one of those adopted for mathematics education, they promoted the idea of maintaining the “importance of the traditional disciplines of knowledge as embodiments of the Western cultural heritage” (p. 191). The humanists were in opposition to the three reformist groups. (1) The developmentalists, with its leader Granville Stanley Hall, believed that “the curriculum should be based on the natural order of development of a child” (p. 191). (2) The efficiency educators reform group “advocated for a scientific approach to developing a curriculum that would contribute to a smoothly functioning, efficient society, a curriculum through which each person would be prepared for his or her predetermined place in that society” (p. 191). (3) The third reform group, the social meliorists with its leader in the person of Lester Frank Ward, “saw school as an important instrument for improving society in general, and the plight of the suffering individual in particular” (p. 191). Other reformists added their voices to the conversation about mathematics education

Edward L. Thorndike, like many psychologists of his day, believed in association between sensation and impulse rather than association between ideas. To Thorndike and other Behaviorists the mind was a black box and reinforcement and punishment explained learning. When it came to mathematics Thorndike promoted a distrust of arithmetic as mental discipline; an idea that had been an accepted theory in the 1890s and at the beginning of the 1900s. Mental discipline compared the mind to a muscle that needed exercise to grow and develop. Thorndike’s attempt to replace this idea was supported by his publications from 1917 to 1923. In *The Thorndike Arithmetic*, *The*

Psychology of Arithmetic, and *The Psychology of Algebra*, Thorndike stressed the need to practice arithmetic in a way that led to the fragmentary teaching and testing of facts and skills on a one-by-one basis. The resulting effect of his idea was that schools began to teach algebra and arithmetic by using drill techniques. Thorndike's ideas also spun the social efficiency movement, which gave mathematics a less prominent place in secondary school curricula. With Thorndike's contributions to arithmetic/mathematics education, former theories like the 'science of arithmetic' were put aside (NCTM, 32nd Yearbook, 1970).

Eliakim Hastings Moore promoted ideas related to classical humanism. Classical humanism is generally the philosophy of a privileged aristocracy. It is distinguished by emphases on philosophy, written codes of virtues and ethics, and the creation of a body of literature and art. A mathematician from the University of Chicago, Moore, recommended making applications and connections between mathematics and the sciences and between two mathematics subjects - for example, combining algebra, geometry, and physics into one course (Good, 2000). Moore wanted mathematics to have a practical appeal to students, and he recommended longer periods of instruction with laboratory methods of instruction. He promoted a scientific approach to the study of mathematics. Moore wanted to incorporate a balance of the accepted deductive approach and traditional approaches to teaching mathematics (Good, 2000).

John Dewey adopted several of Jean Jacques Rousseau's ideas, and he began to promote child-centered learning and experimentation in his laboratory schools, first in Chicago, and then at Columbia University. Dewey was one of the most notable educational figures of his time, and he casted a long shadow of influence in all areas of

education, including in mathematics (Cuban, 1984; NCTM, 32nd Yearbook, 1970).

Progressive educators wanted schools to be enjoyable and an arena for achieving success. Progressivism became the acceptable philosophical protocol for mathematics delivery, and it went unchallenged for most of the first half of the 20th century.

William Heard Kilpatrick was a mathematics educator, and he was considered “the most influential introducers of progressive ideas into American schools of education” (Hirsch, 1996, p. 52). John Dewey had served as Kilpatrick’s mentor and professor. Kilpatrick became faculty at Teachers College at Columbia University in 1911. For more than 25 years, Kilpatrick influenced thousands of students regarding the virtues of progressive education. He authored *Foundations of Methods* in 1925; this text became the content standard for mathematics teacher education (Klein, 2003).

Exemplars of this frenzied period of reform are as follows. The 1893 “Committee of Ten” report recommended the composition of the high school curriculum for the early 1900s; the publication of the Cardinal Principles of Secondary Education presented the seven basic goals for education; the Cardinal Principles report of 1918 lessened the requirement for algebra and geometry for all students; the social efficiency movement again promoted drill-and-practice methodologies from 1910 to 1920; and the Committee of Fifteen on Elementary Education introduced algebra as a transitional course in the newly developed junior high schools. In 1911-1912, a huge undertaking, the International Commission on the Teaching of Mathematics – American Commissioners that was composed of 12 committees and 54 subcommittees reviewed, discussed, revised, and reported arithmetic/ mathematics curricular changes and modifications well into the 1920s. These and many more reformist efforts in mathematics filled the early decades of

the 1900s. Despite the flurry of efforts, all reform movements during this period took a secondary level to progressivism that was theoretically in place until the 1950s (NCTM, 32nd Yearbook, 1970).

Progressive education, also called progressivism, was the philosophical choice of most educators in American schools after the first decade of the 20th century. Given its nature it can be described as dichotomous to traditional education that required memorization of facts, figures, and formulas from a dull and many times boring academic curriculum (Cuban, 1984). Progressivism promoted child centeredness, and it purportedly led to the education of the whole child through subjects like music, art, drama, and recreation in addition to the three R's. Progressive education took into consideration the interest of the students and their curious natures (Klein, 2003; Walmsley, 2007).

By the 1930s, progressivism was the victor. Consideration was being given to children's needs and interests. Mathematics textbooks, journals and other resources emphasized progressive education. Some highlighted integration of math with science in lieu of the isolationist approach to teaching mathematics. Educators supporting this movement frowned on activities such as learning the multiplication tables, and even reading. High schools did not readily accept the movement mainly because their teachers were subject specialists, and course integration was problematic for them.

Statistics from the early 20th century reveal the fact that there was a rapid increase in students who enrolled in high school and graduated. Child labor laws and the Great Depression were the impetus for these changes; the lack of employment encouraged many students to stay in school when they otherwise would have dropped out (Walmsley, 1970). For example, in 1900 one in ten of those aged 14 to 17 were attending high

school, while in 1940 seven in ten were attending high school. Similarly, in 1900, 8% of students graduated from high school compared with 17% in 1920, and 51% in 1940.

Course offerings were at nine in 1890, and they rose to 47 courses offered in 1928 (Tyack & Cuban, 1995).

Few of these novel reforms, theories, and philosophies embraced all of American society. Most were directed toward the wealthy Whites. Poor children, which included Black and immigrant children, were not considered for these educational mandates and recommendations.

An Overview of Life for Blacks

While America was experiencing the pangs of an ever-changing landscape in all sectors of society at the turn of the 20th century, one thing had not changed – the status and treatment of Blacks. According to much of the literature, the situation for African Americans in southern agriculture at the start of the twentieth century was one of desperation. The story is depressing because it is one “of degradation, poverty, and hopelessness for the men, women, and children who lived in desperation and without alternatives” (Hurt, 2003, p. 1).

As Maloney (2002) cites from the 1900 U.S. Census, 90.1% of African Americans lived in the South; this is roughly the same percentage that lived in the South in 1870. This again highlights the fact that not many individuals migrated during that 30-year period. This was problematic because the north offered educational opportunities and higher paying industrial jobs while schooling in the south remained for the wealthy and jobs were limited and in rural areas. However, it was also reported that in 1898, most African American children did not attend school (Maloney, 2002). According to the

same census, the representation of African Americans in the rest of the United States was as follows: 3.6% lived in the Northeast, 5.8% in the Midwest, and 0.5% in the West. The white population showed the following demographics – 23.5% lived in the South, 31.8% in the Northwest, 38.5% in the Midwest, and 6.2% in the West.

The 1900 Census further showed that about three-quarters of Black households were located in rural environments. Approximately 20% of African Americans owned their own homes, while about 50% of Black men and about 35% of Black women reported to have worked as a farmer or a farm laborer (Maloney, 2002). Farming and farm work were dominant occupations; African Americans grew cotton under a variety of contracts and institutional arrangements. Some were laborers hired for a short period for specific tasks. Many were tenant farmers renting a piece of land and sometimes their tools and supplies, and paying the rent at the end of the growing season with a portion of their harvest. Blacks were much less likely to hold better-paying skilled jobs, and they were more likely to work for lower-paying companies. A few African American men and women were employed in unskilled labor and service jobs. These jobs included clerical, sales, craft, operative, private and other service work.

Note that approximately 9.9% of African Americans lived outside of the southern states in the early 1900s. Among those were residents of 2 New York districts. Gutman (1976) details the job categories for blacks in these districts during that time. There were 4,520 unskilled workers (waiters, porters, chauffeurs, etc.), 462 skilled workers (painters, bricklayers, carpenters, etc.), 166 white-collar workers (postal workers, clerks, salesmen, etc.), and 39 professionals (clergymen, physicians, teachers, etc.). Seventy-seven persons were engaged in enterprise (retail storekeepers, restaurateurs, undertakers, etc.) that

catered to the local Black community. The variety of work opportunities and possibilities in the North, which were so different from the usual planting and picking of cotton, may have been an invitation for more African Americans to go North and participate in what would ultimately be called the Great Migration. Some of these jobs required arithmetic or mathematics skills. How these skills were acquired is the basis of this study. In summary, a typical African American family in 1900, was engaged in farming in the South, did not own a home, and was likely to not have its children in school (Maloney, 2002).

An Overview of Education for Blacks

The progressive educators in the early twentieth century were primarily white males, who were reluctant to share their academic positions with women; they showed no need to share this status with Blacks (Kliebard, 1986). This restricted educational construction “set the stage for the arrival of men and women of color who would seek to provide parallel, if not similar, opportunities for minorities, and especially Blacks” (Tyack and Cuban, 1995).

Some of these Black educators also had progressive ideologies; however, they themselves had experienced the disparities in the political-economic system of America. They saw how these inequalities led to stark contrasts of wealth and poverty between the Whites and Blacks, and between those who lived in the urban communities and those who lived in the rural regions. From their perspective these inequalities yielded unequal opportunities. They saw that honor was given to the White culture while other cultures were dismissed and ignored. The Black educators also knew that the progress being claimed for all of education did not reach the lower rungs of the ladder where most of the

black population stood. Blacks lived in a virtual caste system in America, and they were among the people who suffered most from inequalities (Tyack & Cuban, 1995; Warner, Havighurst, & Loeb, 1944). Even in the latter part of the period addressed by this study, no progress had been made for Blacks. By the 1930s, Black children “under the southern caste system were by far the most heavily disadvantaged group of children in the entire field of education” (Tyack, Lowe & Hansot, 1984, p. 30, 32).

From 1900 when approximately 90% of Blacks lived in the rural South until 1940 when 66% of Blacks continued to live in the rural South, Blacks were economically disenfranchised and suffered racial discrimination and oppression. For the most part Black schools survived on the sparse funding designated by White school officials for the “colored” schools. Even though Blacks comprised 25% of the public school students in 1940, they received 12% of the revenues. Blacks teachers were minimally trained, and the Black school lacked textbooks, slates, chalk, or desks. Black schools also had very large attendance, especially when farm labor was not needed. Not unlike the description of the side-by-side school display in the Birmingham Civil Rights Museum, Tyack and Cuban (1995, p. 47) present a dismal picture of a southern Black school as late as the 1940s in the following passage.

The building was a crude box shack built by Negroes out of old scraps and scrap lumber. Windows and doors were badly broken. The floor was in such condition that one had to walk carefully to keep from going through cracks and weak boards. Daylight was easily visible through walls, floors, and roof. The building was used for both church and school. Its only equipment consisted of a few rough-hewn seats, and old stove brought from a junk pile, a crude home-made pulpit, a very small table, and a large water barrel . . . Fifty-two children were enrolled . . . No supplies, except a broom were furnished by the district during the year.

Black school administrators flexed their political muscle and made attempts to bring about improvements and relieve inadequate educational facilities. However, despite their efforts funding and support for black schools was inadequate at best. A description of a black school as reported in the *Atlanta Independent* on October 18, 1913 follows (Plank & Ginsberg, 1990, p. 184).

It was revealed that enrollment in the schools exceeded seating capacity by 2,111 and that children who were without seats were forced to stand or to sit on the floor each day. Some students brought their own seats and sat ‘huddled together, breathing not only the air of the heated room, but that of the unsanitary toilets nearby.’ Because of the utilization of double sessions, 5,000 children received only three hours of instruction per day. In classrooms that were filled with sixty children per session. These children were still more fortunate than the 1,000 Negro children . . . wandering around the streets of Atlanta . . . because there is no room in the public schools for them.

In spite of the preceding unbelievable descriptions of Black education, Blacks were beginning to take advantage of the developing education system, but many other dynamics, both ideological and logistically, were also developing. Aside from the supply and demand issues, there was a controversy regarding the type of education that Black students should receive. There was initially a short-term purpose for providing an education en masse to black children – to offer the basic literacy skills of reading and writing plus the basic foundation of citizenship training for participation in a democratic society (Anderson, 1988).

Several northerners sought to help improve the quality of public education for African Americans in the early twentieth-century south through philanthropic efforts. Among these funders of Black education were Andrew Carnegie, John D. Rockefeller, Jr., and more prominently, Julius Rosenwald, the then-president and chairman of the board of Sears, Roebuck and Company.

It has been documented that the Rosenwald school building program began under the auspices of Tuskegee Normal and Industrial Institute (now Tuskegee University) and in partnership with Booker T. Washington in 1912. The Rosenwald Fund was a matching fund which required the monetary participation of the African American community in which the school would be built. Due to the overwhelming desire to have better school facilities for their children, African American communities raised more than \$4.7 million for the Rosenwald schools. This was more than the \$4.3 million contributed by Julius Rosenwald and the Rosenwald Fund (Hoffschwelle, 2006).

The erection of a Rosenwald school was a joint venture. The Rosenwald Fund contributed; the Black community contributed; and the county, even though majority White, was required to contribute. For example, for the building of the Johnsville School in Maryland, the Rosenwald Fund contributed \$500; the Black community contributed \$500; but the county or “public” was required to contribute the difference of \$2,192.00. The total cost for building the Johnsville School was \$3,192.00 (Fisk University Database for Rosenwald Schools, 2001).

Julius Rosenwald established a group of educational institutions in the South for African Americans in the first half of the twentieth century. As a civic effort, his focus was to increase educational opportunities in the largely rural and segregated South (Encyclopedia of Alabama: Rosenwald Schools in Alabama, 2009). Enthralled and focused on his philanthropic efforts, in 1924, Rosenwald stepped down as Sears’ president in order to devote most of his time to Black education. Though he donated millions of dollars to public schools, colleges, and universities, and other educational charities, he is most famous for the more than 5,000, elementary-level, “Rosenwald

schools” that he established throughout the South for poor, rural Black youth and for the 4,000 libraries he added to existing schools (Hoffschwelle, 2006).

Between 1917 and 1932 Rosenwald schools were built in 15 southern states - Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia (Fisk University Database for Rosenwald Schools, 2001). Rosenwald schools were available in a variety of floor plans which could meet the needs of school populations in any part of the South. The schools came in one-room/one-teacher to the seven-room/seven-teacher floor plans. The typical school had a classroom, an industrial building (or craft and trade section), and an outdoor toilet. This network of public schools provided employment for more than 14,000 teachers ((Hoffschwelle, 2006).

Teachers: The Heroes and Heroines

After the Emancipation Proclamation in 1863, Blacks were out of slavery, but few to none were educated. A host of nominal teachers remained in the South or moved southward to provide assistance to the newly freed population. In some cases army personnel became teachers for runaway slaves who inhabited the periphery of the army camps. Some Blacks who had learned to read and write in secret sought the opportunity to provide reading and writing instruction to their people, for they had a prized possession – literacy.

Crude buildings with few furnishings would become some of the first schools for Blacks. Many religious denominations sent missionaries to establish schools and teach Blacks. Methodist, Presbyterian, Baptist, other denominational, and independent missionaries took flight to the South during the early 1900s (Durham, 2003). White northerners were predominately those who went South to educate Blacks. An unlikely

phenomenal event took place when White teachers from the North eventually left the South, and they were replaced by Black teachers (Fairclough, 2007). The Black teacher became a mainstay in the educational pursuits of Black children in the South from that time, and well into late 1900s. They acted as community leaders in the vicinity of the school, and beyond

Black teachers saw their work as a sacred calling; educating the children was paramount. However, beside this important work, there were other roles which the Black teacher had to play for the good of the school, the students, and the community.

Following is a list of the non-teaching duties of southern Black teachers

Create and sustain schools; attract and retain patrons; procure buildings, furniture, and equipment; ensure regular sources of income; neutralize white hostility; cultivate white support; co-ordinate efforts of community members in the establishment of schools (Fairclough, 2007, p. 10).

The extent to which Black teachers personified humility was often misunderstood. Progress was dependent on the teacher demonstrating acts of humiliation and subjugation. They would take these stances of inferiority and backwardness for the sake of the educational work at hand. The goal was to provide the best education possible for the students, even at their own expense (Fairclough, 2007).

Because Black teachers were not equitably compensated for their work, they often had to moonlight by working a second or even a third job. The employment was wide-ranged and very different from the daily work of teaching. Working as farmers, preachers, wash women, and in other manual-labor venues did not deter the Black teacher (Fairclough, 2007). Hardships appeared to make Black teachers more determined and dedicated to their high calling.

Among the several White males who dedicated time and philanthropic effort to the education of Blacks in the South, a female philanthropist came on the scene in 1908. Anna Thomas Jeanes, a wealthy Quaker woman, sought to begin philanthropic work for the education of black children across the country; she was most interested in the southern states. Her work and the story of this work were far-reaching and highly respected. The Jeanes story is one of vision, dedication, and success. The Jeanes Supervisors were master teachers who provided professional development for Black teachers in Arkansas, Louisiana, Missouri, Mississippi, Alabama, Tennessee, Kentucky, North Carolina, South Carolina, Georgia, and Florida. Before this project, teachers had received no aid or assistance in their work. School improvement and teacher training were the main components of the program (Williams et al, 1979).

Like Rosenwald, Jeanes had an agreement with Booker T. Washington to provide assistance to Black teachers for the betterment of Black education. Rosenwald provided a means for securing physical capital or infrastructure, while Jeanes provided human capital and enrichment for Black teachers. Beginning in 1908 Jeanes Supervisors, also known as Jeanes teachers were requested in 804 of 1,415 southern counties; the majority of the Jeanes teaching force were Black educators (Williams et al, 1979).

Their major focus was to show Black children and their families how to live better lives. Community members looked to the Jeanes teachers for encouragement and assistance, because they were role models. Many of these teachers saw “progress in the Negro’s education . . . as the strongest weapon against prejudicial Jim Crow laws” (Williams, et al, 1979, p. 14). In the volume, *The Jeanes Story*, hundreds of names of Black teachers appear with their dates of participation in the project. From Black

supervisors of education to Black classroom teacher, Jeanes teachers touched the lives of many Black children in 1933 and before.

Two Educated Progressive Black Leaders

During the first decades of the 1900s, the progressive ideologies of two notable black educators advanced to the forefront of education for blacks. These progressive educators were Booker T. Washington and William Edward Burghardt (W.E.B.) Du Bois. They did not agree on the path toward economic freedom and equality for Blacks. Their resolves for the education of Blacks after the Emancipation Proclamation and Reconstruction were personally heartfelt, but sometimes polar opposites. This is demonstrated first by the words of Booker T. Washington, followed by those of W.E.B. Dubois (The Booker T. Washington Society, 2014; William Edward Burghardt Du Bois on Education, 1998).

The Negro has the right to study law, but success will come to the race sooner if it produces intelligent, thrifty farmers, mechanics, to support the lawyer. - Booker T. Washington

We cannot base the education of future citizens on the present inexcusable inequality of wealth nor on physical differences of race. We must seek not to make men carpenters but to make carpenters men. W.E.B. DuBois, 1920

Washington, one of the foremost African-American educational leaders of the late 19th and early 20th, was born into slavery in 1856 in Virginia. In 1872 after attending a nearby grade school, Washington walked 500 miles to Hampton Normal Agricultural Institute, also in Virginia, where he convinced Hampton's administrators to allow him to attend school. His admissions exam was to clean a room. Upon inspection, his work proved excellent, so he was admitted to Hampton Institute. He was later offered scholarships. Washington completed his studies at Hampton, and he became a teacher at

his former grade school. He later accepted a teaching position at Hampton. When the Alabama legislature approved \$2,000 to start a “colored” school, Washington was recommended to become its administrator. That “colored” school was Tuskegee Normal and Industrial School, now known as Tuskegee University (Washington, 1901).

Tuskegee Normal and Industrial School was one of many private schools that dominated the education terrain. These private schools could have been considered common schools, normal schools, training schools or industrial schools. In 1916 Tuskegee was one of the largest private schools in the South. It served the needs of blacks on many different levels. For its day and evening students, it provided Bible training, teacher training, mechanical trades, agriculture, and household arts. At the elementary level, Tuskegee stressed reading and English. Students enrolled in courses at the secondary level after successfully completing the elementary level. The courses taught at the secondary level were algebra, geometry, ancient history, physics, modern history, commercial geography, economics, bookkeeping, Negro history, psychology, education, civics, botany and practice/student teaching (Catalogue of the Tuskegee Normal and Industrial Institute, 1899).

Aside from teacher training, Tuskegee emphasized the mechanical trades. Mechanical drawing and architecture required four years, with other trades such as blacksmithing, masonry, plumbing, painting, tailoring, carpentry, electrical engineering, shoe and harness making, and machinery requiring three years. Mathematics lessons were embedded components of many of these courses. For example, carpentry had several lessons on fraction equivalencies as well as adding and subtracting fractions. Note that these courses were for males; sewing, cooking, tailoring, basketry, broom making and

dressmaking were for females. All of the above course offerings were comparable to the secondary level at that time (Catalogue of the Tuskegee Normal and Industrial Institute, 1899). Tuskegee also had a four-year undergraduate program and a two-year graduate program (Morgan,1995). Even though many of the courses at the secondary level could be categorized as courses of rigor, Washington emphasized the industrial programs.

Washington's point of view aligned with southern Whites. He believed that Blacks needed to overcome the effects of slavery and that working with their hands would allow them time to do that. He also suggested that Blacks should prove to Whites that they could earn a place in the nation through their hard work (Morgan, 1995). His beliefs angered some Blacks who suggested that they had already worked extremely hard in the past and had already earned a place of recognition in the nation. White interests, such as Rosenwald and Rockefeller, continued to financially sponsor Washington and Tuskegee. In many ways Washington's philosophy fueled the status quo.

It is probably safe to say that Booker T. Washington, in some ways, was a product of his past experience. He had been a slave during his childhood, and he attempted to be practical and wished blacks to have a place in the workforce. He was thinking supply and demand. In addition to teaching, vocational work was in demand. Some Blacks believed that Washington's ideas would continue the path of servitude (Spivey, 1978). He advocated that Blacks should cooperate with the White establishment as far as education was concerned, so that Whites would be willing to hire Blacks for the in-demand jobs.

W.E.B. Du Bois was born on February 23, 1868 in Massachusetts. Du Bois attended school with whites, and he was academically supported by White teachers. He attended Fisk University in Nashville, Tennessee in 1885. In Nashville he first

encountered Jim Crow laws, and he began to see the evils of racism. He earned his bachelor's degree at Fisk, and then with summer earnings, scholarships, and loans, he entered Harvard University where he earned a master's degree. He studied abroad at the University of Berlin in Germany where he strengthened his political ideologies which he continued to promote for the rest of his life. In 1895 Du Bois was the first African American to earn a doctorate from Harvard University (Morgan, 1995). W.E.B. Du Bois, who was twenty years younger than Washington, wanted black education to be academic.

Du Bois believed that blacks should receive the same kind of education that whites received; they should take rigorous courses and study the classics. Du Bois was not completely opposed to vocational and industrial programs, but he wanted Blacks to become thinkers. He believed that this would only come with the development of the mental capabilities. He advocated for schools that taught a classical education.. He saw the Black worker as more than a tool of production. He believed the best workers would be those exposed to the cultural aspects of education and life. Du Bois further wanted full recognition of Blacks as having rights and privileges equal to those of Whites. He viewed slavery as an evil exploitation of blacks that served as an environment of restrictions; an environment that prevented the inherent capabilities of blacks to emerge (Morgan, 1995).

DuBois proposed an educational experiment known as "the talented tenth." At minimum he wanted to identify and fund a classical education for 10% of the black population. At the end of their training, these educated blacks would provide academic service to the remaining 90% of the black population. His plan would provide the best-trained teachers, ministers, lawyers, philosophers, writers, and journalist to give back to

the black community (DuBois, 1903). Du Bois believed that the future society would need “brain workers”, those who could supervise workers and design machinery.

Washington saw Du Bois’ plan as an elitist scheme that would leave out the majority of the black population.

Washington’s camp and Du Bois’ camp were always in opposition. Many confrontations occurred both through print and face-to-face. As more people began to side with Du Bois, Washington’s popularity began to wane. Du Bois’ ideology continued to increase in strength even though the experiment of “the talented tenth” did not materialize. He later was credited with the establishment of the National Association for the Advancement of Colored People (NAACP) which continues as an activist organization today.

Even though the rivalry was stern and aggressive at times, there was some admiration shared between Washington and Du Bois. “Writing in 1903, Dr. W.E.B. Du Bois said, ‘Easily the most striking thing in the history of the American Negro since 1876 is the ascendancy of Mr. Booker T. Washington.’ The ascendancy of this man is one of the most dramatic and significant episodes in the history of American education and of race relations” (Hall, 1973, p.47).

Tuskegee: The Model for Black Education

With the support of white benefactors, Tuskegee Normal and Industrial Institute became the model for many educational institutions established for African Americans. Like Tuskegee, many schools comparable to later high schools, were founded in the mid to late 1800s. More specifically under the category of Historically Black Colleges and Universities (HBCU), one hundred fifteen (115) schools beyond the elementary grades

(grade school level), were established. One hundred three (103) of these educational institutions continue to education a diverse student body even today, with the majority population being of African descent. The following examples of HBCUs display a progression of institutional names and educational status.

Founded in the late 1800s, HBCU have served, and continue to serve, an extremely large number of Blacks seeking education. Viewing the examples in the following chart, it is evident that institutional names have representatively aligned to their mission, purpose and educational philosophy at the time of their renaming. The expectations of education are seen in the names of the HBCU institutions, taking them from the industrial stance, which modeled Tuskegee's original industrial focus for Black education, to that of full-fledged institutions of higher education in subsequent years (Historically Black Colleges and Universities, 2013).

Each of the following HBCU institutions provides historical content on its website regarding its change in motto, mission, and/or focus over time, which is also consistent with the change in name. Although all were established in the late 1800s, the name change demonstrates how the institution moved from the industrial and training school emphasis to one that was more academically based.

<p>Current Name of Institution: Florida Agricultural & Mechanical (A&M) University/ Tallahassee, FL</p> <p>1887 – Founded as “State Normal College for Colored Students” (Public)</p> <p>1909 – Name changed to: Florida A & M College for Negroes</p> <p>1993 – Name changed to: Florida A & M University</p> <p>Current Name of Institution: Fort Valley State University/Fort Valley, GA</p> <p>1895 – Founded as “Fort Valley High and Industrial School” (Public)</p> <p>1920s – Name changed to: Fort Valley Junior College</p> <p>1932 – Name changed to: Fort Valley Normal and Industrial School</p> <p>1939 – Name changed to: Fort Valley State College</p> <p>1996 – Name changed to: Fort Valley State University</p> <p>Current Name of Institution: Oakwood University/ Huntsville, AL</p> <p>1896 – Founded as “Oakwood Industrial School” (Private)</p> <p>1904 – Name changed to: Oakwood Manual Training School</p> <p>1917 – Name changed to: Oakwood Junior College</p> <p>1943 – Name changed to: Oakwood College</p> <p>2008 – Name changed to: Oakwood University</p> <p>1924 – Name changed to: Spelman College (oldest HBCU for women)</p> <p>Current Name of Institution: Tuskegee University/Tuskegee, AL</p> <p>1881 – Founded as “Tuskegee Normal and Industrial School” (Private)</p> <p>1985 – Name changed to: Tuskegee University</p>

Figure 1: Name changes for Historically Black Colleges and Universities

The *Plessy v. Ferguson* decision of 1896 that mandated separate but equal education for blacks had much to do with the founding of most HBCUs (Historically Black Colleges and Universities, 2013). HBCUs were also a product of the Second Morrill Act of 1890 that extended access to higher education by endowing land-grant institutions that did not use discriminatory practices in their admissions process. Through

this Act HBCUs were also designated the land-grant institutions for blacks in the then-segregated southern states. HBCUs provided opportunities for blacks to enroll in graduate and professional studies (Association of Public and Land-Grant Universities, 2011).

Industrial and vocational training, though extremely popular to benefactors who funded educational opportunities for Blacks and to Black students who were eager to pursue an education in the early 20th century, was not a novel undertaking. “Working with the hands,” was of cultural importance to the black man during slavery, so it was natural to transition to manual training under the guise of becoming educated (Hall, 1973). Being elated and satisfied to receive an “education,” the many Blacks who engaged in manual training programs did not know that there existed a classical education – the type advocated by W.E.B. DuBois and the type that the White population was receiving. Whites were accepting of the idea that Blacks should be students of industrial, including manual training, programs.

Hall (1973) describes a variety of educational venues where blacks continued to be educated predominantly in the industrial, vocational, or manual training programs from the early- to-mid 1900s. Hall further provided six major classifications for this training:

1. Industrial schools for blacks in the North that were founded prior to 1865; *[There were six (6) of these schools, and they existed well into the 20th century.]*
2. Privately-supported industrial universities, colleges, and normal schools; *[Eleven (11) of these schools existed, including Tuskegee and Hampton institutes.]*
3. Publicly-supported industrial universities, colleges, and normal schools; *[Seventeen (17) of these schools were the states’ land-grant institution and six (6) were county, state and federal institutions.]*

4. Privately-supported universities, colleges, and normal schools that offered some industrial courses;
[*Nineteen (19) of these schools existed.*]
5. Privately-supported industrial secondary schools;
[*Fifteen (15) of these schools existed.*]
6. Publicly-supported secondary schools with industrial programs.
[*There were six (6) of these programs.*]

Tuskegee' industrial/vocational program was a model for secondary-level institutions, for example, The Bordentown School in Bordentown, NJ. It is counted above as a privately-supported industrial secondary school. For 70 years this secondary school was a "cultural utopia" for young African American students. It was called the "Tuskegee of the North", and it educated students in academic subjects as well as a variety of trades, skills, and crafts (PBS Documentary: *A Place Out of Time*, 2010).

Mathematics Education for Black Students

In *The Mis-Education of the Negro*, Woodson (1933/2009) states that African American parents were encouraged by their oppressors to steer their children away from certain academic areas because their children would be unsuccessful, and this included certain professions. In other words African American children in the early 1900s were made to fear entry into the professions that required mathematics and science i.e., "designing, drafting, architecture, engineering, and chemistry" (pp. 255) – all requiring a certain level of mathematics proficiency.

As aforementioned, Tuskegee's students had the opportunity to take courses in arithmetic/mathematics as early as 1899. Archival records show evidence that courses such as arithmetic I, II, and III were taught as developmental courses at the elementary level. These courses were followed by courses in algebra I, II, and III, and geometry at the secondary level. Mathematics-related subjects such as physics, economics, and

bookkeeping were also part of the curriculum. Many of the trade, craft, and industrial training programs provided mathematics training. Mechanical trades, agriculture, and household arts, undoubtedly provided opportunities to explore additional components of mathematics (Catalogue of the Tuskegee Normal and Industrial Institute, 1899 – 1930).

In a complementary way, Tuskegee provided specific mathematical training in the teaching of mechanical drawing and architecture, as well as in other trades such as blacksmithing, masonry, plumbing, painting, tailoring, carpentry, electrical engineering, shoe and harness making, and machinery – all of which were designated for males. Training for females, such as sewing, cooking, tailoring, basketry, broom making and dressmaking - all provided mathematics content (Catalogue for Tuskegee Normal and Industrial School 1899-1930). Formal and informal experiences provided primary and secondary exposure to arithmetic and mathematics content.

Belt-Beyan (2004) chronicles the following passage which showcases the African American communities' facility with mathematics in the late 19th to early 20th century.

Number recognition, the understanding of mathematical concepts, and the use of mathematical symbols were daily life skills discussed by cooks, carpenters, dressmakers, wheelwrights, printers, farmworkers, blacksmiths, storekeepers, stonemasons, clergy, teachers, and many others. Some families kept books to record their purchases, the selling or trading of goods, bank savings, earnings from overwork and the hiring out of their labor... Calendars, thermometers, weights, scales, and other measuring tools were used. The evidence presented suggests that both mature and emergent readers were familiar with reading, interpreting numbers, writing numerals, and the application of mathematical processes (p. 178).

Arithmetic/mathematics was offered in the many industrial and vocational schools and in manual training programs. For example, though primarily a vocational school, Hampton Institute included an Academic Department. Below is an outline of the four-year academic course (Hall, 1973, p. 41):

Junior Year

Arithmetic, English, Drawing, Elementary Science, Geography (half year), Manual Training, Physiology (half year), Reading, Singing, Voice Culture (for distinct speech)

Junior Middle Year

Arithmetic, Agriculture, Current Events, Drawing, English, Geography (half year), History, Manual Training, Reading (Literature), Singing

Senior Middle Year

Agriculture, Bookkeeping, Civil Government, Current Events, Drawing, History, *Geometry*, Literature and English, Manual Training, Physics and Chemistry, Singing

Senior Year

Agriculture, Bookkeeping, Economics, History, Literature, Manual Training, Principles of Teaching, Singing (*No Mathematics*)

After having been founded as industrial and vocational schools, many of these institutions began to include academic departments. Tuskegee's and Hampton's efforts have been cited, but many industrial and vocational schools saw it beneficial to include academic/classical courses. This was a compromise between the philosophies of Booker T. Washington and W.E.B. Du Bois.

Textbooks, Mathematics Exercises, and Tools

One of the main resources used for school instruction were textbooks. Karpinski (1940) provides a historical perspective on the use of mathematics textbooks in early America.

The dissemination of mathematical ideas in the Americas is a fundamental part of the general history of the progress of science and learning and, indeed, of civilization in the New World. For any adequate understanding of the quality and the extent of mathematical study in the Western Hemisphere prior to 1850 a comprehensive list of mathematical publications is essential (p. 1).

The English brought large numbers of books on arithmetic geometry, algebra, calculus, astronomy, medicine, and other mathematical topics to America; they were

steadily replaced by books printed in America. Nearly one thousand mathematics and mathematics-related books are listed in the, *Bibliography of Mathematical Works Printed in America Through 1850* (Karpinski, 1940). Though printed up to the mid-1800s, some of these books were still in circulations during the early 1900s. One well known author at the time was Joseph Ray, who was a physician and a self-made mathematician and teacher. It was said that Dr. Ray knew how to combine content and skill acquisition techniques into a presentation that made arithmetic and mathematics attainable for students. For the most part his arithmetic and mathematics textbooks contained story problems with characters who were hard-working men and women who plowed fields, planted and harvested crops, built walls and bought and sold goods. Moral teachings, on honesty, trustworthiness, and other virtues, were also incorporated into his story problems (Kullman, 1998).

It has been established that a fundamental component of education during the early 1900s was arithmetic or mathematics. Several textbooks were provided for the study of arithmetic. *Baby Ray* books were primers which had a combination of reading and arithmetic exercises for the beginners. The main character, Baby Ray, had one dog, two cats, and so on. Young children learned vocabulary and counting when using these books. *Stone Millis Arithmetic Primary Book* was published in 1910, 1911, 1914, and 1916 by Benj H. Sanborn & Co. This textbook, like many others, was used in the elementary schools. The book contained games and activities, common at the time, that required math skills (Stone & Millis, 1916).

Far exceeding the dissemination of many other arithmetic and mathematics textbooks were *Ray's Arithmetic* and *Ray's Mathematics* textbooks. Ray's textbooks

provided students with mental training which provided clear-thinking skills (Kullman, 1998). In addition to textbook work, students performed drills and recitations in arithmetic in front of the class, while other times, they had to do calculations in their heads without the use of pencil or paper, a form of mental arithmetic or mental gymnastics (Ravitch, 2000).

Ray's Arithmetic Series or *Ray's Mathematical Series*, along with his many other arithmetic and mathematics textbooks, were developed prior to Dr. Ray's death in 1855, but new and revised editions were published well into the early 1900s. For example, in 1913, the sale of *Ray's Mathematical Series*, which included topics such as geometry, surveying, and calculus, exceeded 250,000 copies; estimated total sales of Ray's arithmetic books was 120 million (Kullman, 1998). Today, there continues to be a market for Ray's arithmetic and mathematics books, especially for students who are homeschooled.

The other two fundamental instructional components were reading and writing, and they too had available resources in the form of textbooks or readers. William Holmes McGuffey developed *McGuffey's Reader*, the primary textbook for reading used in schools during the late 1800s. First published in 1836, popularity of this reader exceeded all expectations. Its content ranged from the elementary to the sophisticated, from Mary's Lamb to classics by Longfellow and Shakespeare. The reader was a popular hand-me-down book through the years and read out loud many times over (Ravitch, 2000). By 1900 more than 120 million of these readers had been sold. Course offerings were rounded out with subjects such as spelling and history, using books such as *McGuffey's Speller*, *Harvey's Grammar*, *Blue-Back Speller*, and *Venable's U.S. History*.

McGuffey's Readers eventually surpassed *Ray's Arithmetic* in sales, and it took first place for the most popular textbook ever written (Kullman, 1998).

Of the many textbooks written for the expanding school population of the early 1900s, *Ray's Arithmetic* was among the most popular used for arithmetic and mathematics. Ray's textbooks first addressed arithmetic, for arithmetic was the mathematics of the day for the masses. Everyone had to take arithmetic before taking algebra or geometry. *Ray's Arithmetic* textbooks were varied and numerous. For example, a 16-book series included titles such as *Ray's New Primary Arithmetic*, *Ray's New Intellectual Arithmetic*, *Ray's New Practical Arithmetic*, and *Ray's New Higher Arithmetic*. This series also included books with three levels of algebra, two books in geometry, one book each in trigonometry, astronomy, navigation, and calculus. A test example book was included in the series.

One of *Ray's Arithmetic* textbooks presented the following concepts and skills under the topic - simple number (numeration and notation, addition, subtraction, multiplication, division, general principal of multiplication and division, and summary of principles). Other topics were properties of numbers, common fractions, decimal fractions, circulating decimals, compound numbers, aliquot parts, ratio, proportions, and percentages.

Black teachers and their students did not get new books, but hand-me-downs from White schools. *Ray's Arithmetic* books were prime candidates for use in Black schools. Arithmetic was the primary subject taught in the Black school, because arithmetic was emphasized, and in many cases, it provided a level of comfort for the teachers, who often had a limited education themselves. Many of the textbooks provided

notes for the teachers as well as suggestions for manipulative use. On page 4 in *Ray's New Primary Arithmetic* textbook, suggestions to teachers reads as follows:

In the beginning the study of Arithmetic, the first step for pupils to learn is to count readily. This is not mastered without much practice in counting *objects*. Movable objects are better for exercises in counting than pictures. Some objects of this kind should always be kept in the school-room, - such as marbles, beans, kernels of corn, and pebbles.

The second step is to combine numbers. To master the different combinations to 20, the pupils should first be taught to write the tables corresponding with those in the book, either upon their slates or on the blackboard, during the recitation. This will prevent counting upon the fingers, a habit difficult to overcome when once acquired.

As the abstract exercises in this book, up to 20, are exhaustive in Addition and Subtraction, and as complete in Multiplication and Division as possible in order to secure variety, it would be well to prepare additional concrete examples from day to day to correspond with the very full abstract exercises. An excellent practice is to require each pupil to bring two or more concrete examples of his own to each recitation.

Teach one thing at a time, and teach it thoroughly.

For addition and subtraction exercises, it was suggested that the teacher provide marbles, beans, corn kernels, beads, and plasterboard pieces for students to use during instruction. In *Ray's New Primary Arithmetic* textbook in the Regular Series of *Ray's Mathematical Series*, the following arithmetic exercises were found (Ray, 1877):

Lesson VI, (Numbers to be written) page 8: 1. Naught; one, ten; two, twenty; three, thirty, four, forty; five, fifty; six, sixty; seven, seventy; eight, eighty; nine, ninety.

Note – page 8: The pupils must be thoroughly exercised in writing numbers. One or more pupils at a time may be sent to the blackboard, or the work may be done at their seats with pencil and slates.

Lesson XXIII (Addition) page 26: 1. Mary paid 5 cents for ribbon, 4 cents for thread and 3 cents for tape: how much did she pay for all? Solution – Mary paid for all 5 cents and 4 cents and 3 cents which are 12 cents.

Lesson XXVII (Subtraction) page 30: 1. Six persons are in a carriage: if 3 of them get out, how many will remain?

Lesson XXXIX (Multiplication) page 42: 1. John bought 2 figs at 1 cents each: how much did they cost? Solution – They cost 2 times 1 cent, which are 2 cents.

Lesson LVI (Division) page 60: 1. How many oranges, at 5 cents each, can you buy for 10 cents? Solution – You can buy as many oranges as 5 cents are contained times in 10 cents, which are 2 times. Hence you can buy 2 oranges.

Lesson LXXIV (Promiscuous Question) page 79: 2. Anna is 6 years old, and Jane is twice as old as Anna, and 2 years more: how old is Jane? How many years in both their ages?

It should be noted that Ray's arithmetic textbooks series provided a separate answer book for teachers.

Ray's New Intellectual Arithmetic focused on mental arithmetic and had 80 lessons on its 140 pages. The arithmetic lessons included the following math topics: addition, subtraction multiplication, division, fractions, tables, ratio, percentage, and problems. A sample exercise from the problem section of *Ray's New Intellectual Arithmetic* book follows (Ray, 1877, p. 139).

Problem No. 49: A man agreed to pay a laborer \$2 for every day he worked; the laborer, for every day he was idle, was to forfeit \$1; at the expiration of 20 days, he received \$25: how many days was he idle?

The solution for this problem was 5 days, and it was one of the few solutions that was provided in this arithmetic book.

Technologies for teaching and learning mathematics in the early 1900s were different from the technologies of today. The main technology was the blackboard. Other technologies included hand-held slates, a limited number of used/outdated charcoal, chalk, quilled pens, abacuses, rulers, protractors, carpenter's rulers, engineer rulers, and manipulatives such as beads, blocks, and bars, but even these technologies

were primarily present in economically advantaged schools. Many black schools had minimal resources; therefore, using technologies beyond the popular and common blackboard were very unlikely for most Black schools during the early 1900s. Other resources for learning mathematics were later developed, such as graph paper and even later the overhead projector (Kidwell, Ackerberg-Hastings, Roberts, 2008). The literature demonstrates that Blacks had little possibility of using these technologies during the early 20th century.

Chapter 3

METHODS

Most human affairs happen without leaving vestiges or records of any kind behind them. The past, having happened, has perished with only occasional traces. To begin with, although the absolute number of historical writings is staggering, only a small part of what happened in the past was ever observed. And only a part of what was observed in the past was remembered by those who observed it; only a part of what was remembered was recorded; only a part of what was recorded has survived; only a part of what has survived has come to historians' attention; only a part of what has come to their attention is credible; only a part of what is credible has been grasped; and only a part of what has been grasped can be expounded or narrated by the historian.

- Louis Gottschalk, *Understanding History* (1950)

The review of supportive scholarship revealed that millions of African American students began a long-awaited pursuit to become literate and numerate. During the late 19th and early 20th centuries, African Americans appeared to have had a joy, an excitement, and even a self-efficacy for learning. Furthermore, it appeared that African Americans sought to acquire numeracy skills, arithmetic skills, and mathematics skills during that era, despite the negative stigma and stereotypes that had been attached to their attitudes, dispositions, abilities, self-efficacies, and their ultimate success.

This exploratory study investigated the under-researched mathematics lives of African Americans in the early 20th century (Hesse-Biber & Leavy, 2011). The intent was to begin to develop rich descriptions of what African Americans endured during the early decades of the 20th century in order to become mathematically educated persons in the United States. It is the ultimate goal of the researcher to uncover how African Americans sought mathematics education in both formal and informal settings during this era.

Much of what African Americans born in in the early 20th century (1933 and before) experienced when “learning mathematics while black” (Martin, 2012) has not

been recorded, has not gotten the attention of historians, has not been expounded or narrated, and thus, has not been understood. Pausing the historical timeline to take a closer look at forces, positive and negative, that were in play in the educational lives of these persons during a time of segregation with all its attending atrocities is a secondary goal of the study. Filling existing gaps in the history of mathematics education for African Americans along this timeline was accomplished by listening to the voices of African Americans who lived and remembered those experiences.

A Qualitative Research Study

This study is historical and primarily qualitative in scope and design. Unlike quantitative studies with their statistical prominence, qualitative research attempts to generate knowledge by using a variety of approaches and practices (Hesse-Biber & Leavy, 2011). This study attempted to begin to lay a new cornerstone in the knowledge-building structure related to Blacks and mathematics education in the early 1900s.

Miles and Huberman (1994, p. 1) present qualitative research in this way.

... good qualitative data are more likely to lead to serendipitous findings and to new integrations; they help researchers to get beyond initial conceptions and to generate or revise conceptual frameworks. Finally, the findings from qualitative studies have a quality of “undeniability.” Words, especially organized into incidents of stories, have a concrete, vivid, meaningful flavor that often proves far more convincing to a reader – another researcher, a policymaker, a practitioner – than pages of summarized numbers.

In this study, the researcher sought to find a primary source of information about education in the early 20th century that was data rich and descriptive regarding the who, what, when, how, and why that is so important in conceptualization of a story. The only source who, through eye-witness accounts, could provide the political, economic, social, and educational details for this story were persons who were born and grew up in that era,

and persons who were African American. Only from their experiences could the researcher determine what could be known about the environment in which African Americans learned mathematics; what could be known about the resources and infrastructure available to them; what could be known about the teachers who instructed them; what could be known about the mathematical expectations for them; what could be known about the course-taking activities in which they engaged; and what could be known about the assistance and encouragement offered them.

These African American knowers lived the experience of learning arithmetic/mathematics in the designated time period. These persons were knowers from the student perspective, from the sibling perspective, from a child's perspective, from a parent's perspective, from a worker's perspective, and perhaps in some cases, from a teacher's perspective. These African Americans are the only ones who know what happened in their lives during that educational era when "separate and unequal" and "separate but equal" was the rule of the day, when education could have been a secondary pursuit seeing that poverty was rampant and Jim Crow laws flourished, and when African Americans were considered on the lowest rung of America's societal ladder as interpreted by social order and the social "caste" system (Fuch, 1990, p. 104).

Everyday life for blacks in the early 1900s included strategies for survival and numerous routines for safety and welfare. These became the way of life for many. Pursuing an education was a noble, yet novel idea. Meaning and insight into the events in "the complex world of lived experience from the point of view of those who live it" is essential to the interpretive approach (Schwandt, 1994, p. 118). To find meaning, to explain, to explicate, or to elucidate is foundational to interpretive research. In order, to

understand the experiences of blacks during this time, communication is essential; the participants must provide explanation, explication, and elucidation about their life experiences.

The Method: Oral History

The core of oral history is memory. In this study people's memories were used as the basis for establishing and extending the story of African Americans learning arithmetic/mathematics in the early 20th century. "Simply put, oral history collects memories and personal commentaries of historical significance through recorded interviews" (Ritchie, 2003, p.19). Historically significant treasures can be found in memories and commentary offered by study participants.

This study will pursue data stores in a manner similar to that used by the hired unemployed writers in the 1930s' Works Progress Administration (WPA) who gathered data from former slaves and the dispatched researchers in the 1890s U.S. Bureau of Ethnography project. They gathered data, in the form of songs and stories, from Native Americans that would have vanished into silence, never to be heard again without these interview efforts and successes. In regard to the WPA work, it has been cited that 40 years after the interviews, when historians finally accepted the records, which consisted of more than 10,000 pages of interviews, the records became an important element in the overall interpretation of American slavery (Ritchie, 2003).

Why Oral History?

Oral history promotes historical narrative by giving present voice to a past phenomenon. Ritchie (2003, p. 12) states, "Oral history derives its value not from resisting the unexpected, but from relishing it. By adding an ever wider range of voices to

the story, oral history does not simplify the historical narrative but makes it more complex – and more interesting.” This again suggests the development of rich and “thick descriptions” (Geertz, 1973, 1977) of human culture and social contextualization as a by-product of this study. “Oral historians have recorded the reminiscences of survivors of the Nazi Holocaust, the Japanese-American internment, and the Soviet Gulage . . . everyday experiences of families and communities, . . . ; oral historians recorded their voices to construct a more diverse and accurate portrait of the past” (Ritchie, 2003, p. 14). Oral history is an appropriate data-gathering technique for drilling down into the experiences of African Americans who pursued mathematics education in the early 1900s.

The Methodology

A study’s methodology should be determined by the nature of the problem being investigated (Trauth, 2001). Having given consideration to several methodological approaches, it was determined that the sociocultural theoretical framework would be the best approach for this research study. This study showed divergent and abundant interactions by designated African Americans who were then young, energetic, and seeking a better life for themselves and their posterity. They were social actors seeking to find meaning for their lives through academic pursuits, including the pursuit of mathematics. Additionally, the approach will be inductive. Theory will generate from the data as opposed to there being a comparison of a hypothesis against data.

A Sociocultural Theoretical Framework

The sociocultural theoretical framework, also known as the socio-historical theoretical framework, was the methodology for this study. The sociocultural theoretical

framework served to frame the experiences of African Americans learning mathematics in the early 1900s and the oral history method. This framework has two components – socio and cultural. The socio is a prefix which refers to social or society. Cultural pertains to the elements of culture. Over a given time period, culture can be identified as a group of people's ideas, customs, skills, arts and tools. (Larson & Smalley, 1972).

Matsumoto (2000) believes culture to be a vigorously active system of rules.

Accordingly, groups establish these rules, and they may explicitly or implicitly hold to them. These rules are needed for the survival of the group, and they help to develop attitudes, values, beliefs, norms, and behaviors which the group shares. He also believes that culture can be passed from generation to generation. Culture has stability, but with time, it just could change.

Matsumoto (2006) provides the following description of culture.

I define culture as a shared system of socially transmitted behavior that describes, defines, and guides people's way of life, communicated from one generation to the next (p. 220)

Matsumoto further posits that:

Culture is created as people adapt to their environments in order to survive, and it results from the process of individuals' attempts to adapt to their contexts in addressing the universal social problems and biological needs. (p. 220)

It is somewhat ironic that the recommended theoretical framework, the sociocultural theory, was conceptualized by the Russian psychologist, Lev S. Vygotsky (1997), during the investigative period of this study, the early 1900s. This theory has much to do with the intersection of social interactions and culturally organized activities and the role they play in influencing mental development. Vygotsky launched this theoretical work; however, extensions of his theory have presented under varying

nomenclature, e.g., activity theory (Chaiklin and Lave, 1993; Leontiev, 1981) and cultural-historical activity theory (Cole, 1996; Cole and Engestrom, 1994).

Ontologically exploring what can be known and how it can be known and epistemologically investigating who can know, the sociocultural theoretical framework provided a focal point for collecting data through the interview process in the oral history setting. Questioning participants regarding formal and informal activities that were embedded in either economic, social, political, or educational contexts of the period should yield results in the form of responses, stories, and narratives for furthering the literature. Again, the overarching questions for the study are as follows:

Question 1: What instruction and support did African Americans born during the early 1900s receive and what attitudes/dispositions did they internalize and/or exhibit while learning and learning about mathematics?

Question 2: In the pursuit of mathematical knowledge and capabilities, what formal (schools, vocational training, etc.) and/or informal (churches, civic organizations, family, etc.) educational experiences and institutions assisted African Americans in the acquisition of their skills, and attitudes/ dispositions?

Question 3: What encouragement or admonitions did African Americans received from their parents and what encouragement or admonitions did they give to their children regarding the importance of and the need for mathematics education?

Data Collection for Oral History

Gathering data from lived experiences was accomplished through the use of oral histories. Christensen and Hatcher (2002) state that oral history is a way to learn about history by talking to people who lived through a particular period of time. Oral history

interviews involve ongoing and complex social interactions. There is no cookie-cutter method to guarantee success. In the case of interviewing persons who are now in their 80s, 90s, and even at age 100-plus, a delicate balancing act was considered. Balancing memory, fragility, health, and doorkeeper protections with timelines and research processes was a challenge, but achievable.

I first had to secure a pool of persons who were willing to complete a questionnaire, and ultimately a subset of that pool to entertain about a one-hour interview. I used a convenience sample of people whom I knew, or who were referred to me and who were in the required age range. More specifically, I utilized the purposive sampling technique.

In surveying my personal horizon in search of participants for this study, I compiled a list of 67 potential participants with whom I was acquainted, some on the list had already informally agreed to participate. The potential participants of the study group were all African American between 80 to 106 years old. Women outnumbered men (Patton, 1990). This was to be expected since the sample mirrors the general population of African Americans in the USA, where women have a longer life expectancy rate than men.

Of the 67 potential participants, 40 agreed to participate and each of them was sent by mail the recruiting packet, which included the cover letter/consent form, instructions for completing the questionnaire, a recruitment flyer, a six-page questionnaire and a self-addressed, stamped envelope. Three of the people who had originally agreed to participate did not respond. Upon investigation, I found these three people had passed away. Three other persons later decided not to participate. One cited

that the memories were so difficult and negative that she did not want to revisit that period of her life. Based on these occurrences, another six people were recruited from the remaining names on the list of 67 potential participants.

At least two criteria were used to determine which questionnaire participants would be chosen for the proposed interviews. First, the age of the participant was considered. In order to extend the data for the period of 1933 and before, I selected one to two surveys from the following age ranges: 80 to 85, 96 to 90, 90 to 95, 96 to 100, and 100-plus. Because this was not a gender study, I did not give much consideration to whether those chosen were male or female; however, I wanted representation from both genders. Within the age ranges, I determined which questionnaires had thorough responses to open-ended questions and which aligned to the historical literature review. These questionnaire responses provided guidance for choosing those who were interviewed. Interviews were conducted with 2 males and 8 females.

One additional female was posthumously included in this study with the inclusion of her qualitative data only. She was interviewed six years prior to this study at the age of 91; she would have been 97 at the time of the study. Some of her quotes about the societal forces that served as barriers to children pursuing an education, including mathematics education, provided important data for the study. Her interview spearheaded the search for the mathematics experiences of senior citizen who are now 80 to 100-plus years old.

A detailed survey/questionnaire (See Appendix A) was developed to drill down to the level where I might find varied places of birth and childhood experiences that reflect the locations of southern states emphasized in the literature review. Forty questionnaire

packets were mailed out; twenty-six were completed and returned, while ten participated in following up interviews.

The survey/questionnaire included questions that were quantitative in nature, and these provided for an aggregation of data. In aggregate, this data is presented in Tables 1-7 in Chapter 4. For example, questions that asked about resources used in mathematics instruction had varied and multiple responses which were quantifiable. A coding process was used to capture the data. Each response was included in the collection process in order to not miss one item of data that would provide a rich and thick description of the past. Developing tables and charting processes were necessary to facilitate understanding of the quantitative data.

Interview questions were developed and posed to the participants via phone, with the exception of one participant who was interviewed in person. All interviews were recorded on the Sony ICD-PX333 Digital Recorder. Crystal clear recording files were made and stored for later transcription. I personally transcribed all the interviews, which resulted. This is a challenging task, but I think that I was able to capture the oral histories in a format that preserves the dialogue that was often interesting, entertaining, and mutual. I am happy that I transcribed the recording rather than consider professional transcription. Though recommended by Grbich (2007), I was not able to transcribe the recordings within an hour following the interviews. For interview transcriptions, see Appendix D – Their Stories (Participants’ Interviews)

Qualitative data were also collected from responses to open-ended items on the questionnaire. This data was aggregated, coded, and reported in Table 8 - *Themes, Theme-Related Components, and Assertions for the Questionnaire*. Likewise, qualitative

data from the interviews were also aggregated, coded, and reported in Table 9 – *Themes, Theme-Related Components, and Assertions for the Interviews*. These data were voluminous; approximately 150 pages of rich and thick textual data.

Triangulation.

Triangulation techniques were used to support the validity of the data. In qualitative research, validity is sought to determine whether the findings of the research are as true as possible, in that the findings should be supported by evidence. This is also a way to use more than one perspective to validate the findings (Patton, 2002). Five categories of triangulation are often cited in the literature. Data, investigator, theoretical, methodological, and environmental are the five triangulation categories that many researchers utilize. For the purposes of this study, I utilized data triangulation.

Data triangulation promotes the utilization of different information sources to strengthen the validity of the research findings (Guion, Diehl & McDonald, 2011). For this study, three information sources were. I considered archival data from two HBCU institutions such as Tuskegee Normal and Industrial School (now known as Tuskegee University) and State Normal College for Colored Students (now known as Florida A & M University) and textual data from the literature review as one source. I used aggregated survey data from all responders as a second source. Finally, I compared individual oral histories from the interviews with the first two sources to substantiate the oral history of any individual interviewee. Here, agreement and divergence of data were determined and addressed. Triangulation was way for the researcher to have a sense of confidence in the findings that are presented as the results of this qualitative study (Guion, Diehl, & McDonald, 2011). According to Vygotsky (1978), the narrative or oral

history was used as a unit of analysis (Moen, 2006). Moen suggests that narrative research allows the researcher to focus on how individuals assign meaning to their experiences through the stories they tell. Additionally, there are three basic underpinnings, or claims, regarding the use of the narrative research approach.

Claim #1: human beings organize their experiences of the world into narratives, Claim #2: narrative researchers maintain that the stories that are told depend on the individual's past and present experiences, her or his values, the people the stories are being told to, the addressees, and when and where they are being told, and Claim #3: multiple voices are heard in the narratives" (Moen, 2006)

One possible limitation to using narrative or oral history in this research design is the aspect of memory. Many senior citizens have a keen awareness of current events and a strong memory of past events, all the way back to childhood. I am assured that the participants in this research study had strong, vivid, and valid memories. The volume of textual data from the interviews was impressive. This was a crucial component to consider.

Strategies to Reduce Researcher's Bias

I came to this study because I wanted to interview and record my 91 year old mother about her experience with schooling in general, and her arithmetic or mathematics experiences in particular for my children and grandchildren. I hoped to provide my children with insight about past injustices so that they would understand the importance of education. In doing this, I discovered that my mother's mini oral history provided a wealth of knowledge about her mathematics experiences including what was taught, how it was taught, and where it was taught. Her story also contextualized her experiences in relationship to the political, economic, social, and educational climates that existed in the early 1900s and how those climates either negatively or positively affected her mathematics education. This led me to understand that more needed to be investigated

and told about what formal and informal mathematics education experiences African Americans had who were born in, and before 1933 had; so I designed the study.

Given my interest and passion for the topic, I implemented several procedures to ensure the reduction of researcher's bias and establish credibility and trustworthiness of my results and findings for this qualitative study. Guba's (1981) recommendation to researchers is that "you facilitate the trustworthiness and understanding of your research findings by using a number of strategies." The following recommended strategies for strengthening credibility and trustworthiness were incorporated into my work.

Strategy 1: Collect documents, films, videotapes, audio recordings, artifacts and other "raw" or "slice-of-life" data items (p. 376).

In this study I used artifacts from Tuskegee Normal and Industrial Institute (now Tuskegee University), the model for Black education in the late 1800s and the early 1900s. My procedure included the collection of data from the actual grade books from the Tuskegee Normal and Industrial Institute archives. The grade books contained information about mathematics courses offered from 1899 to 1930, as well as the names and grades received by students in the respective courses. I also collected the Tuskegee Normal and Industrial Institute catalogue for 1899 and several for the early 1900s. These catalogues listed all of the arithmetic/mathematics courses offered and the industrial courses for both males and females with their required prerequisite mathematics courses and/or skills. Similarly, catalogues were collected from the State Normal and Industrial College for Colored Students (now Florida Agriculture and Mechanical University). Using these artifacts I conducted a similar investigation of the arithmetic/mathematics courses offered as well as the industrial courses and their required mathematics

prerequisites. Additionally, I purchased and viewed a Public Broadcasting Station (PBS) documentary entitled, *Bordentown School: A Place Out of Time*. Bordentown School was a private boarding school in New Jersey for Black youth; it was also dubbed the Tuskegee of the North. I also viewed PBS online documentaries about Black education and Black teachers during the first part of the 20th century. I viewed online videotapes on the life of Booker T. Washington, W.E.B. DuBois, and Julius Rosenwald. Finally, I investigated participants' schools on the Fisk Database for Rosenwald Schools (2001) to determine if these schools were on the Rosenwald registry. Archival data helped me understand the context surrounding my participants and because of this helped me better interrogate my data and understand my results.

Strategy 2: Conduct member checks to test the overall report with the study participants before sharing it in final form (p. 376).

I listened the recordings of the interviews several times to ensure I understand what each participant was saying. When data seemed ambiguous or unclear I brought this back to participants for verification.

Strategy 3: Establish referential adequacy – that is, check that analyses and interpretations accurately reflect the documents, recordings, films, and other primary sources of data collected as part of the study (p. 376).

As I listened to the audio recordings of the participants' responses to interview questions, I kept in mind the data that had been collected from secondary resources – documents, videotapes, artifacts, and so forth. There was no disagreement with the audiotaped interviews and the secondary resources.

Strategy 4: Collect detailed descriptive data that will permit comparison of a given context (e.g., classroom/school) to other possible contexts to which transfer may be contemplated (p. 376).

Participants' interviews were detailed and descriptive of the circumstances and environments that surrounded their mathematics instruction and experiences during their lifetimes. To ensure credibility I personally transcribed all of the audiotapes. The interviews of eleven participants yielded the 150-page Appendix entitled, Participants' Interviews: Their Stories. This Appendix shows the level of detail of my work.

Strategy 5: Develop detailed description of the context to make judgments about fit with other context possible (p. 377).

Chapter 2 provides a detailed description of the context for learning arithmetic or mathematics in the early 20th century. The participants in this study spoke of similar contexts. They lived during this period and experienced many of the injustices and challenges described Chapter 2 including inequality in education, schools, teachers, course offerings, instructional materials, and livelihoods.

Strategy 6: Practice Triangulation. Triangulation is the process of using multiple methods, data collection strategies, and data sources to obtain a more complete picture of what is being studied and to cross-check information (p. 377).

Realizing that no one data source would provide all the information needed, I gathered several sources. I practiced triangulation by cross-checking data from the six-page questionnaire, the participants' interviews, and the secondary resources.

Wolcott (1994) offers additional strategies for ensuring the validity of qualitative research. The first strategy, *talk little, listen a lot*, was demonstrated in the voluminous

interview section of the study and the fact that participants spoke much more than me. For the most part, participants talked freely and at length about their experiences in learning arithmetic and mathematics. I listened patiently and did not interrupt their stories. The second strategy, *seek feedback*, was practiced when I requested feedback from professors on the questionnaire and interview questions, the transcribed interviews, and the overall study. A critical friend read the transcribed data for understanding and clarity. I attempted to write and ensure the verbal data from interviews were accurate.

Chapter 4

RESULTS AND FINDINGS

This chapter presents results and findings based on the analyses of quantitative and qualitative data collected from the questionnaires as well as the qualitative data collected from in-depth interviews. Presented in the first section are results of the analysis of the data collected from questionnaire responses. The second section presents findings of the analysis of the data collected from the participant interviews.

Careful review and examination of these data contributed to the meaning-making and understanding needed to answer the three research questions in this study: (a) What instruction and support did African Americans born during the early 1900s receive and what attitudes/dispositions did they internalize and/or exhibit while learning and learning about mathematics? (b) In the pursuit of mathematical knowledge and capabilities, what formal (schools, vocational training, etc.) and/or informal (churches, civic organizations, family, etc.) educational experiences and institutions assisted African Americans in the acquisition of their skills, and attitudes/ dispositions? and (c) What encouragement or admonitions did African Americans received from their parents, and what encouragement or admonitions did they give to their children regarding the importance of and the need for mathematics education?

The literature describing the lives of African Americans who lived during the period under consideration for this research study is voluminous; however, the mathematics experiences of this generational cadre are sparse and obscure. The participants in this study are a sample of the general population of African Americans who were born from 1907 to 1933 and who grew up and attended school in subsequent years. The data collected for this study will begin to uncover their unheard stories.

Questionnaire Results - Quantitative

A Description of the Participants. The participants who completed the questionnaire ranged in age from 80 to 106 years. Of those, 57.7% were 80 to 89 years old; 34.6% were 90-99 years old; and 7.7% were 100 or more years old. The diminishing percentages reasonably represent the trend that more persons would be alive at the younger ages and less at the older ages. Gender data revealed that 76.9% of the participants were female, while 23.1% of them were male. This data reflect the general population statistics which demonstrate that females tend to live longer and represent a larger percentage of the aging population of the United States. It was surprising that, unlike many of today's children, 100% of the participants reported that they lived with both parents during their early years.

Participants' Place of Birth. Considering that the Deep South is a component of the American South which consists of three distinct regions – the South Atlantic states, the East South Central states, and the West South Central states, including Washington, D.C. (The U.S. Census Bureau), 65.4% of the participants were born in the South, 19.2% were born in the North, 11.5% were born in the West, and 3.8% made no place of birth distinction. Of those who were born in the South, 50% were born in small towns and county regions in rural settings.

Participants' School Environment. Though not compulsory as it is today, going to school was an important pursuit for African American children (Graham). This was equally the case for participants in this study. When asked the age at which school began for the participants, the results were as follows: Age 5 (23.1%), Age 6 (46.2%), Age 7 (19.2%), and Age 8 (3.8%). There was no response to this question for 7.7% of

the participants. By age 6, nearly 70% of the participants had started school. It should be noted that the oldest participant, who is age 106, also began school at age 6. Table 1 provides a glimpse at the school setting for the participants.

Table 1.

Participants' Responses about Their Primary School Setting

Descriptor	Percent of Respondents
Teacher was Black.	73.1%
School was a public school.	84.6%
School had more than one room.	76.9%
School was in the city.	42.3%
School was segregated.	69%
School was in a rural setting.	53.8%
Teacher taught multiple grades in one room.	50%
Teacher was White.	26.9%
School was a church-related school.	30.8%
School had one room.	23%

n=26

The majority of participants attended segregated public schools with multiple classrooms under the watchful eye of Black teachers. Participants attended schools in rural and city environments; some attended both. For example, one participant initially attended a small rural school, but the family later moved to the city where the participant continued school. At least three participants attended Rosenwald schools.

The Curricula. The three R's - reading, writing, and arithmetic served as the core curriculum for all participants. It is not surprising that 88.5% of participants stated that reading was a core component of their instruction. Writing was reported by 84.6% and arithmetic by 84.6% as a daily activity in school. Other subjects that had some regularity in daily instruction were history (81%) and science (69%). Spelling bees were an integral part of daily instruction for some participants who were 98 to 106 year old. For this age group, activities such as spelling bees and geography lessons accompanied the core curricular subjects. History and science complemented the core curriculum for most participants; however, those in the 90-plus age range took additional courses that were in the industrial education category. These courses included home economics (cooking and sewing), carpentry, construction, cabinet making, dairy science, bookkeeping, accounting, typing, shorthand, and music. The 80 to 89 year old participants' extracurricular courses trended more toward the academic genre with such courses as French, art, mechanical drawing, anthropology, civics, economics, Latin, Bible, and pre-nursing. Table 2 details the arithmetic or mathematics courses and curricula which were available to the participants.

Table 2.

Mathematics Courses/Curricula Taken by Participants

Course	Percent of Respondents
Arithmetic 1 (Addition, Subtraction, Multiplication, Division)	100 %
Arithmetic 2 (Fractions, Decimals, Percents, Ratio/Proportions)	76.9%
Arithmetic (Problem Solving)	3.8%
Algebra 1	65.4%
Algebra 2	30.8%
Geometry	34.6%
Trigonometry	7.7%
Calculus	3.8%
Statistics	19.2%
Other	3.8%

n=26

Of the arithmetic or mathematics courses taught, the content categorized as Arithmetic 1 was dominant. The available mathematics offerings for students were skewed toward the concepts and skills of addition, subtraction, multiplication, and division. Of those who took Arithmetic 1 courses, 23.1% did not take the Arithmetic 2 course. Of those who took Arithmetic 2, 65.4% took a course in Algebra 1. The oldest participant, age 106, took an Algebra 1 course after taking Arithmetic 1 and 2.

Table 3

Formal and Informal Tools Used in Mathematics Instruction

Tool	Percent of Respondents
Blackboard	96.2%
Chalk	96.2%
Paper	96.2%
Pencil	92%
Pen	69.2%
Textbook	69.2%
Compass	46.2%
Number Line	30.8%
Protractor	30.8%
Slide Rule	26.9%
Geometric Model	23.1%
Handheld Slate Board	19.2%
Hands-On Manipulatives (i.e., marbles, beads, blocks, etc.)	7.7%
n=26	

Blackboard, chalk, paper, and pencils were the major tools used for arithmetic and mathematics instruction, thus these tools were considered the basics. Several participants in the 95 to 100+ age range reported that they used a commodity called “rough paper.” Accordingly, this paper was not white, but it was buff to dark tan in color and unrefined. Besides the basic tools, participants had a few other tools at their disposal; however, most teachers were not able demonstrate how to utilize them. For example, one of the

youngest participants stated that he had a slide rule, but he was not able to become proficient in using it; he also reported that students used the compass and protractor for drawing rather than for measuring angles, specifically designating the radii measurement of circles, and other measurement protocols for geometry.

In almost 70% of cases, mathematics textbooks were used, but most participants could not recall the title of the textbooks. The primer, a textbook for the youngest or beginning students, combined reading and writing exercises with arithmetic exercises. One such book was the *Baby Ray* book.

Table 4.

Dispositions of Participants When Learning Mathematics

Disposition	Percent of Respondents
Wanted to learn more	65.4%
Positive	61.5%
Happy	50%
Confident	38.5%
Anxious	38.5%
Nervous	30.8%
Excited	26%
Unsuccessful	11.5%
Negative	11.5%
n = 26	

During arithmetic or mathematics instruction, the participants wanted to learn more (65.4%), were positive about learning (61.5%), and were happy about learning (50%). The combination of these three prevailing tendencies demonstrates that the majority of participants were not threatened, negative, or anxious about the mathematics instruction which they received. In the explicit reporting of spirits, mental outlooks, and moods while participants were engaged in mathematics instructions and activities, the results show that the majority of participants viewed arithmetic or mathematics school experiences as positive; while 11.5% view them as negative. A positive learning environment permeated the schools for Blacks during the early decades of the 1900s.

Table 5.

Number of participants' choices for favorite subjects or courses

Subject	Percent of Respondents
Arithmetic/Mathematics	10
English/Reading/Writing	10
History	9
Science	3
Spelling	3
Bible or Bible-Related	3
Home Economics	2
Art	1
n=26	

In Table 5, participants' favorite school subjects are listed. As shown, an equal number of participants chose arithmetic/mathematics and English/reading/writing as their favorites; these subject genres were chosen most often. History received the next highest number of choices; one reason may have been because history was a subject which was usually taught in their Black schools. Science was not a subject that was generally taught in the schools that the participants attended. Thus it was reasonable that science would have rank as see above.

Table 6.

Number of participants' choices for favorite mathematics courses

Course	Percent of Respondents
Arithmetic 1	38.5%
Arithmetic 2	7.7%
Algebra	7.7%
Bookkeeping Math	3.8%
General Math	3.8%
Geometry	3.8%
New Math	3.8%
Problem Solving	3.8%
Trigonometry	3.8%
All courses	11.4%
None	7.7%
No response	3.8%
n=26	

In arithmetic or mathematics, students usually choose a favorite course based on being comfortable and non-threatened with the course content. This was likely the case for Arithmetic 1. Over and over participants related their experiences with learning the content of Arithmetic 1 which consisted of addition, subtraction, multiplication, and division. They learned these arithmetic skills through the use of manipulatives, through recitation, in unison, and through blackboard work. Arithmetic was done on slate board and in composition notebooks.

Table 7.

Highest grade completed by the participants.

Grade		Percent of Participants
1 st Grade	0	0%
2 nd Grade	0	0%
3 rd Grade	1	3.8%
4 th Grade	1	3.8%
5 th Grade	1	3.8%
6 th Grade	0	0%
7 th Grade	0	0%
8 th Grade	4	15.4%
9 th Grade	1	3.8%
10 th Grade	1	3.8%
11 th Grade	1	3.8%
12 th Grade	14	53.8%
No Response	2	7.7%

n = 26

The highest grade completed by the participants varied widely. Of this questionnaire cohort, 80.6% of participants completed grade 8 or higher. Some of the participants continued their schooling at private schools after grade 8, while others who completed 12th grade continued at junior colleges and industrial schools. There were other participants who were not able to attend school beyond grades 7 and 8; they were caught in the cycle of poverty due to a life of sharecropping and subsistence farming.

Questionnaire Findings – Qualitative

Themes, their related components, and assertions emanate from the qualitative data collected from the questionnaires. Table 8 presents the themes, their corresponding components, and their assertions.

Table 8. *Themes, Theme-related Components, and Assertions*

Themes	Theme-Related Components	Assertions
Political barriers	Jim Crow laws controlled participants' day-to-day decisions and actions.	Participants persevered in spite of the societal norms that considered them as inferior and second-class.
	Discrimination resulted in derogatory name-calling and threats.	
	The law upheld segregation throughout society.	
Economic barriers	Participants had financial hardships.	Participants' lives were affected by economic barriers.
	Participants considered themselves extremely poor,	
	Participants had to work where and how society deemed appropriate..	

(table continues)

Themes	Theme-Related Components	Assertions
Social barriers	<p>There was no such thing as interacting with Whites.</p> <p>Participants had to use “colored” facilities, i.e. water fountains, etc.</p> <p>Participants had to enter stores, restaurants through back entrances, if at all.</p>	Participants’ lives were affected by the social barriers of segregation.
School quality	<p>Participants walked considerable distances to school</p> <p>Schools received inadequate funding.</p> <p>Curricula were not equal to that of Whites.</p>	Participants went to school in spite of the educational setting.
Help was provided.	<p>Parents personally worked with participants.</p> <p>Siblings or others to help participants.</p> <p>Teachers provided additional help.</p>	Formal and informal help was provided to participants.
Encouragement	<p>Participants received encouragement from parents.</p> <p>Participants received encouragement from family members.</p> <p>Participants received encouragement from teachers and non-family.</p>	Participants received encouragement to stay in school from a variety of sources.

(table continues)

Themes	Theme-Related Components	Assertions
Use of math in life.	Needed to count money accurately	Money concerns a reason for using math skills.
	Needed for business transactions.	
	Needed to avoid being cheated.	
The importance of math	Needed to deal with money.	Math skills were utilized In many activities in life.
	Needed to perform work.	
	Needed as foundation for future education.	

Assertion 1: Participants persevered in spite of the societal norms that considered them as inferior and second-class. Being poor, and in many cases, making a semblance of living through sharecropping, the participants chose to go to school. The opportunity to go to school superseded the perils of the time. Many of the Jim Crow laws, the discriminatory actions of Whites, and the segregated facilities was a way life for the participants. They had learned how to maneuver the “land mines” of the early 1900s and to avoid confrontations which might have endangered their lives and those of their families. Going to school was a unique opportunity that was prized and enthusiastically pursued in spite of the perils.

Several participants related their experiences with lynching, rapes, the KKK, and discriminatory practices in the rural towns, country areas, and cities where they lived. To think about going to school when so many unheard-of events were ubiquitous is hard to imagine. School was not mandatory. They chose to attend school, not necessarily for the foundation that it could provide for the future learning, but for the episodic diversions

from the back-breaking work in the fields and homes of White folks. Additionally, participants offered these statements.

Male (age 83): African Americans did not have the opportunity to have decent jobs and did not hold political positions in government.

Female (age 83): I underlined (discrimination, Jim Crow, and segregation) all of these, because at some time or another we were faced with them. We were spared a lot of not being affected by these social challenges, because we lived in the country, not in the city.

Female (age 91): Housing, job preferences, social stigma and automatic second class

Female (age 95): There were no school busses to carry Black students to school. That was my parent's responsibility.

Female (age 102): Had to walk 8 to 10 miles per day one way.

Assertion 2: Participants' lives were affected by economic barriers.

Life was hard for African Americans in the south during the first decades of the 1900s. Many participants stated that their families were poor. Sharecropping and tenant farming was a means for making a livelihood during those days. Many participants' families were thus engaged. The day-to-day requirements for sharecropping often gave a sense of pseudo-slave conditions. Getting out of debt, and not owing the landowner for the past year's crop was nearly impossible. The circumstances, though not slavery, were hard and grinding toil with little relief from backbreaking work. One ray of hope was seen in the ability to use a small portion of the land to grow food for the family table.

Two participants stated the following:

Female (age 85): It was very economically challenging, little food and cold weather, poor housing, everything that went with the Depression years.

Male (age 95): No income or job, but finally this was resolved.

Assertion 3: Participants' lives were affected by the social barriers of segregation. Being in the wrong place or the right place at the wrong time could have proved detrimental to the participants and their families. Participants stated that they knew their place; it was always a subservient place, a degrading place, and in some cases, a scary place. Colored drinking fountains shared the same wall as White drinking fountains. The "colored" sign was posted on restroom facilities with clear, bold demarcations. Store entrances for Blacks populated the backs of buildings. Sitting in a theater or a courthouse mean climbing the stairs to the upper floors or balconies. All participants were affected by the inequalities of segregation. Here are examples.

Female (age 89): We were discriminated against because of our color. In Kress store, we couldn't drink water from the same water fountain. We had to sit in the back of the bus. We couldn't go in the front of café to eat like we can do now.

Male (age 98): There were clear distinctions between the races. Blacks had no rights and were treated as if they were not human. All public facilities were clearly marked - white and colored. I saw black men cruelly beaten by police for no apparent reason.

Assertion 4: Participants went to school in spite of quality of education.

Several participants stated that going to school during their young lives as an option that was presented to them. Whether this was an overt or covert offer is not clear. Foot-power or walking to school was the only mode of transportation for most participants, the distances between home and school ranged from 2 miles to around 8 miles one-way. One participant revealed that a school bus transporting White children would pass the Black children as they trekked to school every day. This inequality was outweighed by so many more. With the uneven educational playing field, the participants still went to school. Funding was inadequate; supplies were minimal. The curriculum was the basic reading, writing, and arithmetic. All participants took Arithmetic 1 which consisted of addition,

subtraction, multiplication, and division. As the list of arithmetic/mathematics offerings increased in difficulty, the number of participants engaged in these offerings decreased. There was a definite difference in what was taught to Blacks and when it was taught in the course of going to school. Participants reported the following:

Male (age 82): White male teacher picked on me in 3rd grade since I was the only Black in the school.

Female (age 89): I was able to attend school every day unless I was sick.

Female (age 96): We lived 4 miles from the school in town. The county schools had to furnish their own buildings. I started school in a church.

Assertion 5: Formal and informal help was provided to participants. It must be noted here that most participants' parents had very little to no education themselves, so their ability to provide academic assistance to their children was limited or non-existent. Some parents could not read. One participant, now age 105, related the story of how her father read the Bible every Sunday; that was the only book that he could read. The oldest participants' parents were less able to help their children than the parents of the younger participants, who are now age 80.

On the other hand, participants' parents who had some knowledge of reading, writing, and arithmetic enthusiastically shared it with the children. Parents of participants sat with their children to drill them on reciting ABCs and counting 123s. Addition, subtraction, multiplication, and division were some of the arithmetic concepts that were parents covered.

Parents received assistance from others in providing help to the participants. Siblings, aunts, other relatives, teachers, neighborhood friends, and church members were a source of help to the participants when their parents were unable to do so. Few

participants stated that they had no help at all with their school work. These participants received help with school work.

Female (age 83): My older sister helped me with my lessons.

Female (age 84): By assisting and working with me, they were always involved in our studies as much as they were able to.

Female (age 89): My mother would make sure that I would study my lessons when I came home from school.

Female (age 96): Help by listening, as I memorized and recited time tables.

Assertion 6: Participants received encouragement to stay in school from a variety of sources. In almost every case, the participants received encouragement to go to school from someone. If not from parents, participants received encouragement from siblings and other relatives; neighbors; church members; and from their teachers. One participant mentioned neighbors who continually encouraged him to go to school and to set his goals high for the future.

Encouragement was an important component in the act of going to school for African American in the 1900s. For almost every participant, those who progressed through any portion of the educational system, whether to the 3rd grade, the 8th grade, the 12th grade, or beyond, were encouraged by someone. Some acts of encouragement follow.

Male (age 82): Encouraged me to study, reviewed my report card, and encouraged school attendance and good behavior.

Male (age 98): One of our neighbors not only encouraged me to go to college, but she paid my first semester's tuition.

Female (age 106): My parents died early so my brother encouraged me.

Assertion 7: Money concerns a reason for using math skills. It is interesting and telling that many of the oldest participants saw the acquisition of math skills closely aligned with money management issues. In most instances, these participants mentioned money as a reason for knowing arithmetic or mathematics - counting money, saving money, giving change, budgeting, paying bills, and finally to avoid being cheated. This idea was paramount in their minds, because throughout their lives they had been, or they had seen their family members, cheated during some occasion of Jim Crow and discrimination. Even though this in reality had nothing to do with acquisition of arithmetic knowledge, they believed that knowing how to add, subtract, multiply, and divide would provide for them a knowledge base of protection from unethical people who could take advantage of them monetarily. These participants revealed their connection between mathematics and money issues.

Female (age 81): Adding up bills; making plans for my home, grocery shopping. Math was very important. I use it in most everything. I did mathematics, geometry, (and) multiplication.

Female (age 96): Buying and selling; balancing a checkbook; preparing a meal; making a garment.

Female (age 102): It gave me the ability to know and appreciate the salaries that I was working for. Use my abilities to count my money when shopping, and not be cheated.

Female (age 106): For getting the right change (money), writing checks, paying for purchases. There was little chance of being cheated.

Assertion 8: Math skills were utilized in many activities of life.

Participants believed that arithmetic or mathematics was useful in everyday life and was needed to perform jobs in the workplace. In addition, they held the belief that

having a strong foundation in arithmetic or mathematics would allow them to further their educational pursuits.

Every participant in the study attended school for some time in their lives. Some ended their school experience early due to a variety of reasons, including work responsibilities. One female participant, who is now 94 years of age, used arithmetic skills to manage mathematics-related work activities. For example, when money was needed in the family she, at age 13, and her brother cut down trees and sawed the logs to the measurement specifications required for wooden railroad ties which were bought by the railroad officials. On another occasion this participant at the age of 8 years old and in the absence of her mother who worked in the field, cooked her first meal from scratch, using the measurements earlier modeled by her mother. The importance of mathematics is demonstrated here.

Male (age 83): One cannot go very far in life without the knowledge of arithmetic/mathematics.

Male (age 84): Arithmetic and math are items that affect all of us in some way, every day of our lives, whether we know it or not. It makes life better if we have some experience in these subjects. I can't imagine what I would do if I did not have a knowledge of either of them.

Male (age 98): But since I have gone through many experiences in life. I stress the necessity of having a rich background "in math." It is necessary and useful in every aspect of life. At the time I was in school, I saw no need for math. I even wondered why it was part of the curriculum.

Female (age 99): Buying and selling; balancing a checkbook; preparing a meal; making a garment.

Interview Findings - Qualitative

The findings from the analysis of qualitative data collected through interviews of the study participants are presented next. Because of the parallel between the

questionnaire questions and the interview questions, many of the assertions from the interview data are parallel to those from the questionnaire data. Pseudonyms are used for the participants.

Table 9.

Themes, Theme-related Components, and Assertions

Themes	Theme-Related Components	Assertions
Negative societal factors	<p>Participants' lives were affected by political barriers.</p> <p>Participants' lives were affected by economic barriers.</p> <p>Participants lives were affected by social barriers.</p>	Participants were affected by a plethora of negative societal factors during their lives.
Educational factors	<p>Participants may have been the first to go to school.</p> <p>Participants' schools were poorly funded</p> <p>Participants had an uneven playing field</p>	Participants went to school in spite of the inadequacies that plagued their schools.
Help with schoolwork	<p>Assistance was given in general.</p> <p>Assistance was given in arithmetic.</p> <p>Assistance was provided by varied resources.</p>	Assistance from a variety of sources was provided for schoolwork in general and arithmetic/mathematics in particular.
Encouragement given	<p>Encouraged by parents.</p> <p>Encouraged by teachers.</p> <p>Encouraged by others.</p>	Participants received encouragement to stay in school from a variety of sources.
(table continues)		

Themes	Theme-Related Components	Assertions
Desired better lives	<p>Their parents desired a better life for their children (the participants.)</p> <p>The participants desired a better life for themselves.</p> <p>Participants desired a better life for their children.</p>	A major educational goal was to seek a better life for themselves and their posterity.
The importance of math	<p>Math needed in all phases of life.</p> <p>Math is needed to perform work.</p> <p>Math is needed as a foundation for further education.</p>	Math skills were utilized in many activities in life.
Ways of learning math	<p>Participants wrote in their books, blackboard, slate boards and notebooks.</p> <p>Participants learned by rhymes and unison drills</p> <p>Participants used manipulatives</p>	A variety of strategies were used when learning math.
Self-determined to learn math	<p>Participant bought self-help books to learn math.</p> <p>Participant took courses over to improve grades</p> <p>Participant sought out help from knowledgeable friends.</p>	Participants wanted to be successful in mathematics.
(table continues)		

Themes	Theme-Related Components	Assertions
Money concerns and math	Participants saw money as a means of budgeting and saving	Knowing how to handle money was aligned to math knowledge
	Participants saw the numeric value of money as important.	
	Participants believed that knowing math skills was a way to avoid being cheated.	
Rosenwald schools	Replaced old schools	Rosenwald schools were attended by at least three participants and one participant taught at one.
	School in Arkansas, Georgia, and Maryland.	
	Participant taught in a Rosenwald School	
Black teachers	Most participants were taught math by Black teachers.	Black teachers were a major factor for schools having a positive environment.
	Teachers concern for students outweighed school deficiencies	
	Teachers strived to do their best to teach students.	
Higher levels of mathematics	Participants continued learning mathematics at higher levels of education	Participants continued learning mathematics after their elementary school experience
	Participants continue learning in on-the-job training	
Math in careers	Participant taught math for early childhood education.	Several participants had math or math-related careers in their adult lives.
	Participant become a treasurer.	
	Participant taught new math	

(table continues)

Themes	Theme-Related Components	Assertions
Serendipity and mathematics	Participant's experience with making change, Participant's experience with pricing a bale of cotton Participant's experience with hog bladder.	Math ideas, connections, and skills occurred at unexpected times and in unexpected places.

Assertion 1: Participants were affected by a plethora of negative societal factors during their lives. Every participant had experiences that demonstrated their desire to succeed and their will to survive even though life had presented them with hardships and unspeakable encounters with situations of Jim Crow, segregation, sharecropping, and discrimination.

Participants' life experiences, even in their early years, ran the full gamut of negativity in light of the societal factors with which they had to engage on a daily basis. Political forces, economic forces, and social forces intermingled to give to the Black population in the South, and in some areas of the North, a maze of negativity which was hard to maneuver. The safest place to be was home, and that was relative since the KKK could gather in front of your home at will in search of its next human prey. One participant explains her experience with the KKK in the narrative that follows.

Grace (age 94): I know one time, it was a preacher. I don't think he was so cool or something, because the Ku Klux Klan was going to get him. Because, he was staying at our house, and then out in the front there were some people with those things on their heads, and stuff like that. I looked at them! I looked out the window and see all those folks lined up with those things on their heads. My mother had the preacher, his wife and son to stay at her house. And, they would cook and eat and go to church. Well, something that that preacher had done, and somebody knew it was wrong. They were going to run him out of the area.

Participants did not have to be confronted by the KKK to have terrifying experiences. Parents were watchful and protective of their children, their spouses, and their relatives. Even though work was needed to provide for a growing family, parents and their children had to make decisions which would not provide occasions for false accusations and rouge actions toward them. Law-like mandates and local declarations of a justice system of inequality were learned, rehearsed, and adhered to in order to avoid negative reprisals and retaliations. A participant related this account

Annie (age 95): And actually, I knew there was a different between the Whites and the Blacks. My mother was very careful, as well as my father. I mentioned my father, but she was the one who would talk to me about these type things. And, of course, my father was a very good father, a good provider, and whatever. She didn't let the bigger girls work in the White man's house, and she didn't let the boys work in their yards; because there was a situation where many times the White men would rape the girls and the White women would accuse the fellows, and they might get lynched. When I was about 12 years old, one man was lynched. He was accused of raping a White woman.

Defaming comments were often heard by children in their efforts to attend school as seen here.

Martha (age 102): We walked 8 to 10 miles to and from school. I remember one house that we had to pass each day going to and coming from school. A parrot was always perched in the window, and whenever we passed the house, the parrot would say, "Here come the niggers. Here come the niggers." Oh, my goodness! I don't know how I felt about that. Those were some not-so-good times then.

The participants' words demonstrate clearly that societal forces which were challenging, unjust, and everywhere, and they affected their lives of Blacks every minute of every day, every day of every week, and every week of every month, and every month of every year.

Assertion 2: Participants went to school in spite of the inadequacies that plagued their schools. Schools for Blacks displayed differences which were stark in

environment, in instruction, and in philosophical overtones. The oldest participants attended one-room schoolhouses, with sparse furnishings and minimal resources. Some attended church schools; some attended rural public schools; some attended private schools; some attended old school; and some attended new schools. Most were underfunded. All schools attended were segregated, except one northern school. The participants all pursued an education.

Most participants walked to school in rain or shine. They walked on hot, smoldering days and on cold, blustery days. They loved going to school. Here are the expressions of some of the participants who attended school.

Adelaide (age 97): When we walked to school when it was cold, you felt like you were freezing. When we got to school, we were numb, because it was so cold outside. I got there one day, and I pulled my shoes off, and my feet hurt like a toothache. We walked to school – 4 miles to school and 4 miles from school. I carried my books in a belt, and the belt was tightened around the books, and I didn't drop one book while walking.

Grace (age 94): The school was 4 miles from my house. We had to walk through the woods.

Jean (age 83): Where we lived, other people lived down the road from where we lived. They'd come by; we'd join in with them. Then there another family of people, like to the east of us; they'd come by. And all of us would walk together; we'd go up a little farther; there was another group of kids who joined in. There would be a whole row full of children going to school at the same time, to the same school!

Assertion 3: Assistance from a variety of sources was provided for schoolwork in general and arithmetic/mathematics in particular. The three R's - reading, writing, and arithmetic made up the overall curriculum for the participants. All participants studied these courses during the elementary years. All participants took Arithmetic 1 which consisted of addition, subtraction, multiplication, and division.

Fewer took Arithmetic 2 which consisted of fractions, decimals, percents, and ratio/proportions. Some participants took the next course in the sequence – Algebra 1. Algebra 1 was difficult for several participants. As seen below, some parents could provide help to a point, but there were others who could no help at all. Participants were provided help with school work by siblings, other relatives, teachers, and others when their parents could not provide assistance.

Martha (age 102): My father was always at me about my work. He used corn kernels and wood chips to help me learn addition and subtraction. My father was the teacher at home.

Grace (age 94): I was in the process of passing from first to second grade, because my mother had taught me before I went to school. Yes, she would sit down with me with the book. Yeah. She sat down, and I would sit next to her. We had a seat about like that (*gesturing with her hands*). Where we could sit, and I sat right by her. She would show me everything in that book. And, I learned quite a bit.

Alma (age 85): The teachers were ready and willing at all times to help you. At any time! Also, I had an older sister, who was of course old enough to be my mother; she had a daughter who helped me as a young girl.

Assertion 4: Participants received encouragement to stay in school from a variety of sources. Few participants dropped out of school during the elementary years. Some participants completed at least the elementary grades 1 – 8 before terminating their schooling. Often the end of schooling for the participants came as a result of insurmountable challenges and events in their lives. For example, one participant had to stop school because she had to work in the field. Another stopped because she had to care for a sick family member.

On average, participants moved from the elementary level to a higher level - whether it was an out-of-state boarding school, a high school or a vocational school.

Several received terminal degrees, not in the traditional sequence, but through the educational protocols that were present in their day. In most cases, encouragement played an important role in their successes. Having voices that routed them on, having words of positivity coming their way when societal negativity was ubiquitous meant volumes to the participants. Appreciation for the encouragement continues to resonate with participants many, many years later as seen below.

Alma (age 85): My teachers encouraged me very, very much. I do remember one teacher, and if I remember correctly, her name was Mrs. H, And she sat me down one day, and I don't know if it was because I had not learned my time tables or whatever. And I can remember Mrs. H. And she sat me down one day and told me if I wanted to live better, and go places, and see things in the world and have money, you have to know how to read and you have to know how to do math. I will never forget that day. It impressed me! It did. It definitely impressed me.

Martha (age 102): My mom and my dad encouraged me. My teachers also encouraged me. My older sisters encouraged me to do well in math.

Edward (age 98): Mr. E.H. He was a dignified barber. He was my guardian angel, I might say, educationally. And anything that was developed in me, he formulated that idea and desire.

Rose (age 99): My teachers encouraged me. Ms. M. encouraged me. Mr. S. encouraged me. Mr. B. encouraged me. And, I can't think of some of the teachers. And, Mr. S. was my music teacher. Mr. P was my geometry teacher. My mama's oldest sister, P., encouraged me.

Ruby (age 80): A little later, a White man encouraged me to get my GED. I should never forget his name. He said that he saw a lot of potential in me. He said that I would be on college grounds. He helped me to get involved in the program. He pleaded for me to get involved. He was looking for 25 persons to participate, and I was one of the persons who were chosen for the program. My sister-in-law and I both participated in the program.

Assertion 5: A major educational goal was to seek a better life for themselves and their posterity. Being Black and living in the early 1900s was a daily challenge. Societal forces of Jim Crow, discrimination, and segregation raised their ugly heads at every turn. It was a far cry from slavery, but on the other hand, it was a far cry from

being truly free. Why wouldn't one want some relief, some peace, and some hope for the future? Hope for the future was embodied in the act of going to school and working hard for success. These words of hope were often passed down from generation to generation.

Read the words of these participants.

Martha (age 102): I wanted them (my children) to do better than I had done.

Annie (age 95): I told them what my mom had said. My mom wanted her children to do better than she had done. I wanted my children to do better than I had done.

Jean (age 83): Well, they knew that you could get better jobs. They knew that! That's why they tried to keep us in school and keep us from going through the same thing that they had been through. Working on the farm all their lives, you know, and (from sun up to sun down) getting very little for it. Doing whatever you could do to make a living, you know, and getting nothing for it; some hand-me-downs and food and whatever, you know.

Assertion 6: Mathematics skills were utilized in many activities of life.

Peoples long before the early 1900s used math to accomplish many day-to-day activities.

This cadre of participants is no different. Math was seen as an important skill that could facilitate many activities if used accurately and with forethought. All believed that mathematics held an important place in the education arena. Participants told of times when knowing math skills would have benefited them. Some viewed mathematics skills as a tool for accomplishing work product, while others saw these skills as a benefit for planning for the future. The importance and benefit of mathematics skills are expressed here.

Edward (age 98): It is one thing that . . . How shall I put it? It is one of the . . . Mathematics is a subject that enters into every aspect and phase of life. That is, it doesn't matter if you are buying or if you are selling, or if you are trying to think of any project that you would like to enter into, math is going to come through some aspect of that equation.

Jean (age 83): The importance of education is that you will know how to go out and meet the public and converse with people in an intelligent way. And math would come in there, because somewhere along the line you are going to be talking about money, talking about society, talking about the economy. And so, some way you are going to hit math in there. A MATH-LESS WORLD – I don't think it would work!

Assertion 7: A variety of strategies were used in mathematics instruction.

Recitation in unison or individually, drills, and practice were some of the strategies implemented in math instruction. Hands-on activities and manipulatives were also utilized for the student who needed more than a textbook or the blackboard exercises. Participants were engaged in these strategies and more when learning mathematics. This was true for school and home learning activities.

Martha (age 102): My father helped me with addition and subtract by using wood chips and corn kernels.

Rosa (age 99): That's the book. Like, we would count stuff. We would have so many eggs or so many this or that. And then we learned from it that way when I went to school. And, we had five apples. Five on one side and two on another, and we learned to count by... I would say. . . What do you call that? Figures? If I said I had seven chairs in here, what do you call that when you are teaching math? Objects! I'm trying to say the word, objects. (*spelling*) O-B-J-E-C-T.

Annie (age 95): Well, you learned in unison how to count to one hundred, everybody counting. Then you learned to add. You have two; you had two more to it. And little by little, you learned to add more to that and to take away

Assertion 8: Participants wanted to be successful in mathematics. All

participants wanted to be successful in mathematics. There were occasions when participants went beyond expectation to learn the mathematical concepts, to become proficient in the skills related to the course, or to increase their class standing. Participants were in the lower grades, and some were taking mathematics courses in higher education.

Edward (Age 98): As I said, I sent off to publishing houses, and bought these little booklets on trigonometry, and things of that nature, so as to help me to learn how to deal with angles and other concepts (*Laughing*).

Joseph (age 81): It was, because it was like auditing a class. I didn't know the word "auditing" in those days. But I knew I didn't want a C; I wanted a B+ or an A. So for my own satisfaction, I took it over again. So it was a challenge, because you know you are just trying to achieve an end. Whereas had I gone on, which I could have, but I felt I might be weaker going on until I really had a good foundation there.

Assertion 9: Knowing how to handle money was aligned to math knowledge and skills. Giving change in a cash transaction, calculating bills, budgeting, financial planning, - a majority of the participants equated math skills with accuracy in money matters. Several participants alluded to the risk of being cheated as a reason to have good math skills. This could have been because of past experiences related to money. See their comments.

Judith (age 106): Two of my brothers had businesses when I was a teenager. One brother had a store, and the other brother had a restaurant. They had things to do, so they left me to be the cashier for the store and the restaurant. I handled the money.

Rose (age 99): If I hadn't gotten math, I couldn't counted my dollar when I get it. I wouldn't know a dollar from a quarter, a nickel from a dime. You know?

Edward (age 98): Financial planning can be a very, very important part of math in my experience at that time. And really I wished I had learned more math. I think I could have been more efficient. I learned the hard way. Tried to figure out and reason out how to make ends meet.

Adelaide (age 97): I washed and ironed clothes for 18 families each week. We had a box for each family. We used three kettles to wash clothes, hung the clothes on lines outside, and ironed them from charcoal fires. We made the soap for washing the clothes. We made \$1.00 per box of clothes; so we made \$18.00 per week; \$72.00 every month.

Ruby (age 80): And I said, "Who's going to count your money? Who's going to take care of you?" Everywhere you go it's going to be math. Everywhere you move it's going to be math.

Assertion 10: Rosenwald schools were attended by at least three participants and one participant taught in a Rosenwald school. In researching all the schools that were attended by all participants on the Rosenwald Registry which is hosted by Fisk University, surprising results were displayed. Four schools were funded and built through the Rosenwald Funding Project. Three participants attended a Rosenwald school during the elementary years. These schools were in the states of Maryland, Georgia, and Arkansas. One of these students taught at a Rosenwald school in the state of Georgia after completing her teacher training at a Black normal and industrial college.

Assertion 11: Black teachers were a major factor related to a positive school environment. These Black teachers welcomed the students and strove to help them in learning the three R's, including arithmetic or mathematics. Participants offered stories about erasing writing from books in preparation for the upcoming year. They told of schools with large enrollments handled by one Black teacher. It is not surprising that each of the interviewees had Black teachers with the exception of one. Many students saw their teacher as one who truly cared about them. In some cases, the participants were the first in their families to go to school; so the participants felt grateful for the opportunity, and for the concern that teachers showed and the attention that they gave to them.

Edward (age 98): I can remember Miss TK. She was my arithmetic teacher. And, my introduction to arithmetic and mathematics started with her. I learned more under her than I did with any other teacher that I had ever taken, because she was dedicated to the idea of getting over and trying to impress upon us the importance of mathematics. And, after that, my concept of arithmetic and math and geometry and all that faded, because I don't know whether the teachers knew it, or if they knew it, they didn't know how to get it over to us and I lost interest. That's really what happened.

Jean (age 83): Well, she told me that it would help me also; I thought that maybe she went in as an officer, but she would tell me that you can get better jobs. The more you knew when you went in, the better placement you would get when you got into the military. Because when I went in, I wanted to drive a truck (*Laughing*). I went in, but that wasn't my calling. I was more suited to be a medic.

Assertion 12: Participants continued learning mathematics after their elementary and high school experiences. Many participants continued learning mathematics because they chose to go to college. Some had majors that required mathematics or math-related courses. In the interview cohort, one participant received a master's degree and two received doctoral degrees. Some participants felt prepared to the next level of mathematics studies, while others felt that their foundations were weak. This participant had not taken any math higher than Arithmetic 1 and 2 while in high school. She graduated from ASU with a B.S. in nursing.

Jean (age 80): No algebra to prepare me for this! Now, had I had that . . . But, I got with a group of (White) young women. They thought that I was about their age. They used to tell me that. I told them, "I was old enough to be your mama." And, they got with me and those girls would seat me down just like I was in grade school and walk me through things that they had had like in high school – algebra and stuff. We were all in the nursing school. They really helped me!

Assertion 13: Participants had math-related careers in their adult lives. Mathematics and math-related careers were always there for those who were prepared. Five of the eleven interview participants chose math-related careers after completing their educational pursuits. In general, almost half of the participants chose to work in a career that required proficiency with mathematics and its concepts.

Annie (age 95): And when I went to public school, they integrated. There were three Black teachers at this White school, and I had three Black students. I asked the principal who was teaching the math, and I asked if I could teach it. And so, I

taught 6th graders the new math. I saw then why it was that I took the course in new math.

Joseph (age 81): Let me say this. When I became treasurer, I took a management accounting course at a university in Ohio and I took additional courses there too. I tried to add to my knowledge to do the work more effectively as a conference treasurer. I was also a union treasurer in Africa.

Assertion 14: Math ideas, connections, and skills occurred at unexpected times and in unexpected places. The following narratives demonstrate that the need for arithmetic or mathematics skills can appear at any time and any place. The demand for these skills can come from anyone to anyone, even in childhood.

Judith (age 106): My brothers were in their early twenties. One of my brothers had a store, when I was about six years old. My brother wasn't at the store. I was at home, but I wasn't supposed to be dealing with anything at the store. A lady sent her son with a dime to the store to buy something that cost a nickel. I gave the boy the item that his mother wanted. The boy told me that I was supposed to give him a nickel back. I didn't even know how a nickel looked. So, I gave him a quarter. He said, "Boy. This sure is a big, ole nickel!" The boy took it home. When my brother came home, he saw that I had waited on somebody, which I wasn't supposed to do. My brother counted his money, and he realized that some was missing. My brother went to the mother's house, and asked for his change back. She gave my brother the twenty cents back, and he gave her a nickel.

Rose (age 99): My father had me working out a bale of cotton one night. (*The cost of a bale of cotton.*) I had to stay up all night until I got it right. He said, "the bale of cotton weighs 500 pounds, if you get 11.5 cents per pound, how much does that come to?" He wouldn't let my mother help me. She went to the seventh grade, I think. She could work it. He could too, but he went to the third. I couldn't work it! I was in about the third or fourth grade, and I couldn't work it. He made me stay up until I could work it. I worked it out, and then I went to bed. It wasn't day yet; I got to sleep a little bit. I had to get up and go to school that next day. He made me work it out. They went to bed. We had to study our lessons in their bedroom. Mama had two beds in their room with a desk with a roll top on it. That's where we studied our lessons every night. When you finished your lesson, you tidy up, put your books on the desk, stack them up neat, then you went to bed. There was nobody up but me. We burned a lamp all the time at night, a kerosene lamp. You'd put coal oil in it and put it on the mantel piece. But, they were in the bed.

Annie (age 95): (*Laughing*) Well, what they would do; they would fatten the hog. They would turn them out in the sweet potato patch. At that time, it was your responsibility to keep your animals fenced in. Now you have to keep your property fenced in. And they would fatten the hog. I remember around Thanksgiving and Christmas, they killed one hog. And then in January or February when it got cold, they'd killed eight. As children, we would look at the hogs and we would decide which hog's bladder we would want for a balloon.

As a child then, I had two brothers younger than me and one brother next to me, we would try to choose the biggest hog, so our balloon would be big. So when they butchered the hog, we'd get the balloon, the bladder – the hog's bladder. We would clean it up, and get a reed – reeds with holes in them from the property – like a straw. We would blow in it and blow, and little by little it would get big and big, and eventually it would dry out and you'd tie a string and around it and you would have a balloon (*Laughing*).

Chapter 5

DISCUSSION

This chapter will establish connections between the quantitative and qualitative data from the questionnaire and the qualitative data from the in-depth interviews to answer the following research questions: (a) What instruction and support did African Americans born during the early 1900s receive and what attitudes/dispositions did they internalize and/or exhibit while learning and learning about mathematics? (b) In the pursuit of mathematical knowledge and capabilities, what formal (schools, vocational training, etc.) and/or informal (churches, civic organizations, family, etc.) educational experiences and institutions assisted African Americans in the acquisition of their skills, and attitudes/ dispositions? (c) What encouragement or admonitions did African Americans receive from their parents and what encouragement or admonitions did they give to their children regarding the importance of and the need for mathematics education? To answer these research questions, triangulation and coding protocols were utilized in order to aggregate quantitative results and qualitative findings from the questionnaire and qualitative findings from the in-depth interviews

Research Question 1

What instruction and support did African Americans born during the early 1900s receive and what attitudes/dispositions did they internalize and/or exhibit while learning and learning about mathematics?

For purpose of this discussion, participants who are now 80 to 106 years of age are viewed through a historical portal as 5 to 18 years old school children situated in the years during which they attended primary, elementary, junior high, and high school. This

historical transposition facilitates the process of seeing senior citizens as children living in the first part of the 20th century, encountering the political, economic, social, and educational forces of that time, while attending school and learning arithmetic or mathematics. Throughout the remainder of the discussion, participants are referred to as children or students.

Qualitative data from both the questionnaire and the interviews support the fact that societal forces during the early 20th century could be severe, grueling, intimidating, and often life-threatening for African Americans in the United States. Inequalities experienced by African Americans were everywhere in society, and although they occurred primarily in the South, the North was not completely exempt from these acts of aggression. The eyewitness accounts and personal memories that make up much of the data for this study should be given a substantial weight of confidence, because the participants lived through Jim Crow atrocities, discriminatory actions, and segregation antics that undoubtedly occurred during the time in question.

Lynchings, derogatory pejoratives, demands for adherence to the use of “colored” facilities, the assembly of angry mobs, and other expressions of the racism were abundant in everyday during these children’s lives. For a group of young children to hear the pejorative of “Here come the niggers” hurled at them every time they passed a particular house on their walk between home and school is unthinkable even if remarks came from a trained parrot uttering this racial slurs from the window of a house. This routine insult demonstrated the overt racism and discrimination that students had to face on a daily basis. According to Lester (2013 p. 1537), the N-Word “is most often associated with violence, race, and gender, in ways that link America’s past through slavery to America’s

present.” This word is the ultimate in its ability to demean a Black person. Filled with negativity and disparagement, this is a word that when spewed toward Black hearers declares that they are non-human and savage, inferior and perhaps not educable (Lester, 2013). Yet these children are headed to school to be educated. A child living in this time of Jim Crow had to muster the courage and determination to walk to and from school every day in spite of these circumstances.

These children saw and heard of unspeakable acts of violence and “lawful” crime. One evening, one child saw the Ku Klux Klan line up in the front of her house. Another child saw a lynching; a man accused of the heinous crime of the rape of a White woman, without proof, was put to death by angry Whites. Entering back doors to make purchases; filing into lines for a drink of water at the colored fountain; eating in the wagon or the T-model because they could not enter the eatery; and avoiding an encounter with Whites at every cost – the children still went to school. They still pursued the three R’s.

Most of the children in this study were born in the South, so as children, they learned the ways of life that had been imposed on them by their parents for their well-being and imposed on them by a white racist society.

Along with political and social factors in which these children lived, most of them were from poor families, including families of sharecroppers. Being a child of a sharecropper meant that there was unending work. As one child detailed, she completed five or more chores in the morning before walking four miles to school. After school the work continued until dark; that is when she did her homework, including arithmetic, at the fireplace. She commented that she studied just like Abraham Lincoln – by the light

of the fireplace. Even though most were poor, they were not hungry because their families had gardens to grow food for the family.

Although most were from poor families, a few seemed to have been prosperous for that time. One of the children grew up on a plantation owned by her family. Another child related that her father was a wealthy farmer until he lost the entire farm because of \$20.00 that he owed to a White man. Both of these cases were anomalies with respect to the student aggregate.

The students attended segregated, public schools that were almost equally categorized as being a city or a rural school. With the exception of a few of the students who attended one-room schools, most attended schools with two or more classrooms. Three of the students attended Rosenwald-funded schools which had replaced their old shabby schools. After completing the 11th grade, one student taught in a Rosenwald-funded school.

The Black teachers who taught the students were predominantly female. Teachers cared about the children, and though they were inequitably treated in the area of pay and respect by the White community, they tried their best to impart knowledge to the students. Some became teachers before completing the 11th or 12th grade.

For the most part, the curriculum consisted of the three core subjects – reading, writing, and arithmetic; with history and spelling sometimes rounding out the curriculum. Less heard of were courses in the sciences. There were industrial arts courses taught in some of the larger city schools. These courses included home economics (cooking and sewing), carpentry, drafting, and so on. This is congruent with the concept of providing at

least a partial industrial education which was initiated at Tuskegee under the leadership of Booker T. Washington.

A variety of learning tools for arithmetic or mathematics, such as geometric models, the slide rule, the protractor, and the compass, were encouraged for the wider White population (Kidwell, Ackerberg-Hastings & Roberts, 2008). However, Black teachers and students had access to only the basics – blackboard, chalk, paper, and pencils; at least two of the older students stated that they used “rough paper” which is was dark in color, but it was lined. There were occasions to use of beads, corn kernels, wood chips and other objects for arithmetic instruction. One student remembered the teacher using apples to teach addition and subtraction. Even though some students had ruler, they were not used in arithmetic instruction. The ruler was viewed as a tool for the father to use in home or work projects. One student mentioned that he had a protractor and a compass, but these tools were not used for mathematics; he used them to draw pictures. He also stated that he never learned to use his slide rule with any proficiency. It appears that for these Black students no correlation was made between the blackboard lesson or the textbook and mathematics tools or manipulatives.

Some students used slate boards at their seats while other students used pens and textbooks in mathematics instruction. As might be expected most students did not remember the name of their textbooks. However, one student remembered Baby Ray books that taught a combination of reading and arithmetic.

When asked to choose their favorite subjects, arithmetic/mathematics and reading/writing tied for first place. The third highest vote was for history, with science and spelling tying with a much lower vote. The highest vote most likely went to

arithmetic, reading, and writing alike, because this is what most students studied on a regular basis, so facility was developed in working addition, subtraction, multiplication, and division problems; the course content for Arithmetic 1. Students chose Arithmetic 1 as their favorite mathematics subject. It might have been, because all of them took this course. Fewer chose Arithmetic 2 and Algebra 1 as favorite subject. Addition, subtraction, multiplication, and division were the mainstay for arithmetic for these Black students. Algebra 2, Geometry, and Statistics was taken by some students at the secondary level and perhaps into the junior college, industrial training school, and college levels. There were students who stated that they liked adding and subtraction even today.

Most of the students represented in this study completed the 12th grade, and 8th grade had the next highest number of student to complete that level of education. Some literature revealed that during this period most Blacks completed the 4th grade.

It is ironic that with the literature that alludes to students' avoidance of mathematics and anxiety related to mathematics (Hembree, 1990), the students in this study wanted to learn more arithmetic/mathematics than they had the opportunity to learn. When it came to the math dispositions internalized or exhibited by the students, they reported that they were positive about their mathematics experiences, and about half of the students were happy about learning mathematics. A little less than half of the students were confident in their mathematics experiences.

The majority of students walked to school and related in the interviews that they loved school, enjoyed school, or were happy to attend school. Along with loving school the majority of students like arithmetic/mathematics.

Students received support to go to school from a variety of sources: family, including parents, siblings, aunts; community members; church members; and teachers. This support consisted of encouragement and help with arithmetic. Research Questions 2 and 3 will further address this assistance with arithmetic.

Research Question 2

In the pursuit of mathematical knowledge and capabilities, what formal (schools, vocational training, etc.) and/or informal (churches, civic organizations, family, etc.) educational experiences and institutions assisted African Americans in the acquisition of their skills, and attitudes/ dispositions?

The students in this study, primarily acquired their formal mathematics knowledge in a formal school setting. The elementary school teachers provided help after the individual and group recitation sessions. It was difficult, however, for students to get to school early or to stay after school for help, because students had to walk to and from school. As for the teacher, she had to be in the classroom bright and early the next morning to prepare for the day, by doing such things as heating and tidying up the room, supplying drinking water, and so forth; as well as writing the lessons for all grades on the blackboard and making sure that supplies needed for the day were in place.

Aside from the help at school, additional help was provided primarily in informal settings, at home and in the community. Many of the students reported that they received help in mathematics from their mothers or fathers. One female student related that her father was the person who served as the teacher in the home. He used corn kernels and wood chips to help her learn addition and subtraction. Ironically, these are some of the strategies that are recommended in Ray's arithmetic textbooks. Another female student

reported that her father personally gave her an arithmetic problem that she had to solve. The problem involved calculating the value of a bale of cotton that weighed 500 pounds. He was to receive 11.5 cents per pound. She could not go to bed until she was able to solve it. It was almost daylight, when she had solved the problem, so she was able to sleep for a couple of hours before going to school.

Situations like these produced negative feelings regarding the learning of math in the students. One student reported that she was nervous when her father taught her math with the hands-on objects. She had to write and rewrite the answers to addition and subtraction exercises until she knew the answers by memory. The other student revealed that she loved reading and many other subjects. The one subject that she did not like was mathematics; however, she later realized the benefit and importance of math. She eventually taught 2nd and 3rd graders including arithmetic concepts.

Many informal mathematics experiences aligned to day-to-day work and play activities. A female student, at age 9, cut railroad ties to railroad specifications, and cooked her first meal using measurements at age 8. Another female student used mathematical reasoning to choose the biggest hog to be slaughtered, which she conjectured would have the biggest bladder to transform into the biggest balloon. In addition to help from the family, there were a few civic organizations or other venues for helping students with their mathematics studies. One student participated in a GED program in the community where she was provided instruction in algebra. Home was where the heart was, and where most help in reading, writing, and arithmetic took place.

Research Question 3

What encouragement or admonitions did African Americans receive from their parents and what encouragement or admonitions did they give to their children regarding the importance of and the need for mathematics education?

Encouragement, an affective factor in learning mathematics, appears to be a key connector to positive dispositions for mathematics (Fennema & Sherman, 1976; Baroody & Coslick, 1998). Having someone to cheer you on, especially in hard times, is a benefit. Encouragement came from parents; siblings; aunts; church members; community members, a dignified barber, and a university professor conducting a community GED program; Encouragement came from teachers – teachers in the primary grades, teachers in the junior high grades, teachers in the high school grades, teachers in industrial school; teachers in junior college, teachers in colleges and universities. Many students, who completed high school and in some cases, entered institutions of higher education, were the students who received strong and constant encouragement from someone.

The encouraging words, given in a caring spirit, made all the difference in the world for students. In one account, a female student who as an adult married and began a family, lost her husband in death. Raising small children and caring for others in her home for a livelihood, she didn't have much time for school. Secretly this was something she really wanted to do – to get a high school diploma. She had dropped out of school because of family problems. A White professor conducting a community GED program taught algebra and offered an invitation for her to participate. She was encouraged regularly to come to class. Algebra was difficult for her, but the program was helpful. After weeks of math classes, she took the GED test. When she went outside to the

mailbox, she saw that her scores had arrived; it was raining. She was hesitant to open the envelope; she was afraid, but then she opened the envelope and saw her scores. She stood in the rain crying because she could finally complete her GED and receive a diploma. She received a scholarship to go to a two-year college. She became an early childhood education teacher. A White professor encouraged her, and she reached her goal.

The encouragement that was offered to students was accompanied by admonitions which inspired them to reach personal goals. Several students were given personal admonitions for future education and future careers. The admonitions were counsel, advice, and cautions that provided a means for planning for the future. A Black teacher provided counsel to a female student who joined the military, became a medic and later received a B.S. in nursing. This student had only general math in high school; she had basically taken Arithmetic 1 and 2 from grade 1-12. She had no algebra, geometry, or higher levels of math. With the assistance, encouragement, and admonitions of fellow students who were White, she learned algebra from them as she concurrently took chemistry, biology, and other nursing courses.

Encouragement from persons outside the home was very helpful to the students, but encouragement from their parents was very much appreciated. The students' parents were sharecroppers, tenant farmers, migrant workers, farmers in general, and workers in various trades. They knew what the students had personally encountered, because they had also encountered the hardships, the difficulties, the struggles of life. Parents wanted their children to far exceed their level of living. They wanted life to be better for their children than it had been for them.

The students, who later became parents themselves, encouraged their children to go farther than they had gone in school and to do better than they had in school, including mathematics. Our senior-citizen participants, who have been viewed as children in the early 1900s and then students during their school days, provided some laudable comments regarding the importance of mathematics. One participant responded,

Mathematics is a subject that enters into every aspect and phase of life. That is, it doesn't matter if you are buying or if you are selling, or if you are trying to think of any project that you would like to enter into, math is going to come through some aspect of that equation.

Another said,

Well, my thing is that all three of them kind of coincide with each other. The importance of education is that you will know how to go out and meet the public and converse with people in an intelligent way. And math would come in there, because somewhere along the line you are going to be talking about money, talking about society, talking about the economy. And so, some way you are going to hit math in there. A MATH-LESS WORLD – I don't think it would work!

Summary

Accurately predicting the future is not possible, but reflecting on the past is a capability we possess. This study turned to the past for multiple perspectives on the mathematics experiences of African Americans born in, and before 1933.

Looking to the past was important because over the past 80 to 100 years, mathematics education for Blacks has been a reflection of society's political, economic, social, and educational climates. In viewing the mathematics experience of individuals living during the early to mid-1900s – what was taught; where it was taught; how it was taught; by whom it was taught; and to whom it was taught – provides further insight into the challenges and injustices participants faced. Opportunities for the generational cadre that participated in the study were often outside the parameters of “mathematics for all”

(Lappan, 1999). Formal schooling, as well as informal activities, provided experiences that impacted the participants' lives and abilities to achieve the American dream. Unfortunately, not much has changed. Students of minority descent are still receiving an inadequate education and failing to meet national standards. Formal and informal mathematics experiences for today's African American students are again a reflection of society. America's ubiquitous technological environment, demands a different and advanced mathematical knowledge base, and mandates of mathematics for all impact the lives of students and their teachers.

Tools of the past will not assist today's students but learning about the past may avoid past atrocities. It was the desire of the researcher to explain the experiences of those who have gone before – the perseverance in challenging circumstances, the encouragement received from various sources, the assistance provided in formal and informal settings, and the desire to learn more mathematics – will be reflected on by African American students today and far into the future.

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APPENDIX A
RECRUITMENT PACKAGE

COVER LETTER/CONSENT FORM

STUDY TITLE : An Exploration of Mathematics Experiences of African Americans born in, and before 1933.

Dear Prospective Participant:

I am Marilyn R. LaCount, a doctoral candidate, who is conducting research under the direction of Professor Ronald Zambo, Ph.D. in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to explore the mathematics experiences of African Americans born in, and before, 1933.

I am inviting your participation, which will involve completing a six-page questionnaire. Many of the questions on the questionnaire require only a single word or a check-mark response. Most of the other questions require a few short phrases or sentences. The questionnaire will take approximately 45 minutes to complete. Based on your answers to the questionnaire, you may be asked to participate in a personal interview conducted by myself. The interview will take approximately 90 minutes. During the process, you have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. You must be of African descent, particularly, African American, and you must be 80 years old or older to participate in this study.

Participation in this research project will allow you to tell your life story and to highlight your school experience, specifically your arithmetic education experiences. The time in which you attended school is a fascinating time, and your generation's stories provide a historical context for younger generations. There are volumes of books that describe the times in which you grew up, but there is little information about your arithmetic or mathematics education. That is precisely the area of your life on which I wish to concentrate. Your life story may hold a key for many of the issues we now face in regard to mathematics education and the African-American community. Your story will benefit educators, the African-American community, and the U.S. population in general. There are no foreseeable risks or discomforts to your participation.

Should you choose to participate, please know that every precaution will be taken to preserve your confidentiality. Each participant will be assigned a number, your number is at the top of the enclosed questionnaire. Your name and unique number will be kept on a list with the names of other potential participants and the numbers that they have been assigned. The list will only be viewed if there is need to call participants for interviews.

Thus, your responses will be confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. Even then, information from participants' responses will be reported as an aggregate or as a group.

I would like to audiotape the interview. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know.

If you have any questions concerning the research study, please contact the research team at: (###) ###-#### or (###) ###-####. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance. If you choose to participate in this study, please complete the enclosed questionnaire and return it to me in the self-addressed, stamped envelope.

CONSENT FORM RESPONSE

STUDY TITLE:

An Exploration of Mathematics Experiences of African Americans born in, and before 1933.

By completing the questionnaire and returning it to me in the self-addressed, stamped envelope you are consenting to participate in this study.

Thank you for your willingness to participate.

Recruitment Script

(This type of script is typically used for recruitment of subjects in telephone surveys or by personal contact.)

I am, Marilyn LaCount, a doctoral candidate under the direction of Professor Ronald Zambo in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to explore the mathematics experiences of African Americans Born in, and before, 1933.

I am recruiting individuals who are African Americans to describe their school environments and activities, especially those that are related to arithmetic or mathematics education. The completion of the 6-page questionnaire should take about one and one-half hours. It should be completed within a two-week period.

Your participation in this study is voluntary. If you have any questions concerning the research study, please call me at (###) ###-####.

RECRUITMENT FLYER

	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	
Y E A R O F B I R T H	ALGEBRA			ADDITION SUBTRACTION MULTIPLICATION DIVISION			GEOMETRY						
	SEEKING PARTICIPANTS FOR RESEARCH STUDY												
	<p> African-America Seniors (Ages 80 to 100-Plus) who would like to tell their stories about their school days and their arithmetic and mathematics experiences are eagerly being recruited for this research study. YOUR STORY IS IMPORTANT AND NEEDED FOR THIS STUDY! </p> <p> If you are interested, please contact Marilyn LaCount, a doctoral candidate, in the Mary Lou Fulton Teachers College at Arizona State University. Please call: ###-###-#### </p>												
	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	

INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

For the Research Study Entitled

An Exploration of the Mathematics Experiences of African Americans Born in, and before, 1933

Thank you for agreeing to participate in this important research study. The enclosed questionnaire has several types of questions that should be answered.

The types of questions are described below.

1. Some questions require a one-word answer.
2. Some questions require a check-mark answer
3. Some questions require a short sentence answer.
4. Some questions require two- or three-sentence answers.

Please do your best to answer ALL the questions and to complete the entire questionnaire.

After you have completed the questionnaire, put it in the self-addressed, stamped envelope and mail to me. If you live within the _____, Arizona area, and you want me to pick up your completed questionnaire, please call me, Marilyn LaCount, at (###) ###-####.

Again, thank you for your participation.

<p style="text-align: center;">AN EXPLORATION OF MATHEMATICS EXPERIENCES OF AFRICAN AMERICANS BORN IN, AND BEFORE 1933</p>

Survey/Questionnaire Questions – Number _____

1. In what year were you born? _____ Your current age _____

2. Where were you born (City, State)? _____

3. As a child, what was the size of your family?

Number of parents in the home _____

Number of sisters _____ Number of brothers _____

4. What was the name of your first school? _____

5. In what city was your school located? _____

6. Did you attend another school (City, State) Yes _____ No _____

7. \ Name of the School

8. What years were you in school?

9. At what age did you attend school

10. What grade did you complete in school?

11. Was your school segregated? _____ Was your school integrated?

12. Was your school a church school? _____

13. Was your school a public school? _____

14. Did you attend a normal school? _____

15. Did you attend a vocational or industrial school?

16. What barriers or obstacles affecting your attending school?

17. What economic challenges did you and your family face?

18. What political challenges did you and your family face?

19. What social challenges, i.e. discrimination, Jim Crow, segregation, did you and your family face?

20. Picture the school where your first learned arithmetic/mathematics and describe it with as many details as possible.

21. Please check all that apply to you:

_____ My school was in the city.

_____ My school was in a rural area.

_____ My school had only one room.

_____ My school had more than one room. Number of rooms _____

_____ My school had more than one grade in the same classroom.

The grades were _____

_____ Circle the highest grade that you completed in school.

Grade: Kindergarten 1 2 3 4 5 6 7 8 9 10 11 12

Years in College: 1 2 3 4

- _____ My teacher was Black
- _____ My teacher was white
- _____ My teacher was another ethnicity Which? _____
- _____ I had one teacher who taught all grades and all subjects.
- _____ I had several teachers who taught different grades and different subjects.
- _____ I took reading in school
- _____ I took writing in school
- _____ I took mathematics or arithmetic in school
- _____ I took science course in school
- _____ I took history/social studies courses in school
- _____ I took other courses in school. List them below:

22. Please check all of the arithmetic/mathematics subjects that you took in school:

- _____ Arithmetic (addition, subtraction, multiplication, division)
- _____ Arithmetic (fractions, decimals, percents, proportions)
- _____ Arithmetic (other topics) List them:

- _____ Algebra I
- _____ Algebra II
- _____ Geometry
- _____ Trigonometry
- _____ Calculus
- _____ Statistics
- _____ Other

23. Please check all of the tools that you used to learn arithmetic/mathematics

- _____ Black Board
- _____ Slate board
- _____ Chalk
- _____ Pen
- _____ Pencil
- _____ Paper
- _____ Graph Paper
- _____ Number Line
- _____ Geometric Models
- _____ Ruler
- _____ Protractor
- _____ Compass
- _____ Slide Rule
- _____ Text Book
- _____ Other Tools
- _____ Ray's Arithmetic Book
- _____ Blue-Back Speller

24. What was the name of the arithmetic/mathematics book(s) that you used?

Elementary Grades:

High School:

25. What subjects or courses did you like best? Why?

26. Which arithmetic/mathematics courses that you liked best? Why?

27. How did your parents/some other adult encourage in your school work?

28. How did your parents/some other adult encourage you in arithmetic/mathematics?

29. How did you feel about learning arithmetic/mathematics?

_____ Happy	_____ Nervous	_____ Anxious
_____ Confident	_____ Unsuccessful	_____ Wanted to Learn More
_____ Excited	_____ Negative	_____ Positive

30. Did you see a reason for/benefit in learning arithmetic/mathematics?

_____ Yes _____ No

31. What was the reason for/benefit to learning arithmetic/mathematics?

32. How did you use arithmetic/mathematics in your work life after school?

33. Do you have children? _____ Yes _____ No

Number of Children _____

34. Did you ever express to your children/young person the importance of mathematics?

35. What did you tell them?

APPENDIX B

INTERVIEW QUESTIONS FOR SELECTED PARTICIPANTS

**Searching for the Third R: An Exploration of the Mathematics Experiences of
African Americans Born in, and Before 1933**

Interview : Research Question 1:What instruction and support did African Americans born during the early 1900s receive and what attitudes/dispositions did they internalize and/or exhibit while learning and learning about mathematics?

Interview Questions Developed to Support Research Question 1:

1. Please describe how it was to be an African American child during (*Years*)
_____.
2. Please describe your family (*parents' occupations, family life, etc.*).
3. Describe the school setting or environment of your first (*primary/elementary*)
school.
 - a. What kind of resources, i.e., books, materials, did you use in school?
 - b. What kind of resources, i.e., books, materials, did you use in learning to read
and write?
 - c. What kind of resources, i.e., books, materials, did you use in learning
arithmetic?
4. How did you feel about going to school?
5. Describe the courses that you took.
 - a. What did you like or dislike about the subjects that your took?
 - b. What did you like or dislike about reading/writing classes that you took?
 - c. What did you like or dislike about arithmetic/mathematics classes that you
took?

- d. How did you believe the subjects you took in school would help you later in life?
 - (1) Reading?
 - (2) Writing?
 - (3) Arithmetic/ Mathematics
- 6. What did your parents believe to be the benefits of going to school?
 - a. The benefits of learning to read and write
 - b. The benefits of learning arithmetic/mathematics
- 7. Were you encouraged by anyone to do well in school?
 - a. By teachers? In what way?
 - b. By parents? In what ways?
 - c. By others? In what ways?
- 8. Were you encouraged by anyone to do well in reading and writing?
 - d. By teachers? In what way?
 - e. By parents? In what ways?
 - f. By others? In what ways?
- 9. Were you encouraged by anyone to do well in arithmetic or mathematics?
 - g. By teachers? In what way?
 - h. By parents? In what ways?
 - i. By others? In what ways?

Research Question 2:

In the pursuit of mathematical knowledge and capabilities, what formal (schools, vocational training, etc.) and/or informal (churches, civic organizations, family, etc.) educational experiences and institutions assisted African Americans in the acquisition of their skills, and attitudes/ dispositions?

Interview Questions Developed to Support Research Question 2:

1. You stated that you attended primary school. What other schools did you attend after primary school?
 - a. In a formal school setting?
 - b. In a church-school setting?
 - c. In other educational organizations' settings?
2. What arithmetic/mathematics courses did you take after taking arithmetic courses in primary school?
 - a. What arithmetic/mathematics courses did you like best?
 - b. Why did you like these classes?
 - c. What grades did you get in arithmetic/mathematics classes?
 - d. How do you know if you were succeeding, or not, in a particular arithmetic/mathematics course/class.
 - e. What success did you have in arithmetic/mathematics class based on your work in the previous classes?
3. What jobs did you have after completing your years in school?
4. What arithmetic skills and abilities did you use in your work?
5. What arithmetic skills and abilities did your use in everyday life?

Research Question 3:

What encouragement or admonitions did African Americans received from their parents and what encouragement or admonitions did they give to their children regarding the importance of and the need for mathematics education?

Interview Questions Developed to Support Research Question 3:

1. In what ways did your parents encourage you to pursue your education?
2. In what ways did your parents encourage you to pursue arithmetic/mathematics?
3. What did they say about the importance of education?
4. What did they say about the importance of mathematics?
5. Did you have children? How many? _____ Girls? _____ Boys? _____
6. What did you say to them about the importance of education?
7. What did you say to your children about the need for mathematics?
8. In what ways did you encourage or admonish your children to pursue their education?
9. In what ways did you encourage or admonish your children to pursue arithmetic/mathematics courses?
10. In what ways did you encourage or admonish your children to pursue a job related to mathematics?
11. What did you say to your children about the importance of education?
12. What did you say to your children about the importance of mathematics?
13. What did you say to your children about the need for mathematics?
14. Did you ever discourage your children/anyone about pursuing arithmetic/mathematics while they were in school or while in the workplace?

APPENDIX C
INSTITUTIONAL REVIEW BOARD - ASU



EXEMPTION GRANTED

Ronald Zambo
Division of Teacher Preparation West
602/543-4605
RONALD.ZAMBO@asu.edu

Dear Ronald Zambo:

On 12/5/2013 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	An Exploration of the Mathematics Experiences of African Americans Born in, and before, 1933
Investigator:	Ronald Zambo
IRB ID:	STUDY00000322
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	None

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 12/5/2013.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc:
Marilyn Lacount

APPENDIX D

PARTICIPANTS' INTERVIEWS: THEIR STORIES

“For our grandparents and great-grandparents affected by Jim Crow, Peonism, and the debilitating effects of poverty. May the children of today be inspired and educated by the children of yesterday.”

- R. Gregory Christie

Note: R. Gregory Christie is the illustrator for the book, *Dear Mr. Rosenwald*.

Participants' Interviews

(The following pseudonyms are used to identify the participants)

THE STORY OF:

Judith	Age:	106	(Female)	Page	137
Martha	Age:	102	(Female)	Page	143
Rose	Age:	99	(Female)	Page	150
Edward	Age:	97	(Male)	Page	167
Adelaide	Age:	97	(Female)	Page	185
Annie	Age:	95	(Female)	Page	195
Grace	Age:	94	(Female)	Page	211
Alma	Age:	85	(Female)	Page	221
Jean	Age:	83	(Female)	Page	236
Joseph	Age:	81	(Male)	Page	260
Rita	Age:	80	(Female)	Page	276

In each of the interviews, MRL refers to the researcher.

The poems that introduce these mathematics/life stories are cited from:

Sandburg, C. & Rand, T. (1993). *Arithmetic*. (1st ed.) Orlando, FL: Harcourt
Brace Jovanovich.

Weatherford, C. B., (2006). *Dear Mr. Rosenwald*. New York: Scholastic Press.

1921: One-Room_School

My teacher, Miss Mays, said,
You can't judge a school
by the building. When the roof leaks,
she calls us vessels of learning.
When the floor creaks, she says
knowledge is a solid foundation.
Wind whistles through walls,
blowing the sheet that splits the church
into two classrooms. Me on one side.
Junior on the other. Till I passed
third grade, sat beside him,
counting with my fingers
and fidgeting on the pew.
Now I know better.

My school is not much to speak of,
but Mama says I'm lucky
even if class don't meet during harvest.
Down here, she said, some black children
go to school in shacks, corncribs,
or not at all. Don't know what I'd do,
if I couldn't go to school.
Harvest break --
just when I memorized the times tables.
Instead of learning long division,
I'll be working in the field.

- Carole Boston Weatherford

Judith's Story

(Mrs. JB was assisted by her daughter, EA, in completion of the research questionnaire and interview.)

Mrs. JB is a 106 year-old African American woman who was born in, Alabama in 1907. She lived with both parents and 10 siblings – 4 girls and 6 boys. She was the youngest child in the family. At the age 6, she attended a public elementary school. She doesn't remember the name of the school. She later attended school in Florida. Her school days ended at grade 8.

In spite of the discrimination, Jim Crow laws, and segregation that were present everywhere for a Black family during the time of her youth, JB did not believe that she had any challenges to attending school in those regards.

JB's small school was in a rural setting. It was a one-room school with several grades in that one room. On any given school day, she was taught reading, writing, arithmetic, history, cooking, spelling, and gym by a Black teacher. She learned addition, subtraction, multiplication, division, fractions, decimals, per cents and proportions. She also took an algebra I course.

The tools and resources used in school for reading, writing, and arithmetic were the blackboard, chalk, pencil, paper and a textbook. She does not remember the name of her arithmetic textbook. JB loved spelling and participating in spelling bees. Addition and subtraction were her favorite arithmetic concepts, because these were easily understood by her. Because her parents died early, JB received encouragement to stay in school from her brother. She felt confident and positive about learning arithmetic or math, until she took the course in algebra.

JB sees the benefit of math as follows: to ensure that you get the right change when making purchases, to write checks, to pay for purchases, and to avoid being cheated in monetary transactions.

JB emphasized the importance of doing your best in math. She believes that doing well in math would help you to earn a better living and to get ahead in adult life.

The Interview:

MRL is the interviewer and Mrs. JB is the interviewee (assisted by daughter - E)

MRL: Please describe your life in the early 1900s.

JB/E: My childhood was very bad. I never knew my mother. I don't know if my mother died giving birth to another child or whether she just died early, got TB or

something. My father married again, and his wife hated me. I called her Miss Mary. My big brothers and sisters and father all went to work in the fields. But my sister and I were very young, so we stayed at home. We were too little to work in the field. I was about six or seven years old.

Miss Mary would pick on me. She would just whip me for no reason at all. She would scold me. When I started to cry, she would whip me even more. Then she would tie a scarf around my neck and choke me and leave me on the floor unconscious. Miss Mary would go right on singing church songs. She was so mean to me.

MRL: She would tie a scarf around your neck?

JB/E: Yes. I actually passed out. I was a little child, but I still remember Miss Mary. She made it really hard for me. My father had told his wife that I was his baby and to take care of me and to look after me. He told her that he didn't want me hurt. That could have made her jealous. Nobody was home except my sister and me.

When Miss Mary got sick, I had to fan her all day. I had to bring her water, and I had to wash her. When Miss Mary died, I went through the house singing, "Miss Mary is dead; Miss Mary is dead; Miss Mary is dead." I was so glad that my stepmother had died. *(E said that her mother is over 100 years old now, but she still talks about the terrible childhood she had with her stepmother.)*

MRL: Do you have a specific story about segregation, discrimination, or Jim Crow laws during your lifetime?

JB/E: My father was pretty well to do as a farmer. He was a young man. He produced cotton, corn, and all that. And, he was considered one of the wealthy Black men in that community. In fact, when the teacher came, usually the teachers was somebody who had just finished school, they usually stayed at our house. The teacher stayed at our house, because my father was considered rich. But my father owed some money to a White man. I think it was about \$20.00. And he was going to pay the man; he was paying in installment payments. The White man wanted all his money, so he came and took all my father's livestock – his cows, pigs, and everything. He just watched the man while he took them. My father was never any good after this. He was so upset that he actually left, Alabama and went to Florida. This was a real case of Jim Crow; there was nothing he could do. They just took everything.

MRL: Did your father own the land?

JB/E: Yes, he owned the land. He was considered well-to-do.

MRL: Can you describe your school?

JB/E: I don't think the school had a name; it was the school house. It was a big building with a stove in there. There were several grades in one room. We had a Black teacher; not a teacher who went to college and got a degree. The teacher was somebody who kind of knew or, you know, who was pretty smart who taught us. I went to school, but I didn't have anybody to really . . . The farmers back in those days didn't push their children to go to school, nor did they make it so important that you do go. I went to school, and did the best that I could. Nobody ever encouraged me to go to school.

MRL: From the questionnaire, I see that you took arithmetic courses.

JB/E: I liked addition and subtraction, because that was easy for me. If I worked with regular numbers, I could do the arithmetic. It was difficult when I had to do the reading problems (word problems) in arithmetic, where you had to figure out the answer. When I took algebra, it was very difficult for me.

MRL: What kinds of grades did you get in arithmetic?

JB/E: I got good grades in school, and in arithmetic.

MRL: How did you use math in everyday life?

JB/E: My brothers were in their early twenties. One of my brothers had a store, when I was about six years old. My brother wasn't at the store. I was at home, but I wasn't supposed to be dealing with anything at the store. A lady sent her son with a dime to the store to buy something that cost a nickel. I gave the boy the item that his mother wanted. The boy told me that I was supposed to give him a nickel back. I didn't even know how a nickel looked. So, I gave him a quarter. He said, "Boy. This sure is a big, ole nickel!" The boy took it home. When my brother came home, he saw that I had waited on somebody, which I wasn't supposed to do. My brother counted his money, and he realized that some was missing. My brother went to the mother's house, and asked for his change back. She gave my brother the twenty cents back, and he gave her a nickel.

Two of my brothers had businesses when I was a teenager. One brother had a store, and the other brother had a restaurant. They had things to do, so they left me to be the cashier for the store and the restaurant. I handled the money.

MRL: What barriers did you encounter that prevented you from attending school?

JB/E: The reason why I had to quit school was because, my brother had married a woman, and the woman got real sick. My brother needed me to come and take care of his wife while he worked. I don't know why he called me, because his wife had a sister. But, he called me to come. I went and stayed with them and took care of his wife, but she later died. I wanted to go back to school, but I had been out a school for over a year. If I went back to my grade, I would have been the oldest one in my class. My classmates had moved on to higher grades. I didn't want to be a big girl in a grade with little children. I decided not to continue with school.

MRL: How did you feel about going to school?

JB/E: I liked school and I learned. I felt positive about going to school. I would have probably continued, but I left to help my brother. Then I didn't want to go back when I would have been older than my classmates.

MRL: How did you believe math helped you in later life?

JB/E: I wanted make sure I could count my money and make change when I went to the store, so that nobody would cheat me.

MRL: What about around the house? When cooking?

JB/E: I always cooked everything from scratch, so I measured $\frac{1}{2}$ cup of this, a teaspoon of that and so forth when I cooked.

MRL: That was measurement which is a part of arithmetic. How about when sewing?

JB/E: I used to sew. During the Depression, there was hardly any work. The government gave some jobs to women; the job was to make school dresses or uniforms. I made these dresses. We called them charity dresses. All the dresses looked alike; I used the same pattern, but the dresses were made from different colors. You could make a whole lot of them that were blue, a lot were gingham, a lot were floral, but they were all made from the same pattern. All the girls wore these dresses to school because it was during the Depression, and everyone was poor. I didn't want my girls to wear the charity dresses, so I made them a different kind of dress. Other children would fight my children because they didn't wear the charity dresses.

MRL: Again, that was measurement.

MRL: What kind of work did you do later in life?

JB/E: I always did day work or house work. I moved to Ohio when I was about 17 or 18 years old. During that time I worked as a nurse's aide in the hospital and nursing homes.

MRL: Did you use any of your arithmetic in these jobs.

JB/E: I don't remember using any of my arithmetic skills in those jobs.

MRL: From your questionnaire, I see that you had children. What did you tell your children about the importance of education?

JB/E: I wanted to make sure my children stayed in school and finished school. I couldn't stay in school, so I pushed my children to go to school. I helped my children with their homework as much as I could.

MRL: What did you tell your children about the importance of mathematics?

JB/E: I didn't specify arithmetic, but I encouraged them to do good in school.

MRL: If you were to give advice to a child today about education and mathematics, what would you tell the child?

JB/E: By all means, stay in school! (*E: Is that strong enough?*) It is so important to get ahead in life – to be able to pay your bills, to take care of children. It's important to make enough money to live. You can make more money if you have a good education.

Arithmetic

(First Five Stanzas)

Arithmetic is where numbers fly like pigeons in and out of your
head

Arithmetic tells you how many you lose or win if you know how
many you had before you lost or won.

Arithmetic is seven eleven all good children go to heaven – or five
six bundle of sticks.

Arithmetic is numbers you squeeze from your head to your hand to
your pencil to your paper till you get the answer.

Arithmetic is where the answer is right and everything is nice and
you can look out of the window and see the blue sky – or the
answer is wrong and you have to start all over and try again
and see how it comes out this time.

- Carl Sandburg

Martha's Story

Mrs. MES is a 102 year-old African American woman who was born in Maryland in 1912. Ten children and two parents made up the family. MES was the seventh child in the family. In 1920, 8-year old MES first attended a public school, in a small rural town.. Later, she attended school in Pennsylvania.

MES describes her first school as a one room wooden building. Multiple grades were taught in the one room. It had a large stove for which boys make the fires each morning. The furnishings consisted of desks, a coat rack along the wall in the back of the room. The lunch pails and coats were kept in this area.

Mrs. MES remembers walking 8 to 10 miles, one-way each day. She also remembers one home that she and other children passed each day to go to and come from school. A parrot was always perched in the window, and whenever the Black children passed the house, the parrot would say, "Here come the niggers; here come the niggers." Other than the discriminatory comments by the parrot, MES said that she didn't know anything about political, social, or economic challenges. The family always had food; they also had farm animals and gardens.

MES took reading, writing and arithmetic at school. Arithmetic included addition, subtraction, multiplication, division, fractions, decimals, per cents, and proportions. In the one-room schoolhouse, the teacher used the black board, pencils, and paper for instruction. She used a book called the Primer. The students were allowed to write in the book, but they had to erase what had been written so that the next child could use it.

MES said that arithmetic was the subject that she liked best. She felt that she could get more from numbers than anything else. She especially liked addition, because it was easier than division.

After the evening chores and dinner, MES made time to do school work. Her father did most of the teaching at home. If school work was done wrong in the book, she had to do it over and over again until she had memorized the content. MES felt very nervous about learning mathematics because her father would stand right over her and watch her do the school work. However, MES saw a benefit in learning arithmetic. MES's father used wood chips and corn kernels to teach her addition and subtraction.

MES believed that one of the benefits of learning arithmetic was to have the ability to count money. She also thought that arithmetic is used in everyday life. It is used from counting money to measuring when cooking.

Realizing that what her four children were learning in school was far beyond what she every studied, MES encourage them. One expression she would constantly say to her children was, “Forward ever, backward never”.

MES earned her GED in 1988 at age 76, and of course mathematics was a major component of the GED exam.

The Interview:

MRL is the interviewer and Mrs. MES is the interviewee (assisted by daughter - D)

MRL: From your questionnaire, I see that your teacher used a blackboard when teaching. How did she use the blackboard when she taught math?

MES: *(No response to this question.)*

MRL: Did you have a blackboard at that time?

MES: Yes.

MRL: Did you have slate boards?

MES: Yes

MRL: How did you use the slate board?

MES: I did alright; I think. Uh, huh.

MRL: Did you have a desk?

MES. Yes, as far as I know.

D: She asked if you had a desk?

MES: A desk? Oh, yes.

MRL: So, you use the slate board at your desk?

MES: Yes.

MRL: Did your teacher call you up to the board to write on the board when you did math?

MES: Some of those things, yes.

MRL: Okay. Did you like math?

MES: Well, Yes. I did what I was asked to do.

MRL: Did you like reading?

MES: Yes. I liked reading

MRL: Did you like writing?

MES: Writing, yes.

MRL: Did you like reading more than you liked math? Which one did you like most -- reading or math?

MES: (*Quick Quiet Laugh*) Oh, I liked both of them.

MRL: That's good to know.

MRL: I saw on your questionnaire that you walked to school. When you walked pass that house where the parrot would say some terrible things, do you think the people there taught that parrot to say those things?

MES: I think so.

MRL: You think so?

MES: Uh, huh.

MRL: Okay. How did you feel when you heard that parrot say that?

MES: I felt that I was doing good.

D: No. How did you feel when you heard the parrot calling you names when you would walk pass the house?

MES: Oh. (*Laughing*) Oh, my goodness! I don't know how I felt.

MRL: It probably wasn't a good feeling, but . . .

MES: No.

MRL: Those were some not-so-good times then.

MRL: Were you encouraged to do well in school?

MES: When I was at school?

MRL: Did anyone encourage you, like in your family? Did your parents tell you that it was important to do well in school?

D: Did they encourage you - your mom and your dad?

MES: Oh, yes. Sure!

MRL: Did they encourage you more in one subject than another?

MES: No, not too much.

MRL: Did you teachers encourage you?

MES: Yes.

MRL: Did anyone besides your teachers or your parents encourage you about school?

MES: Yes.

MRL: And, what about in math? Did anyone encourage you to do well in math?

MES: Yes.

MRL: I'm not going to take a lot of your time, but I'm going to ask you a few more questions, okay?

D: Was it your older sisters who encouraged you to do good in math?

MES: Yes. Uh huh.

MRL: So, you had older sisters?

MES: Yes.

MRL: Okay.

MRL: In the questionnaire, you said that you used wood chips and corn kernels to learn math. Can you tell me how you used those? What did your teacher have you doing with wood chips and with corn kernels?

D: Did you teacher have you using the wood chips or was that your dad? When you were home...? With your addition - when we were talking about addition?

MES: Well, my father was always at me about my work?

MRL: Okay.

MES: Uh huh.

MRL: So, that was your father who helped you by using wood chips and corn kernels?

MES: Uh huh.

MRL: That was great! So you used them to learn addition maybe, and subtraction?

MES: Yes.

MRL: Okay. So, your father was your teacher at home?

MES: Yes.

MRL: What did your father do? What kind of work did your father do?

MES: Well, he worked on the farm.

MRL: Okay. Was he more like a sharecropper, or did he have his own farm?

MES: *(Response not understood)*

D: Sharecropper? Did he have his own farm, or did he work on somebody else's farm?

MES: Yes, he worked on somebody else's farm.

MRL: My grandfather was a sharecropper, and my mother too, as a child. So, I understand about that.

MRL: So, he used what was right around him to help you learn math. Right? He used the wood chips and the corn kernels.

MRL: I going to ask a few more questions. I really appreciate you doing this, because you are like a treasure to me *(regarding this project)*. So, I really appreciate this.

MRL: Did you use math after you were an adult, and how did you use it in your life?

MES: Uh huh.

D: Did you math after you were older, and you became an adult. Did you use math? And, what things did you do in using it?

MES: I did some things. Yes, counting money.

D. She used to help with treasury – money at the church.

MRL: Treasury duty? She was the treasurer at church?

MRL: Okay. Did you work outside the home, at all?

D: Oh, yeah; she worked outside the home.

MRL: I am trying to see if maybe there was some math that she used in her work.

D: Well, she started out working as a housekeeper for different families. And, what year did you go to H. Hospital, Mom? What year was that?

MES: Oh, my goodness!

D: 1940 something?

MES: Uh huh.

D: Would that be about 1945, or so, when you went to H, Hospital?

D: She went to a state hospital – H. State Hospital and worked as an aide. She started out in housekeeping there, and she went on to be an aide.
(H. State Hospital was originally a tuberculosis facility in the early 1900s and then later on a facility for the developmentally disabled.)

MES: Uh huh.

MRL: Okay. This is my final question, because I know that you are about to eat.

MRL: Did you encourage your children in the area of mathematics, and what did you tell them about it being important?

MES: Yes.

MRL: You encouraged your children. What about your grandchildren? Have you encouraged them in that area.

MES: Oh, yeah.

MRL: Why did you encourage them?

D: She said, “Why did you encourage them?”

MES: I wanted them to go along and do better than I had did.

MRL: You wanted them to do better than you had done?

MES: Yes.

MRL: Well, you know, I appreciate you talking to me. I appreciate you clearing up about the wood chips and corn kernels, because that what we do today with students, but we don’t use wood chips and corn kernels. We use other things, but the principle is the same. I really appreciate it.

MRL: Thank you for spending a little time talking to me further.

Learning to Count

(Classic)

One, two – buckle my shoe,

Three, four – shut the door,

Five, six – pickup sticks

Seven, eight – lay them straight,

Nine, ten – a big, fat hen.

- Rose's Recitation

Rose's Story.

Mrs. RVR is a 99 year-old African American woman who was born in Georgia in 1915. She was the oldest of seven children. Mrs. RVR noted that aside from illness for a while, she did not experience economic, political, nor social challenges which served as a barrier to attending school. She attended the county training school, which is listed on the historical registry for Rosenwald Schools in the State of Georgia. Her father was born in 1888, and her mother was born in 1890. Both were born in Georgia.

The Interview

MRL: Can you describe for me how it was to be an African American child, being born in 1915, and growing up in the years that followed?

RVR: I enjoyed my life. I had a wonderful life. You want me to tell you how many sisters and brothers I had? I told you that, though. We lived on a farm. It was seven of us. I am the oldest of the seven.

MRL: What kind of work did your family do?

RVR: They were farmers. They had a plantation.

MRL: So, your family had a plantation?

RVR: My mother and father owned 350 acres of land.

MRL: They had people working for them?

RVR: Yes. We had a log cabin. (*counting*) One, two, three. . . more homes on that one plantation. And, a log cabin, no three more homes. A log cabin, and (*counting*) one, two, three more homes.

MRL: Could you tell how your day went when you were a child? What your day included?

RVR: You mean from a little girl? From a little girl, when I was seven years old, my brother and I played together, because I was four years older than my little sister and a year and a half older than my oldest brother. So, the two of us played together. We did everything together. We cracked hickory nuts. Well, my mother would crack them then. But, we would pick them out with a hairpin, from her head - a big hairpin. We didn't have no nutcrackers. She would crack them with the hammer, and they would sit down and pick them out with a hairpin and eat those.

MRL: Can you describe your school setting? How your school looked?

RVR: When I first went to school, I had an adopted sister; she was my mama's sister's daughter. Her mother died in child birth. She gave the little girl to my mother. I think mama said she was nine years old when she gave her to them. I don't know exactly, but she was a little girl. My mother and father took her in, and she was like the oldest child. So, the first thing I knew about my own self, and my brother was a little boy. They say that I don't remember this, but I do. Back there then, they chewed up the meat and gave it to the baby. They were "yelling" babies, like a year old, You didn't have teeth to chew your own meat up. I never would eat it. I remember that. I would shake my head; they laughed about it. And the first thing I ever remember eating in my life as food, were some Post Toasties cornflakes with a banana in it. My aunt came there from Massachusetts, and she brought these Post Toasties for me when my mother was lying in bed with my little brother. And, she told my adopted sister to go down in the kitchen to feed me. We had a log cabin, the first house we lived in, the second house. She took me down the breezeway to the kitchen, and she gave me those Post Toasties. She poured it out in a bowl, and she put a banana and it kind of popped when she poured it in there. I thought that was the best thing I had eaten in my life. And, I remember that, and I am a year and nine months older than my brother.

MRL: So, let's go to your school. How was your school arranged, and how did it look to you?

RVR: My adopted sister took me to school with her when I was about. . . I think I was about five years old, but we didn't go to school until we were six. And she took me in a buggy with a horse. Her father owned a whole lot more than my daddy did. They were called wealthy people, those people, because the daughter was the first one going away to college from our community. She was a teacher there teaching. So, she took me to school with her every morning. I would sit there in the room not doing anything. But, when I first went to school, I went with my adopted sister. We had to walk four miles. But, I didn't walk that far, because they let me ride with the teacher in the buggy.

But, we had a four-room classroom or schoolhouse with four different rooms in it. But, I was a little girl and I was in what they called the primer – the book? It was before "Baby Ray". My other little sisters and brothers had books about "Baby Ray". They studied "Baby Ray", but "Baby Ray" was after my time. The Primer I read in; but my spelling book, I think it was green on the back.

MRL: So, when you said "Baby Ray" - was that the name of the book?

RVR: Baby Ray went to school; Baby Ray went . . . ; Baby Ray did this; Baby Ray did that. Everything was Baby Ray! That was what my brother, my other brother

learned, because he was born in 1922, and like that. But, my book was called a primer.

MRL: Was that the book you used for reading.

RVR: That was their reading book; I can't remember the name of my reading book.

MRL: Did you do a lot of writing?

RVR: We printed then. But, we didn't do no cursive writing. I still can't do cursive writing. We just printed.

MRL: When we get to learning arithmetic, what did you use to learn arithmetic? What books and materials did you use?

RVR: We had an arithmetic book, but I can't remember the name of it. I forgot what the name of the arithmetic book was. But, one of them seemed like it had a brown back on it; I think it did. We had numbers to do. Like one, two. Oh, it was . . .
(*Repeating the rhyme*)

One, two – buckle my shoe,
Three, four – shut the door,
Five, six – pickup sticks,
Seven, eight – lay them straight,
Nine, ten – a big, fat hen.

That's how we learned to count to ten. (*Repeating the rhyme faster*)

One, two – buckle my shoe,
Three, four – shut the door,
Five, six – pickup sticks,
Seven, eight – lay them straight,
Nine, ten – a big, fat hen.
Eleven, twelve . . .

That's how we learned to count. They didn't want us to count on our fingers. So, that how we learned to count. Some of that comes back to me.

MRL: Did you use anything besides paper and pencil?

RVR: There were penny pencils.

MRL: Oh, pen and pencil?

RVR: No, penny pencils. The lead was in the wood. Not no metal around them like they have them now. There was not strip around it. It was lead in the wood. You

could erase with it about a dozen times, then the erase would jump out of it. You had to be very careful erasing anything.

MRL: So, you had the paper, and you had the pencil . .

RVR: And, chalk boards and slate boards. We had a little slate board, something like a big composition book. The slate board – you could lay it on your desk and write on that. We had what we called “rough paper”. It was brown sheets of paper with lines on it. That was the paper we used.

MRL: How did you feel about going to school?

RVR: I loved school. I always loved books. I could read I was one of the best readers we had at school. I was a great reader. I still can read real good. There no many things that you can read that I can’t read in regular reading. I was a great speller. Reading and spelling; math was my hardest subject. I never did like math.

MRL: Let’s not talk about reading, writing, and arithmetic yet, but how did you like the other subjects that you took? Were there some subjects that you liked better than others?

RVR: You mean besides reading and math? I liked history. That was one of my main subjects. I did real good in history. I didn’t like English to much because of that Mac Beth stuff. I couldn’t do too much with that. But, I liked all kinds of books. I liked geography; I liked history; and I liked some English. But, math was my hardest subject.

My father had me working out a bale of cotton one night. (*The cost of a bale of cotton.*) I had to stay up all night until I got it right. He said, the bale of cotton weighs 500 pounds, if you get 11.5 cents per pound, how much does that come to?” He wouldn’t let my mother help me. She went to the seventh grade, I think. She could work it. He could too, but he went to the third. I couldn’t work it! I was in about the third or fourth grade, and I couldn’t work it. He made me stay up until I could work it.

Can you work it?

MRL: 500 pounds at 11.5 cents per pound? That would be \$57.50.

RVR: That sounds like it. He wanted me to tell how much he would get for that cotton. He was a great farmer. He got about 13 bales of cotton a year.

MRL: So you stayed up all night figuring that out? What happened the next day?

RVR: I worked it out, and then I went to bed. It wasn't day yet; I got to sleep a little bit. I had to get up and go to school that next day. He made me work it out.

MRL: He (*your father*) stayed up with you?

RVR: No! They went to bed. We had to study our lessons in their bedroom. Mama had two beds in their room with a desk with a roll top on it. That's where we studied our lessons every night. When you finished your lesson, you tidy up, put your books on the desk, stack them up neat, then you went to bed.

There was nobody up but me. We burned a lamp all the time at night, a kerosene lamp. You'd put coal oil in it and put it on the mantel piece. But, they were in the bed.

MRL: So, once you figured it (the arithmetic problem) out, then you could go to bed?

RVR: I worked it out before day, so I got a little sleep before I had to get up and go to school the next day. They made me work it out.

MRL: So history was a subject you liked?

RVR: Which ones I liked?

MRL: Geography, you say you liked?

RVR: I liked history, geography, reading, spelling and writing – reading, writing, and arithmetic - those were mine. I didn't liked math too well. My whole job, I had to work with figures (*numbers*). You see what I'm saying?

MRL: Yes.

MRL: So why did you like reading and writing and those other subjects. What made you like those?

RVR: I guess I was just born with the gift. My daddy and mama always said that I was born with the gift.

When my daddy went to town to get our books, he had to go to the courthouse and get our books for the year? When he brought the books back, like my brother and sister were under me, I read everybody's reading book before I went to bed that night, maybe one or two books. See, I have read my Bible through six times since I joined the church. I read it six times from Genesis to Revelation.

MRL: Why do you think you didn't like arithmetic?

RVR: It seemed hard to me. I couldn't get too much sense out of it. My daddy was a whiz in it, and he finished third grade. My daddy just looked up and could tell you the answer in a few minutes. Just like that bale of cotton. I don't know why I didn't like math. I never did. My husband was good in it. He could do algebra and geometry when he was sick. He died when he was seventy years old. I just didn't like it. I don't know why. I always wanted to be a Home Economics teacher, because I started cooking when I was fourteen years old. I cooked for a plantation, and I just never figured that I would need a whole lot of math. I always thought I would need my own nursery and sewing machine. I needed all that (*math*), but I didn't realize that.

MRL: So, you realized later that you would need math for cooking and sewing.

RVR: I would need some, but I didn't think that I would need a lot for that. I found out that I did in later years.

MRL: What did your parents believe would be the benefit of going to school?

RVR: My dad said that we would need it to make a living. He always said that reading, writing, and arithmetic is what we would need to make a living - reading, writing, and arithmetic. He said you need to go to town, to school and to church. Experience something in life. He believed in education. Both of them! Both of them! (*referring to both parents*)

MRL: You were encouraged to do well in school?

RVR: Oh, yes. I was the first child at home to go away to school. Out of all the children in the County, I am the first, I'd say the first Black child, to go to school - away to school, at home. Now the man I told you was wealthy rich, his daughter had been away to school when I was a little bitty girl, before I started to school.

MRL: Was she African American?

RVR: Yes.

MRL: Did your teachers ever encourage you regarding school?

RVR: Yes. One teacher wanted me to take music. I took piano lessons for a little while. But, I didn't like. You know you had to know - "All cows eat grass." And, "good boys do fine always". That was lines and spaces. We had an organ. I didn't like it. I didn't like that too much.

MRL: Was she the only teacher who encouraged you?

RVR: Ms. M encouraged me. Mr. S encouraged me, Mr. B encouraged me. And, I can't think of some of the teachers. And Mr. S was my music teacher. Mr. P was my geometry teacher. Mr. P, he knew I didn't like math. And the minute I would walk in the room, he would say, "R, go to the board and work this equation." I just couldn't. Oooh! I just didn't like that. But, I could do it like I told you on that paper, I could do it, but it was hard.

And spelling bee – we had a spelling bee. I thought that I could out-spell anybody. Now that was something I could do. I can still do that good. I can really spell. And, I thought I was going to stand at the head of another class that came from another town, like you compete? I thought I would stand longer than anybody. Guess what I sat down on?

MRL: What?

RVR: Government, the word – government. I could spell Czechoslovakia, Yugoslavia, any of those. Mediterranean, and all of that. And, I sat down on the word – government. And, what hurt me so bad was that my brother out spelled me. And, Little R thought that she could out spell anybody. I was the greatest speller. And, I still can spell good. My penmanship is getting bad now, since I fell the last time and broke my finger. But, I still can write with it; you know it's legible. But I use to could write, but I couldn't do that cursive writing.

MRL: Aside from your parents and your teachers, did anyone else encourage you about going to school.

RVR: My mama's oldest sister, not oldest sister. Her sister, P... Mama had never seen a mother. But her sister, P, was nine or ten years older. She helped me to go away to school. She was the one who asked me. I was out at the pump well one day, and she asked me if I wanted to go away to school. She said you never work in the field, and you are just here cooking and all that. She said, "What do you want to do?" And, my daddy said, "What do you want to do?" He said boys and books don't mix. He said, "Do you want to go away to school?" I said, "Daddy, you know I want to go." I was never boy crazy. And, I said I want to go away to school. And, he said if you want to go, I'm going to send you. And, I was a happy little girl. I had prayed about it. I had always been a great prayer, from a little girl.

MRL: Were you encouraged more in reading and writing than you were in math by teachers, parents, and others?

RVR: I tell you, I did not like math at first. I knew I had to have it. So, when I went to this job to fill out an application. I really wasn't planning to work nowhere. But,

the man sent for me. My sister said he needed somebody. And, I just went and fill out the application, but I wasn't planning to work at all. But, after my husband got sick, and they ask me to come, I went.

And, all of my work was with figures and numbers. And, before we got that robot thing, where you count it on a machine and take it off; you had to take it off by hand. Because, I had a calculator and all that I had to work with. I really had figures to work with. Every isolation gown, every scrub suit, towel, everything that came in, all towels and washcloths – all my work was with numbers.

MRL: So, you had to do a lot of inventory?

RVR: Yes, I had to do a lot of inventory!

MRL: What other schools did you attend after primary school?

RVR: What you mean, when I finished school at home?

MRL: Yes.

RVR: I went to Fort Valley. It was called Normal and Industrial College. That's where I met J (my husband) on the campus. He boarded on the campus, and I lived in the city with a lady who boarded school girls. Normal and Industrial College! Now they done changed it to a university. Now it's a state university State. I got a cousin; he was the dean of it. But, he just left. I don't know where he is right now. But, he was the dean of it last year, and the year before last.

MRL: Aside from school, when you had math there in a formal setting, did you ever go to a church school?

RVR: We did. The school house caught afire one day. And, my daddy came as fast as he could, and said, "Run children; get out of the building." And, we got out. That was when we had that four-room, schoolhouse, and the teachers had a dormitory. And, a girl and I would go to warm the food there just before lunch time to the cafeteria, or whatever they called it. What do they call that?

MRL: A lunchroom?

RVR: The teachers' quarters.

MRL: A lounge?

RVR: No, it was a building, next to the schoolhouse. They built that back there. But, the schoolhouse caught afire. We were going to school in a regular schoolhouse. I never went to school in a church but about six months. But, that was a Methodist

church. The only reason we were in there is because the school caught afire. We had to go there until they built the school back. And, when they built it back, they made it more modern. We still had our different classrooms. But, they had a dormitory there for the teachers. They lived off of campus; I mean, it was on campus, but it was, you know, a home where they stayed.

MRL: How many teachers were there?

RVR: Mr. D . . .(*counting silently*). It was four teachers, I believe, and the principal. I know it was four teachers and a principal, because he was named Mr. . . .What was his name? I can't think of his name as well as I know. Oh, Professor P. That was the principal. They called him Professor.

MRL: Had you ever heard of the name, Rosenwald Schools, Rosenwald Schools?

RVR: I can't recall. Where was that at?

MRL: Well, they were all over the country, but mostly in the South. This man named Rosenwald, who was affiliated with Sears, built schools in Black communities all over the country. It just sounds like your school could have been a Rosenwald school.

RVR: It was called Early County Training School. The county... They told us... I don't know. I thought Early County built that school.

MRL: Okay.

RVR: That's the county it was in. The county in Georgia.

MRL: Okay. _____County?

RVR: (*spelling the county's name*. And the town was (*spelling the town's name*). That's where I lived.

MRL: Now, I have another question. What math courses or arithmetic courses did you take after you left the primary school? Because I think I saw on your questionnaire that you took arithmetic with adding, subtracting, division, multiplication, and then fractions and decimals,

RVR: And like that.

MRL: And then you said you took a little algebra, right?

RVR: I took Algebra I. And it seems like I took Algebra. One of those, I took Geometry 1 or Algebra 1. And one those was two. Which one of those. . . Do they have Algebra 1 and 2? And, Geometry 1 and 2?

MRL: Just Geometry right now. It could have been Geometry 1 and 2 then.

RVR: It must have been Algebra 1 and 2, right?

MRL: Yes. Yes.

RVR: I took Algebra 1 and 2, I think, and a year of Geometry. I didn't like either one of those.

MRL: Did you take those at the primary school, before you left?

RVR: At the Normal and Industrial College.

MRL: That's where you took it?

RVR: That's where I took that.

MRL: Okay. So, when you were in primary school you took basically the arithmetic?

RVR: I took mathematics – addition, subtraction, division, fractions.

MRL: Decimals?

RVR: What's that other thing? What do you call that other thing?

MRL: Decimals?

RVR: Yes. There's another one.

MRL: Proportions, ratio?

RVR: Yeah. (*starting to spell*) R-A-T-something. I can't spell it now. Ratios.

MRL: (*spelling*) R-A-T-I-O

RVR: Yeah, (*spelling*) R-A-T-I-O

MRL: Did you ever hear about anything called the Rule of Three? The Rule of Three?

RVR: The Rule of Three? What did that mean?

MRL: It's ratio and proportions. But, I have heard some people call it that.

RVR: It's been so long since I had that. But, when I went to math. . . I just didn't. . . When I got in . . . People had to pass classes when I was in college, you know.

MRL: Right.

RVR: And, when I went to college, I didn't know nothing. I had never been to a town. And, I hate to say it, but, I didn't know how to pass classes. You know what I am saying?

MRL: Yes.

RVR: When the gong sounded. I was from the country. I was a little country girl. Weighed 90 something pounds, and was very tiny. I was nothing but hair. When the gong sounded, I saw a girl with a white sweater, and I followed her. I didn't want them to know that I didn't know. I learned from experience. I looked and observed. That's how I learned a lot. Ours was a good school.

MRL: Now, I'm going to focus in. You said that you didn't like math, but do you remember what grades you got in math?

RVR: My lowest grade in math was. . . I never got a D and an F. I think I got a C. But like A's and B's, that was in the other grades (*subjects*) I loved. Oh, in history, I was good!

MRL: Even after you left the primary school and was at F.V., you got C's in math?

RVR: I don't ever remember getting an A or a B in math. I will be honest with you, because I didn't like it. But, I found out that was my main... that's what I should have been, you know, desperate for. All the work I've ever done, I needed math. I needed to know how to read. I needed to know how to write. I can still make out my checks if I have to. I can still do that at 99.

MRL: When you were excelling in reading, writing, history, and all the other subjects and you weren't doing quite as well in math, did you feel any kind of way about that?

RVR: I did. I felt like. . . I had a boy in my class named W. B. at college. He could look up and just give his answer in geometry and algebra look like. He could just look up in the ceiling and look like he could get it from up there. He had worked it while I was putting the equation on the board almost. His was named W.B. He was from some other town. I don't know where he was from. But he sure was a smart man.

MRL: Did you ever feel because you weren't doing quite as well in arithmetic or math that you needed to spend more time or needed to have somebody work with you more? How did you feel about that?

RVR: I felt like I should have been more interested in it when I was younger. That's the way I felt. Because I could read so good and spell so good, I wasn't that

interested in nothing else. I guess back there then when I was little, I thought I didn't need that much math. I guess that's the way I felt. But, when I got older I knew that math would have been the main thing I should have been more interested in than anything, because in all your work you need math. That's what my daddy told me and made me sit up. He said, "You going to need that." He didn't lie. He was a farmer, and he needed math.

MRL: So let me ask you this. What specific jobs did you have after completing your years in school, and how did arithmetic play into that. Or, what were you doing in everyday life where you think you needed math?

RVR: After I finished school, I taught in _____Georgia in _____County for two years. I taught second and third grade. But, I could master that math, you know.

MRL: What did you used to teach math?

RVR: What did I use?

MRL: Yes, when you were teaching your students, what materials and resources did you use?

RVR: I can't remember the books, but they had geometry. Listen to me! No, they had arithmetic. You know just regular numbers and figures. First and second grade, they teach a lot by, like they had different animals and things in that book. They had four chickens here, and six hens, and five ducks. How many ducks? How many hens? You know what they had back then. You had to count whatever was on that page, and then you had to add it up. The math we had wasn't nothing to do; I taught first and second grade, I think.

MRL: Beside paper, pen, the board, did you use anything else to teach math.

RVR: We use a chalkboard (slate board), the blackboard, paper, and pencil. When I taught school, the children had better paper to do things on. When I went to school, my paper was rough paper and the eraser would jump out of that pencil in no time.

And this is something that happened. Daddy gave us so many pencils for so much time – like six pencils for half of the year. But I was so free-hearted, I would always share my pencils with a child who didn't have one. I would even cut my pencils half in two, and give another child half of my pencil. So, my pencils gave out, and he told me that he wasn't going to buy me no more, but I better do my homework. Very strict! My daddy had some lumber crayons. My mama trimmed it for me, and I used that to do my homework – my math. But, that lumber crayon was hard.

MRL: You taught school, so what else did you do that involved math in your work life or in your home life?

RVR: When I got married, I taught my two daughters math; my son too, but I didn't teach them geometry and algebra. My husband did it – geometry and algebra. When they were in elementary and junior high school, I could help them with math. When they started doing algebra and geometry, their daddy helped them. And, he could really help them.

My older daughter was better in math; but the other was better in some other subjects. But they both could do their lesson. My son didn't like math as well, but he was really good with that electronic stuff. Very smart! He could do what he had to do with electronics.

MRL: So when you went out into the world of work, working at the hospital is the first job you had?

RVR: I taught school for two years, and I worked at the hospital. I volunteered at my daughter's school for three years; she was a teacher. I taught reading and math. I volunteer at the hospital in the nursery.

MRL: You tutored in math and reading?

RVR: That's what I did.

MRL: What grades did you tutor?

RVR: She taught elementary school. It was second and third grade, I think.

MRL: At that point you felt confident and capable of answering whatever questions the students had in math, right?

RVR: Yes. Math was second or third grade. I still can do that I believe, right now. I mean I am good at adding up stuff and subtracting. But, I don't know about no algebra or geometry. I probably couldn't do none of that now. I never could do it too well. I'll be frank with you. I just couldn't do that geometry. It didn't make no sense to me. My husband and other people could do it. My husband could really do it until he got on his sick bed.

MRL: We've made it to the last main question. I think we are doing good!

RVR: I don't know. (quietly laughing)

MRL: No. I think so!

RVR: I can't think of that. I know that the Baby Ray book wasn't my reading book. That was my other two brothers' book.

MRL: I'm glad you said that, because when I was doing my research, there was a book that came up a lot. It was called Ray's Arithmetic. So when you said Baby Ray did this and that, it makes sense that probably this was the book.

RVR: That's the book. Like, we would count stuff. We would have so many eggs or so many this or that. And then we learned from it that way when I went to school. And, we had five apples. Five on one side and two on another, and we learned to count by... I would say. . . What do you call that? Figures? If I said I had seven chairs in here, what do you call that when you are teaching math? Objects! I'm trying to say the word, objects. (*spelling*) O-B-J-E-C-T.

MRL: Objects. Okay.
Did your teacher ever take you around the school for a counting lesson, or use any object in the room or bring objects into the room for counting lessons, or was everything taught (addition and subtraction) from the book?

RVR: That's what I was saying. She might have something like... I forget what she might use, but we would have objects and things to use sometimes. Like, you have five apples or ten peanuts or ten raisins or whatever.

But the children I taught. I taught first and second grade in a county in Georgia. It was a regular schoolhouse. And it had four rooms there. It was a beautiful, brand new school building where I taught at.

I took a test that they called First-Grade Life. Have you ever heard of that?

MRL: No. I haven't.

RVR: I took the state board, and that's when I got the license to teach school.

MRL: It was called First-Grade Life?

RVR: State board examination. I think it was called First-Grade Life. You had to have a license to teach. You had to have something to teach, you know.

MRL: Right.

RVR: That's how I taught school.

MRL: We're going to go to this last question. We're almost finished.
I think you have answered the first one. In what ways did you parents encourage you to pursue your education?

RVR: My daddy told me I would need it in life. He said I needed an education in life. That's why he had me working that bale of cotton out.

MRL: He encouraged you to learn arithmetic that way as well, right?

RVR: Oh, yes, he did. He wanted you to learn all of your subjects. He said reading and writing and arithmetic. He told me that was the three basic things that I needed in life. That's what he told me – reading and writing and arithmetic. He said if I had that I could make it. He said reading and writing and arithmetic!

MRL: He didn't put reading and writing above arithmetic. He said they were all important.

RVR: Yes. He said reading and writing and arithmetic. I remember the words he used. He said reading and writing and arithmetic. You will need that in life, Baby, to make it through. I never forgot that. (*Laughing*) I never forgot sitting up all night working that problem

MRL: You had three children. What did you tell them about the importance of education?

RVR: I told them that they would need it in life; just like my daddy told me. I told them I wanted them to do their best. The sky was their limit.

MRL: What did you tell them about the need for mathematics or arithmetic?

RVR: I told them they would need that in life to make it. Whether they got married or not, they would need math to make a living. Every job I have ever had I needed math. I found that out! You see, I thought if I was a home economics teacher. . . but I would have needed math to count my ingredients in cooking; I would have needed math to know how to do my pattern in sewing; Everything you do you need math; there's some math in it. Right now if I didn't know how to tell the time on a clock, with no math I wouldn't know what time it is. You know? Everything has to have some numbers in it. If I hadn't gotten math, I couldn't count my dollar when I get it. I wouldn't know a dollar from a quarter, a nickel from a dime. You know?

MRL: Right.

RVR: But, my daddy encouraged me with that. He always thought that you needed math. I told you he said reading and writing, and arithmetic. And, that's what you need. He said, Don't be no (spelling) F-O-O-L (*Laughing*).

MRL: Did what your parents tell you have a lot of influence on what you told your children?

RVR: Oh, yes. I had a very religious mother. Very sweet parents! And, I tried to teach it to my children. I tried to instill it in them.

My mother was raised without a mother. Everybody don't think that about their own mother, but my mother was superb. She went through a whole lot that look like to me was just. . . I don't know how she knew how to do it being raised without a mother. She had never been to school until she was seven years old. She was picking up wood to put around the pot for her aunt to wash in the winter time with no shoes on. A gentleman asked her, "Little girl why are you not in school?" She said I don't have nobody to buy me no shoes and nobody won't comb my hair. She had long hair like my hair was. It was matted together because it hadn't been combed in so long. He told her, "Little girl, if that's what keeping your from school, I'm going to get you ready to go next week." Mama went to school. She went there a little while, and she could read by listening to her sisters and cousins read. The teacher had some calico material, and the teacher gave a arithmetic problem about the calico material. Mama went to the board and worked it out. The others couldn't work it, and they had been in school. She said she felt like her dead mother was in the picture. My mama was very good in math and everything else. She went to the seventh grade.

Taking Root

The church deacons voted to give an acre
of land for a new school. Space
for a building, playground, and garden.
Land that would have been used for graves.
Now, a seed is sowed instead.

- Carole Boston Weatherford

Edward's Story

Mr. EER is a 98 year-old African American man who was born in Tennessee in 1916. He was the third of seven children, 6 boys and one girl. At age 6, he began the first grade at the primary school. He later attended high school and junior college in Alabama. After completing junior college and college in Nebraska, he received the Ph.D. in Communications at a university in Michigan. He is a retired professor of Greek, theology, and communications.

The Interview:

MLR: Can you describe for me how it was to be an African American child, having been born in 1916, and growing up in the following years?

EER: It is very difficult for me to recall accurately things that happened during the time that I was four or five years old. It was just a natural experience of being ostracized from the Whites. For example, I remember very clearly, we could not go to the city zoo but one day a week, and that was on Tuesday. No children or adults or anyone else was allowed in the zoo but one day out of a week, and that was Tuesday. Of course, you could not associate. Anyway, they had separate playgrounds for White and Black: I can remember that. And they had separate schools. Since I have been able to see the difference, we had inferior schools and everything else.

MRL: What do you mean by inferior schools?

EER: The Whites had all that they needed in enhance and increase knowledge. But, the Negroes had only the minimum. Like reading and writing, teachers would teach you how to read and write.

MRL: So reading and writing was emphasized more than math?

EER: Oh, definitely!

MRL: Can you describe your parents' occupation at that time?

EER: My parents at that time? My father was an athlete. He owned a baseball team, and he worked. I really don't know at the time what type of work he did. But, my mother was a stay-at-home mother; she stayed at home to try to bring us up in the way that she knew how.

MRL: How many siblings were there?

EER: There were six of us from our father before his was killed in an automobile accident. She married again, and we had a sister. And so there were six boys and one girl.

MRL: Did your father have all boys?

EER: He had all boys.

MRL: So he was trying to have a baseball team of his own?

EER: (*Laughing*)

MRL: Going back to the baseball team, was it a Black . . . or a Negro . . .?

EER: It was all Black. Yes.

MRL: Was it well known in the area?

EER: It was well known in the area, but I don't know how far it was out of the area, because he was killed, or he died, when I was around about eleven or twelve years old.

MRL: Do you know how far your parents went in school?

EER: I don't know how far my father went, but my mother, she, must have finished grammar and might have gone one year in high school, but that's it.

MRL: Can you describe your school setting? Can you describe the environment? Can you give me a picture of how it looked to you?

EER: To me, it was a huge, brick building. It was on a main avenue. The name of the school was C. Elementary School. And, our principal was named, N. I can remember the names of some of our teachers. Sister T. was mathematics, by the way. She was the mathematics teacher. What little math that I received, I received from her. And, the teacher that I loved dearly, who taught the formative years from the first and second grade was . . . She was a, a . . . Her name was on the tip of my tongue. I hope it will come back to me. She was the dearest one that I have ever known as far as a teacher. She was sympathetic; she was understanding; she did everything that she could do to prompt intellectual growth during the formative years of students.

MRL: Were all your teachers to this point, Black teachers?

EER: All of them were Black. There were no White at all.

MRL: And your principal was Black?

\EER: Everybody was Black.

MRL: Could you describe the kind of resources you had in your school – like books and materials?

EER: They used . . . No, I think they furnished . . . I am trying to remember this. I don't know if we had to purchase our books or not. But I know they were scarce anyway.

MRL: The books were scarce?

EER: Very scarce! I don't remember any library at all. There could have been. But so far as my memory is concerned, I cannot think of any library books at all.

MRL: Do you remember any books called Baby Ray books?

EER: No. I do not remember any Baby Ray books.

MRL: Another person told me about Baby Ray books, so I thought that I would ask you. So you had pencils, paper, blackboards?

EER: Yes, all of that. All of the essentials!

MRL: Did you individual slate boards on your desk?

EER: We used paper and pencils.

MRL: Did you have desks?

EER: We had desks.

MRL: Were the materials for reading and writing more abundant than the materials for arithmetic?

EER: Well, all of them were scarce.

MRL: How did you feel about going to school/

EER: Well, I really enjoyed going to school. In fact, I liked school very much. A . . . but a . . . (*Quick Laugh*). Oh, I guess I liked school.

MRL: Were you going to tell me something else?

EER: It was enjoyable (*Laughing*)!

MRL: Okay. Among the reading and writing classes that you had to take, were there some that you liked better than others?

EER: Oh, yeah! I liked to read very much. Yes. Reading . . . I didn't care too much for writing, but I liked reading. I tried to be creative. But, for a moment it seemed as if creativity was not part of my forte.

MRL: What do you mean by being creative? What do you mean?

EER: I could do jingles and things of that nature.

MRL: Oh, you mean those things that you did when you were a professor (*Laughing*)? It started back there?

EER: (*Laughing*) I guess it started from then, creativity along that line of inventing concepts and ideas. I was good at that.

MRL: That's good! Let's go to arithmetic or math, were there some classes there that you liked? From your questionnaire, I saw that you took arithmetic with addition, subtraction, multiplication, division, then arithmetic with fractions, decimals, per cents, ratio and proportion, algebra I and II and geometry. You had quite a list, but you said that some of these classes took you.

EER: Oh, yeah.

MRL: Were there some you liked better than others, and why?

EER: I can remember Miss TK. She was my arithmetic teacher. And, my introduction to arithmetic and mathematics started with her. I learned more under her than I did with any other teacher that I had ever taken, because she was dedicated to the idea of getting over and trying to impress upon us the importance of mathematics. And, after that, my concept of arithmetic and math and geometry and all that faded, because I don't know whether the teachers knew it, or if they knew it, they didn't know how to get it over to us and I lost interest. That's really what happened.

MRL: Okay. Did Miss TK teach only math?

EER: So far as I know, that's what she taught. That was her forte. That was her strength, for sure. Whether that was the only subject . . . I think that was the only subject that she taught. That's why she was so good. She made it interesting. And, because of her ability to get it across, I took interest in it. But after her, those that taught in (grades) 7th, 8th, and 9th and all, ever since then, it seemed as if they were just interested in getting through with the class and getting out, seemingly. So far as the concepts were concerned, I didn't grasp the concepts of math as I should have during that time. Most of the concepts that I have of mathematics now are those that I have attained since I've grown up. I bought

books and studied to get the basic idea of algebra and trigonometry. I learned it on my own.

MRL: Miss TK taught to what grade?

EER: I really don't know. I wish I knew.

MRL: But she was your first, formative arithmetic/math teacher, and she did a great job?

EER: She did an excellent job!

MRL: Comparing reading and arithmetic, it seems like reading was your love?

EER: And, that's right!

MRL: Why was reading so intriguing to you?

EER: I don't know, but I always had a knack for words. I liked words. From a youngster up, I . . . By reading I learned the words; I learned how to use them in combination; it taught me how to think. These were the basic reasons for my interest in reading.

MRL: How did you believe the subjects in school would help you later? Let's go back to when you were in 9th, 10th, or 11th grade. When you thought about reading, did you think about it as a bridge to what you would want to do as an adult?

EER: No, because at the time I had no idea about what I was going to do. But I just had a liking for reading. I just came natural to me.

MRL: What about writing?

EER: Writing?

MRL: Did you look at writing as a something that would be helpful later on?

EER: I did not look upon writing as something that would be helpful. As I said, during those times, I didn't know what I was going to do. It wasn't until I was in the 10th grade that I started thinking about what I was going to do. And, I had no father as you know.

MRL: From about eleven years old?

EER: It was between eleven and twelve. I would say twelve. And there was a barber in the city by the name of EH. He took me under his wings. And, he was very religious and very devout, a devout Christian. I learned . . . I could quote the New Testament just like I could quote my ABCs, coming up from him. It was

then that my mind started moving toward the ministry, and of course, reading became a habit with me at that time. I was trying to accumulate and acquire everything that would enable me to express myself with power in the scriptures. And so, this is basically, I guess, one of the reasons why I took to reading so readily.

MRL: I know your father passed away early, but, if you can remember, what did your parents believe to be the benefit to going to school.

EER: Oh they . . . They were very . . . (Quick Laugh). They wanted us to go to school, but they didn't pressure us. I am being honest now. If we wanted to not go to school, we didn't have to go, but if we wanted to go to school, they would do everything they could to support us, as far as I can remember. My mother as I told you didn't get too far in school and education was not one of her strengths. It was when I met EH, the barber, that I became interested in school. When I reached 10th grade, it was then that I went to an academy. That's where my whole-life focus shaped right at the academy.

MRL: EH was your mentor from what grade to what grade?

EER: From 7th or 8th, somewhere around there, after I finished grammar school and on up until I went to the academy.

MRL: So, from about 7th grade to 10th grade, he mentored you?

EER: Yes.

MRL: With that said, with your parents not pushing you, there was really no incentive to do well in your course work. Am I making a correct assumption there?

EER: You understand perfectly! In fact if we wanted to get . . . We didn't know where (Quick Laugh) . . . I think if they had been a . . . If they were able . . . If they had been . . . How shall I put it? [PAUSE] If they had helped us in any way, I think that all of us would have been better off. But we had no assistance from them at all. If we got it, well and good; if not, well you went to school anyway, you can sign your name. That was the attitude.

MRL: Of your five brothers, where did you fall?

ERR: I was number three.

MRL: So, you had three younger brothers?

EER: Yes.

MRL: So your encouragement came from maybe teachers, and not necessarily your parents, but the others, and in your case, that was Mr. H.

EER: Mr. H., E.H. He was my guardian angel, I might say, educationally. And anything that was developed in me, he formulated that idea and desire.

MRL: Do you know what Mr. H. did before he was a barber?

EER: No. I did not know. But, I do know he was a dign . . . barber.

MRL: He was what?

EER: Dignified!

MRL: Oh, a dignified barber! Did he cut your hair?

EER: He cut my hair. Yeah.

MRL: I know barbers back in the day, maybe before him, were considered almost like a surgeon, you know.

EER: Oh, yeah.

MRL: So, he didn't necessarily do those things. He basically cut hair and shaved people, right?

EER: Oh, yeah.

MRL: I am going to shift to him as being your educational parent, because based on what you said he was the one who encouraged you. He encouraged you to do well in school, right?

EER: Oh, yeah.

MRL: Did he encourage you in reading and writing?

EER: Oh, he would have me read the Bible to him. That's why I said when I went to the academy. I knew more Bible than anyone in my area, in my classes. And even above, those in higher classes than I. I was like a walking Bible! I could remember and quote scripture, just as they were written. He took that much interest in me.

MRL: How would he do that?

EER: I would come up after school and everything. I would go to the barber shop and run his errands. I would sit in there and listen to the conversations, and he would have me to read the scripture to him. And in that way, I learned to love it,

because he insisted that I would read. And to make sure that I read, he had me to read it to him. "Read to me," he would say, "Out of the New Testament, one of the epistles of Paul. Let's just pick out one. Look at the book of Philippians; it is very short. Read that to me." After I read it, he would say now, "Can you think of anything he might be saying in there that would have any influence on your life?"

MRL: Wow!

EER: This is how I can up. And really my basic background intellectually came really from him as a source of inspiration. And there was . . . Speaking of him. At the age of seventeen, here's another person that influenced me. In fact, she influenced me to go to the academy. She was PC. She lived over about eight to ten houses from us on the same street.

MRL: This was in Tennessee?

EER: In Tennessee.

MRL: Her name was PC. She was an elementary school teacher. One Sabbath, I was giving the mission story in church, and she sat and listened, and after I had completed the mission story, she said to me, "Boy, you need to be at our school!" I said, "O.! What is O.?" And she said, "That's one of our schools down in Alabama." She said, "I don't think you should be wasting your time here in this town doing nothing; you ought to be there training your mind, because you have potential." She said, "I'm going to see that you get to our school; you start packing your things now." I said, "Well I, I, I . . . well."

She said, "I'm going to speak to your mother; don't worry about that. I'm going down and speak to her." And she talked to my mother. My mother said, "Well, you know; we are very poor and we cannot afford to send him to school." She said, "Don't worry about that I will take care of the finances." For the first year at O., she paid my tuition. Tuition at that time was only \$10 a month. She paid my tuition, and to show my appreciation, I really tried hard to make good grades. In fact, I finished as valedictorian of my class. And a . . . Not valedictorian, salutatorian!

MRL: That was through the 12th grade?

EER: That was up to the 12th grade, yes.

MRL: When you graduated from the 12th grade, you were salutatorian?

EER: I was salutatorian, yes.

MRL: That was at the high school?

EER: The high school.

MRL: And when I finished junior college, two years later, I lacked, I think, three or four points. U.H. was the valedictorian, and I was next to her. And, I found out that my average was just about two or three points below hers.

The only difference, I think between her and me was that she was the secretary of the president, and she had time to go to the library and study. I was the college fireman, and I worked from 3:00 a.m. in the morning until 10:00 p.m. in the evening. And, my job was to keep the buildings warm and the hot water flowing for the students. Otherwise, if I had had more time to . . . , I'm not trying to justify.

MRL: I understand.

ERR: It was just that fact that I really didn't have the time to put in for any library study or any really thoughtful, consecrated study, previous study. But, I didn't have money. As I said, my mother told me when I left, she said . . . I was the first and only one in my family to ever finish college. She told me, "If you go, I will not be able to help you; In fact, I will not be able to send you anything. The whole while I was at college, I don't think I received any; I don't think I received a dollar from my mother. It wasn't that she didn't want to do it; she wasn't able to do it. I had a loving mother, and she did what she could to help me. And, Mrs. C sent that \$10 a month for the first year. I worked my way, not only through the 2-year college, and I also worked my way through a 4-year college.

MRL: Going back to Mr. H., did he encourage in any way about arithmetic or math?

EER: He never said anything about arithmetic or mathematics.

MRL: When you went to the academy, what math courses did you take there? Can you remember?

EER: Algebra is the only math course.

MRL: How was algebra at the academy for you?

EER: It was very good. Teachers that taught at the college also taught at the academy. Our enrollment was less than a hundred. It finally came up to 110 to 150, or something like that, at the college. I started back in 1936, you see. Professor J. was our algebra teacher. He made it so clear that even a, let me say, an idiot could grasp it (Laughing). So I did well in algebra, and I kind of liked algebra, as such, but all the rest of them, I . . . I said to myself . . . I had made up my mind

that I was going to be a minister. And I didn't have enough background or reasoning at the time or knowledge at the time to find out the importance of mathematics, how it would help me as a minister. And so I spent most of my time in history and civics and things of that nature that would help me to learn how to meet people, how to express myself, how to build vocabulary, and all of these things that I know would be helpful to me as a minister. Mathematics was really put on the back shelf.

MRL: Okay. Now I am going to go back to your teacher in primary school. So, she taught you arithmetic?

EER: Mrs. TK!

MRL: And that was addition, subtraction, multiplication, and division.

EER: Yes.

MRL: Fractions, decimals, per cents?

EER: Yes.

MRL: Ratio and proportions?

EER: Oh, yes!

MRL: So, algebra was at the academy. Then you went to junior college, what math did you take and how did you feel about those courses?

EER: Really, to be honest with you, I don't remember.

MRL: And that's a good answer (Laughing with EER). That's a good answer. If you don't remember, you don't remember.

MRL: You went from Junior College and U College?

EER: U. College!

MRL: And that's in Nebraska?

EER: Nebraska.

MRL: Do you remember any math courses that you took there?

EER: I remember the math teacher, but I don't think I took a subject in math the whole time I was at college in Nebraska.

MRL: I know you went into the ministry, but did you have any other jobs to supplement your income or your living while you were going to school that may have involved mathematics.

EER: Well. I started out . . . As I said, I was a fireman. I picked that up at the 2-year college.. And, I really tried to do my best in everything I tried to do. When I went to the 4-year college, they had what they called a central, instead of having individual boilers in each building as they did at the junior college; they had a central power plant. And because of my knowledge with boilers at the junior college, I was made the head student in the Bible class to train all the white students, because it was an all-White college; there were about five Blacks in the college, in Union, when I was there. It was my job to teach all of the White boys how to care for the boiler and to operate the water systems, and everything that goes with that. That was the thing that helped me. And, during the summer, I worked at C. P. Company in Nebraska where I was getting a ‘hefty’ salary.

MRL: You were making what?

EER: I was making enough money to start saving.

MRL: Oh, you were making a ‘hefty’ salary.

EER: Yeah.

MRL: When you were working as a fireman or working with the boilers, and so forth, did you have to look at gauges and read . . .

EER: Oh, yes. Oh, yes.

MRL: So there was some subliminal math there, right?

EER: Yes,

MRL: You were doing some mathematical reading, reasoning . . .

EER: Yes.

MRL: So, there was some math involved in that job.

MRL: You stated that you attended primary school, and I know all the other schools now that you attended. It seems like most of your education, except for that with Mr. H. and maybe some of your on-the-job training, came from a formal school setting, right?

EER: That’s right!

MRL: Were there any other organizations in your community, your neighborhood that sought to provide educational opportunities for students? Like a church or NAACP?

EER: This is what I do not recall.

MRL: After you completed your years in school, you were a minister and professor?

EER: That's right!

MRL: Did you see your arithmetic skills and abilities, come to some fruition or usefulness in any of your work besides the boiler experience? I'm talking about now as you are a professor or a minister.

EER: Oh, yes. In planning for . . . Financial planning can be a very, very important part of math in my experience at that time. And really I wished I had learned more math. I think I could have been more efficient. I learned the hard way. Tried to figure out and reason out how to make ends meet. Which I never believed making ends meet, because it puts you in a circle that you can never get out. But everything I did after that, I always thought about it in relation to mathematics, because you have to have counts of the number of people you baptize; you have to think about tithes; you need math to plan on building construction, and all of that nature. All the background knowledge that I had, I picked up in later life.

MRL: Yes.

EER: As I said, I sent off to publishing houses, and bought these little booklets on trigonometry, and things of that nature, so as to help me to learn how to deal with angles and other concepts (*Laughing*).

MRL: Did your self-teaching . . .

EER: Self-teaching (*Laughing*).

MRL: Your self-teaching has benefited you though, right?

EER: It has benefited me greatly!

MRL: So, you would be one to tell someone that if there is a lack from the formal (school) setting that you can always supplement it from the informal.

EER: Definitely! Definitely! In fact, budgeting! I learned all my ideas on, I knew I was making so much money, and I knew I had to spend so much money to live. And, I tried to determine what I was going to do with that which was left over. Then I had to figure out where I wanted it to go in later life. So that when I

reached the age of retirement, I would be able to live like I was living before I retired.

Mathematics into play! In fact, when I was investing some of my money, I learned of the Rule of 72. The Rule of 72 states in principle: You divide the amount of interest you are making by 72, and it would tell you how much money you will have at the end of the year. From the Principle of 72, I decided that if I invested, for example, \$500, and I multiplied that by 6; it would take me that long to get to double my money, you see. I said, “Well, let me see; I can double my money at a rate of so much per year. If I wanted to, say for 40 years . . . ; when I reached the age of 40, how much money would I have? And from there on, I began to move. And in this case, math was practical to me. I didn’t learn it from books, I learned it from experience. But the basis of math . . . Math was the basic element from which I learned how to do this. When I retired, I have never wanted for anything.

MRL: Well, that’s wonderful! And, you have three children – one daughter and two sons?

EER: Yes.

MRL: Do you have grandchildren now?

EER: I have three grandchildren and ten great grandchildren.

MRL: There’s a mathematical pattern there too, right? Your posterity is increasing exponentially (Both laughing). What did you say to your children about the importance of education?

EER: From the very beginning, when they were born, we taught them at home. We taught them math, reading, and how to reason things out. We told them that in life you cannot make it without an education. So, you want to make sure that you get all the education you can. And, my wife, being a school teacher, taught them the fundamentals of math and all subjects found in curriculum. She taught them everything along those lines.

They did well, because we had three children. Our daughter is a Ph.D. in Education; she was the chair of the education department at one university for a number of years before she retired; she taught at a Catholic university, and other White universities, and the one she chaired was a White school.

My younger son, in grammar school and high school, he led out. He graduated as valedictorian from college. He was an extraordinary student. He graduated from a university in law. He taught law at a university in the western U.S., and he taught

law in the SW. He now teaches law at a historically Black college, and he will probably retire from there. He has written two books in law.

My other son went to college, and he lacked two subjects, for graduation. He has now a business for transporting the elderly in the city.

MRL: It sounds like you and your wife admonished education and assisted as well.

ERR: Oh yes, my wife supplemented the teachers. I can't take any credit for that at all.

MRL: As you and your wife were encouraging your children in education, including mathematics, did you align that encouragement to job-related possibilities in the future, especially in mathematics? Did you ever focus on mathematics?

ERR: I didn't do it book-wise. I did it from a practical point-of-view.

MRL: Okay.

EER: My point was to teach them how to use, how to earn, and how to handle money. From the time they were around 4- or 5-years old, when the ice-cream man used to come, and ice cream sold for 5 cents a cone; we would give each one of them each a dollar. And, we put in change. And, when the ice-cream man came, they bought their own ice cream. And, we gave them enough to last for a week or so. And when that run out and they didn't know how to manage that money to make it last during that time, they didn't get any ice cream.

MRL: When he came and they had no money?

EER: Right. We made sure. So, they learned then how to use and manage their money. We started off by this. I would take a dollar and I would tell them that they should never get in debt if they can help it. But always try, if they were going to use a credit card or anything of that nature, never buy more than they can pay for when the bill is due.

I set off by showing in this manner. I would take a dollar, and I would say, at that time they were charging 33 cents on a dollar. I would take a dollar in change and I would put it on the table and I would just take, or subtract, 33 cents off from that dollar. I would say now if you got credit and you only pay the minimum amount of what has to be paid, they're going to take 33 cents of every dollar that you owe them. You see how fast that adds up. So make sure that in your planning and in your spending, keep in mind, that 33 cents of out of every dollar that you have (Laughing) earned or that you have spent, by the use of that credit card, they are going to take 33 cents out. Whereas, if you pay for it at that time when it is due, you can put that 33 cents back into the money you can use and you should save a

certain percentage. I forgot now the percentage that I told them at that time. IT'S MATH, YOU SEE!

MRL: Right! Right! Right!

EER: You should save a certain percentage of that money that you make. So that when you want to go to college, or you want to go wherever you want to go, you will have the money to do so and will not be in a strain for finance at that particular time. Now, this is how I used math. I used math in a practical way – showing them how they could get ahead, and how they could budget, and how they could save for future contingencies that they might encounter.

MRL: That's a good thing! That's a really, really good thing!

MRL: This question is for clarification. Is this university the only university at which you taught?

EER: No. I taught at a university in Trinidad.

MRL: Could you tell me the positions you held and where you held them after you finished school?

EER: After I finished school, I was in the ministry so, I pastored several churches. And then for school, I taught at the university.

MRL: How many years at the university?

EER: I taught for 37 years at the university.

MRL: What did you teach?

EER: I taught Greek.

MRL: That goes back to those "words," right?

EER: (*Laughing*) I taught Greek, and I wouldn't say Hebrew, because I only taught about a year or two of Hebrew, but I did teach some Hebrew. But basically, Greek for 37 years, and I taught some theological . . . Greek and some courses in theology. And, at another university I taught Greek, theology, and speech.

MRL: Speech? Words, again, right?

EER: Words, again.

MRL: And in the Trinidad you taught?

EER: In Trinidad, I was a radio pastor, and my job was to spread the gospel throughout the island during that time. I did it for three years.

MRL: Was this before or after your years at the other university?

EER: All of this was after that.

EER: I also taught for 14 years at a community college here in Alabama. I taught 14 years, all this was after my retirement from teaching in other places. I taught for 14 years as part-time there.

MRL: What did you teach?

EER: Speech! Words, again!

MRL: Words, again!

MRL: But you did a really good job in expressing the importance of mathematics from the point-of-view of practical mathematics. That was great!

MRL: This is my final question. Let's say you had a group of children sitting around you, and you, with your wisdom and your experience, and you're looking at the way things are today. Looking at a technological world, there are words but there is also the mathematics that is prominent in science and otherwise, what would be your encouraging words to children today as they are looking to the future and having the necessary skills and abilities? What would you tell them as far as education and arithmetic/mathematics are concerned?

EER: Well, to me life is made of a, of whom you are. You would first want to develop character. You develop character by being honest and upright in all of your actions and dealings with humanity. You should think of the good that can come from others by the actions in life that you portray in your demeanor. So then, first of all, you would want to make sure you have good character. You can have good character only by making God first, and best, and last in your experience. Think about things, not in terms of yourself, but of others. And when you try to enhance the good and the best in others, and you seek to bring that out by every means that you can, I think that you will have lived a life that is beneficial and creditable in the world in which we live.

MRL: I agree! I agree!

EER: I don't know whether that's what you had in mind.

MRL: That's good! But, let's zero in a little more. We know that kids have to go to school, right? It is required. As they are going to school, how would you

encourage them as far as giving their attention to education and mathematics and about the importance of mathematics.

EER: Oh! I would, I would . . . I tell the way we do it with my great grandchildren. We work with them, and we buy for them these electronic toys with which they learn how to use math. We buy them electronic toys that teach phonetics so that they will learn how to pronounce words correctly, and things of that nature. We use all the electronic aids that we can find to enhance them. And then we work with them with the little books you can buy in which they learn how to read, to add, and subtract, and things of that nature. This is what we actually do! Then we give them some that would challenge their mind, and when they come to the point where they can't do it themselves, then we can, by example, show them, "Now if you take this here number and place it with this number . . ." You know how you . . . I don't have it before me. In this way, they become confident, and once they become confident, math becomes easy to them.

Let me say this. My little granddaughter is the leading student, and has led all of her classes up to this point in mathematics, in writing, in reading . . . She leads her class in math, in everything. And the reason for it is basically, her mother goes over everything that she studies and things that she doesn't really understand, she makes them clear to her, so it becomes an idea that is crystal clear in her thinking. So, these are some of the things that I really feel are absolutely necessary. You can't do it all, but give them something that will enhance their thinking. All these kids like these electronic puzzles and things like that. Instead of giving electronic puzzles and things like that, get these electronic things that will enhance the study and increase the knowledge in mathematics, and reading, and science.

These are the things that we are doing now. I'm happy . . . It makes me feel good to know that my great granddaughter is the top student in her school, and her sister is right with her in getting the grades that she has. It just trickles down, you see, from the one to the other.

MRL: And what about the importance of mathematics?

EER: It is one thing that . . . How shall I put it? It is one of the . . . Mathematics is a subject that enters into every aspect and phase of life. That is, it doesn't matter if you are buying or if you are selling, or if you are trying to think of any project that you would like to enter into, math is going to come through some aspect of that equation.

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Sharecropping

Six long weeks, down row after row,
me and Junior worked right alongside
Mama and Daddy, picking cotton
till our fingers bled. Finally,
Daddy put the last bale on the wagon
and rode to town. He said our share
of the harvest should pay off
the season's debt and leave money to spare.

Daddy was wrong. He came home
with rock candy for me and Li'l Brother.
but bad news for Mama. We owe more
to the white man who owns the land
than we made selling the crop.
Same story as last year.

After supper, I leafed through
an old Sears catalog. Wishing.
Later, I heard Mama fretting
about the baby on the way.
Another mouth to feed.
I hope it's a girl.

Carole Boston Weatherford

Adelaide's Story

Mrs. AB was a 97 year-old African American woman who was born in Georgia in 1916. She was the oldest of five children. At age 5, he began first grade at church school, an African Methodist Episcopal (A.M.E.) School. Her parents were sharecroppers who worked hard to make a living for their family.

The Interview: (Recorded in 2007 and is being presented posthumously)

MLR: Can you describe how it was to be an African American girl, having been born in 1916?

AB: I was born in Georgia. My parents were sharecroppers. My daddy was a sharecropper since he was a boy; His father was a sharecropper. I was the first born; I was the oldest of five children. I had two brothers and two sisters. My parents worked very hard. Being the oldest, I worked on the farm with my father and my older brother.

My mother's mother was an Indian. My mother's father was African. His parents came to the United States from Africa, and my grandfather was a little boy at the time. He was raised in the United States. I don't know as much about the history of my father's parents.

MRL: What did you do from day to day?

AB: I took care of the farm with my daddy; I milked cows, fed chickens, fed hogs, fed horses, fed mules filled the trough full of corn before we went to school in the winter. I fed the cows in the morning, put them in the pasture, and milked them again when I came home from school.

Brother and I were the only children for a while, so we did most of the work together. Daddy taught us. We knew how to do everything. We worked in the field. We had two mules out there pulling a two-horse wagon. We had a drop box to drop seeds. My brother drove the wagon, and I sat on there with him. I dropped the seeds in the ground from the wagon. Mama never had to go to the field. I was about 12 years old during this time.

We raised corn, beans, peanuts, peas, beets, and other vegetables. We had all the food we had raised in the crib for storage. Some of it was for the animals, and we used some for food. We took corn to the mill to have it grinded into corn meal, then we took the meal to the store to trade for other foods that we needed, like pepper, salt, sugar and baking powder. We didn't have much money, but we had the food that we grew.

In the fall, my brother and I cut down wood for the fireplace for the winter. My daddy would store wood as high as the roof. Great big piles! My brother and I would cut it, and Daddy would split it.

MRL: You had been sharecropping all your lives to this point, right?

AB: Yes, but the only thing that we raised for the cash crop for the land owner was cotton.

MRL: You picked cotton?

AB: Yes. We farmed for a White man, but we had everything we raised, we didn't have to pay for that. He didn't ask for anything but cotton. My father was a sharecropper. We had to pick cotton and get it ready; the owner had a cotton gin.

MRL: You picked cotton before you went to school.

AB: No, we picked cotton before we went back to school in the fall.

MRL: How was it picking cotton?

AB: My daddy had two bags and my brother and I had one each. Mama taught us to pick cotton. We were all in the field – Daddy, Mama, my brother and me.

MRL: So the man had a lot of farmers who were sharecroppers.

AB: Yes.

MRL: Were you still going to school?

AB: Yes. I went to school during the week. I cooked on Sundays. We did the plowing and picking cotton during our break or vacation from school.

MRL: Please describe your school experience.

AB: We had to cross the creek on a foot log in order to get to school. When the foot log got worn down too much, the men in the neighborhood would make a new one. I know how they made it. They cut down a tree and cut the log from the tree that was long enough fit across the creek. Then they would cut all the bark off the top, not the bottom, so we could walk on it. They would throw it across the creek, and straighten it out so it would go straight across there. After they did that, they nailed a hand pole on the log on one side. Not two, one, and I could walk that log.

MRL: So this was a rail that went all the way down the length of the log?

AB: A rail that went all the way down that log. Anybody could walk it.

MRL: Please tell me more about going to school.

AB: Well, I'll say this. When I was a little girl, 5 years old, I went to school for the first time. I had a lunchbox with the handles that go together. The other children had a syrup bucket. You put all the food in it and pour syrup on it. Mama wrapped mine; they didn't like it. They would say, "Why your mama got to wrap your lunch like that? Look a here, she got cake, pie." That's the way mama cooked and fixed it.

MRL: They looked in your lunchbox?

AB: They threw it on the ground, and I couldn't eat it.

MRL: Was this before school or during school?

AB: Before I got there. It was right around the corner from our house.

MRL: Did you go back home or did you go on to school?

AB: I went on to school with dirty food.

MRL: So you would go to school with dirty lunch?

AB: Sand all in it! Mama had it wrapped nice. When they threw it out, it would come out of the wrap. Just throw it on the road.

MRL: So you were able to eat at school?

AB: No, there was dirt all in it.

When I went to school Mama made my dresses, navy blue, and she put rickrack around the bottom of – red! She sewed; she didn't buy clothes. She made Brother a shirt. She couldn't afford that. But she sent us to school dressed up; that's the way she sewed.

The second day, the big girls threw me on the ground, tore my dress, pulled off my shoes, and threw them.

MRL: What kind of shoes did you wear?

AB: Well, high-velvet top with button sides and patent leather bottoms.

MRL: Who were these children?

AB: My distant cousins and children around my home said they were going to push me off the foot log with a hand pole on it. And then they wanted to drown me. They kept telling me that's what they were going to do.

They got mad and talked about Mama and talked about me and said, "I'm going to kill her." They told me that. They said, "This morning, we're going to push off that foot log." And the water was very deep where the foot log went across. I got scared. I thought if they kill me in that water; it was rushing over rocks; I won't be here no more. I always had sense. I got scared.

MRL: Were they older than you?

AB: Oh, yea! They'd hold their little sisters' books and tell them to push me in the creek! Those little sisters didn't know what they were doing.

MRL: So you walked to school?

AB: I walked with them. We were kinfolks.

MRL: Did that happen every day?

AB: Yes, for the first couple of days.

I think about it sometimes; and I think, "What have I ever done to anybody to do me like that then." They were against me the first day I went to school. I finally went home and told my mother. That's what saved me!

MRL: What did your parents do?

AB: My daddy asked, "Why the girl ain't going to school today?" Mama said, "She said she's scared." He said, "What's she scare of?" I said, "Daddy, those children said they're going to drown me." My daddy talked to their family about the situation. And the next day, they tried to do it again. Later, I said, "Daddy, they ain't going to stop; let me stay at home with you." My daddy said, "Oh, no; they're going to school, and you're going to school." He just walked out.

And I get on there. . . . And when I went. . . . I couldn't go to school no more. I told my mama and daddy that they said that they are going to kill me. My daddy, he just couldn't take it. He went in the woods and stayed about an hour. We didn't know where he was. My mama said, "He left out of here. Where is he at? He ain't got back yet. I just kept looking. And then he came back. He said to my mother, "I got the answer." I said, "What is Daddy talking about?" Mama said, "The answer to what?" He said, "I went and got on my knees down in the woods. And I prayed, and I prayed, and I cried. Why do they want to kill my first child?" He said again, "I got the answer." I asked my mama, "What is he

talking about?" She said, "Your daddy said that he's got the answer." I said, "What does that mean?" She said, "That means he done prayed and done took the mule and went to the school to talk to the teacher."

Daddy went to the school before he talked to Mama, and he talked to the teacher. He asked the teacher if he could send my brother to the school with me. He wasn't going to school, because he wasn't old enough. My younger brother just sat on the bench with me. He wasn't old enough; he was almost 4 years old. I had turned five, so I was going. I got so scared. I thought, "What is death like? What do they mean they're going to kill me?" It worried me so that I told my mama. It saved my life.

And Mama dressed Brother up in a suit with a felt hat. What he wore to church, a two-piece suit. And his shirt had little bitty cuff links. That's the way we used to go to church.

MRL: What did the children do when you brother started going with you?

AB: They didn't touch me no more. I didn't have anybody to go with me. They were so mean. They'd throw out my food like that; tore my dress that Mama made; take something a stick me in the back and tear my coat; the big ones would throw me down, take my shoes and throw them.

MRL: How old were these children.

AB: Some were almost grown.

MRL: What did you study in school?

AB: Reading . . . You know what they say . . . The three R's . . . reading, arithmetic, and writing. I loved to study what I had.

MRL: Was your teacher White?

AB: No, she was Black. He name was M. D. She taught my mama and my daddy, and she taught us. She was a teacher, boy! She taught the whole school, and it didn't matter how big those boys were, she handled them. She taught me from third grade to seventh, when I graduated as valedictorian.

MRL: When did you go to school?

AB: About four months, but by mid-summer we were out, before fall. That's when we started cutting our winter wood and stocking.

MRL: Did you go to school in the fall?

AB: I was out of school then.

MRL: How many days a year did you go to school?

AB: Every day, just like they go now. Then we had a vacation during the summer months. Then we'd back and gathered the crops, and lay it by.

MRL: So when you had to do all that, you didn't go to school?

AB: Yes, I did. My brother and I walked to school.

MRL: Across that creek?

AB: Yea. That's where I almost drowned on the first day.

MRL: So what other kind of things did you do?

AB: Everything!

MRL: What is everything?

AB: We walked to school – 4 miles to school and 4 miles from school. I carried my books in a belt, and the belt was tightened around the books, and I didn't drop one book while walking. In our schooling, we didn't have nice white paper. We had what they called, "rough paper," a pencil, blackboard, and chalk. No pen, no typewriter, nothing.

When we walked to school when it was cold, you felt like you were freezing. When we got to school, we were numb, because it was so cold outside. I got there one day, and I pulled my shoes off, and my feet hurt like a toothache. Our teacher told us not to pull off our shoes to warm our feet, because our feet would ache badly; your feet warmed too fast. The teacher told us to sit way back from the potbelly stove to warm up. She already had the room warm. We sat on the benches in the room and warmed up and felt better and then we would go to class.

Every class from first grade to seventh grade was in that schoolroom - a great big room. It had a section for every class, and one teacher teaching. She would teach that little young class first; then she'd come to the second, third, fourth, fifth, sixth, and seventh grade in seven sections of the room. It was a pretty white school, and the same stove would heat the whole room.

MRL: Was it part of a church?

AB: No, it was a school house. It was right behind the church. My daddy was buried right next to the school house.

MRL: Was it affiliated with the church?

AB: Oh, yeah.

MRL: What was the name of it?

AB: C.G. AME School. That's the church name. My daddy is buried right where the school was, with the church in the front.

MRL: So AME means African Methodist Episcopal?

AB: Yeah. Nothing went there but colored folks.

MRL: What about your books?

AB: The first reader had a girl on it with a fan. It was our primer. This girl was on all the rest of the books. We wanted to see what they said about this part, and this part.

MRL: Were the books different colors for each of the grades?

AB: She got bigger, and she wore different clothes, but she had the same fan. We were interested in that book. They don't use primer no more.

MRL: Not the same kind, but they still use beginning readers.

AB: I wouldn't know.

MRL: So what did your day consist of in the classroom?

AB: When we got there, we'd go out for lunch at 12:00. Go back and stay until we were ready to go home; then we walked home.

MRL: So you did your reading with your primer. What else did you do?

AB: You know what they used to say back there – reading, writing, and arithmetic – those three R's. If you got it right and made a grade in it, you had everything you needed. Now, I know that! That's how I went to higher grades.

MRL: You mentioned that you graduated as valedictorian of your class. Can you tell me more about that?

AB: By the time I graduated, I was 17 years old, but I was in the 7th grade. I was valedictorian of my class. My daddy didn't have the money to send me away to school with the rest of them, to college. It's there now. I had said my speech. Two girls were the salutatorians, and they went to college. They said, "Your daddy can't send you to school; we're going." They went.

My daddy wasn't able to send me. He went somewhere then, and he came back to the house. He called me. He said, "AB, come here; I got something I want to talk to you about." I didn't know what it was, but I knew we didn't have no money. He said, "Don't think that I'm trying to hold you down; it's just no way in the world that I can come up with your tuition. I said, "Daddy, don't cry; I'm going to be alright. He said, "Yea, but you are so smart, and they can send their children and I can't send you. It hurts me." I said, Daddy, why don't you quit crying; it ain't that bad; I know you will do what you can when you are able." So he sat there and looked at me. He said, "I reckon I'd better stop crying, because my own child asked me to stop crying." He told my mother that he didn't want to cripple me. Mama didn't say nothing, because she knew what I could do. She checked my papers herself. I made straight A's. I have my diploma right now. My diploma said on it when I graduated, who the teacher was, and who was the president of the school. He signed it.

My mama's oldest sister, Aunt S. made my graduation dress. She went to town and bought white crepe paper. She made my dress and cap out of the crepe paper. She could really sew, and Mama let her make it. That's the dress and cap I wore at the graduation

MRL: What did you do after you graduated from 7th grade?

AB: My daddy told that man that his children wanted to leave the farm. I was seventeen. I told Daddy, "I ain't working out here picking this cotton no more." Not long after, we moved to Lincoln Park. It was built new for Blacks. Lincoln Park is what you called a Negro place.

MRL: Were there Whites around you?

AB: No

MRL: Tell me about when you moved off the farm where your family sharecropped.

AB: My daddy told the owner of the land where we were sharecroppers that we wanted to move off the farm. He agreed to allow us to move off the farm as long as our family picked and packaged the cotton for the cotton mill for that year. We did all the work, so that we could leave the farm.

We moved to a new house. Daddy's school classmate, who was a funeral director, built a house for himself and my daddy. There were some people who continued to be sharecroppers, and they were jealous that we were leaving the farm. We had always lived in farm houses. Someone told the owner of the land that my daddy stole cotton from him.

My daddy bought a brand new T-Model Ford. Some other sharecroppers told the owner of the land that my daddy took his cotton and sold it to get money to buy the car. They lied on my daddy.

MRL: How did you get the money to buy the T-Model Ford?

AB: We saved it over a fifteen year period; we threw loose change that we had in the stair steps in the hall when we lived on the farm. We saved dollars and quarters until we had \$500. Then we counted it. I put 10 dimes together to make dollars.

MRL: Daddy died after we moved to our new neighborhood. Mama and I washed and ironed clothes for the White people who worked in the cotton mill in S-town. S-town was an all-White community. I washed and ironed clothes for 18 families each week. We had a box for each family. We used three kettles to wash clothes, hung the clothes on lines outside, and ironed them from charcoal fires. We made the soap for washing the clothes. We made \$1.00 per box of clothes; so we made \$18.00 per week; \$72.00 every month.

We didn't have any welfare in our area for poor Black people. The welfare went to the poor White people.

MRL: It sounds like you worked really hard?

AB: That's the reason I study so much now. It was a learning experience for me.

All of my experiences taught me how to live. I didn't have to pay for very much in the South, but when I came North, I had to buy everything.

Arithmetic

(Last Four Stanzas)

If you take a number and double it and double it again and then
double it a few more times, the number gets bigger and bigger
and goes higher and higher and only arithmetic can tell you
what the number is when you decide to quit doubling

Arithmetic is where you have to multiply – and you carry the
multiplication table in your head and hope you won't lose it.

If you have two animal crackers, one good and one bad, and you
eat one and a striped zebra with streaks all over him eats the
other, how many animal crackers will you have is somebody
offers you five six seven and you say No no no and you say
Nay nay nay and you Nix nix nix

If you ask your mother for one fried egg for breakfast and she
gives you two fried eggs and you eat both of them, who is
better in arithmetic, you or your mother?

- Carl Sandburg

Annie's Story

Mrs. AR is a 95 year-old African American woman who was born in Florida in 1918. She was one of eight children. At age 6, he began the first grade at the local elementary school. Later she attended two different high schools in the area. She earned a Bachelor's degree at a college in Alabama and later a Master's degree at a university also in Alabama. .

The Interview:

MLR: Can you describe for me how it was to be an African American child, having been born in 1918, and growing up in the following years?

AR: Well, really growing up, we were not involved in a lot of things in the town. We lived in the rural area, three miles from the city, and the city was a small town. There were no street cars or buses that we needed to be concerned with sitting in the back or whatever. When I was about 7 years old, my parents bought a car, and we rode in the car wherever we needed to go. And we also owned a buggy, and we had one horse at one time, and then we bought two more horses. So, we had three horses, a wagon, a buggy, and a car.

MRL: What kind of car was it?

AR: It was a T-model Ford. And it didn't have glasses that you wind up; you had a type, well it wasn't called plastic then, but it was a heavy type plastic, and when it rained you snapped it in to cover yourself from the rain.

My first school was in a church.

MRL: And it was in a rural setting? A church in a rural setting?

AR: Yes. The county didn't furnish a building, but if you furnished a building, they would give you a teacher. And the teacher might have finished high school and she might not have. Some of my teachers had not finished high school. And, of course, the school term was four months, and at the end of four months . . . I remember in second grade, my mom put us all in the car, and we rode us to the town school for half of the year.

MRL: You said the town school?

AR: Well, I call it the school in the city. It wasn't really a city; it was a town (*Laughing*).

MRL: Okay.

AR: That is my older brother . . . I'm the third from the bottom in age, coming up. So, my big brother could drive the car, and he'd drive us in for those four months. You know, the four months. And actually, I knew there was a difference between the Whites and the Blacks. My mother was very careful, as well as my father. I mentioned my father, but she was the one who would talk to me about these type things. And, of course, my father was a very good father, a good provider, and whatever. She didn't let the bigger girls work in the White man's house, and she didn't let the boys work in their yards; because there was a situation where many times the White men would rape the girls and the White women would accuse the fellows, and they might get lynched.

When I was about 12 years old, one man was lynched. He was accused of raping a White woman. So, in fact, I really thought living there in my hometown in Florida, I had seen everything, until I joined my husband in Georgia, and I found out that I had more privilege in Florida than I did in Georgia (*Laughing*).

MRL: Oh, really! What were some of the things in Georgia that stood out to you that you hadn't seen in Florida?

AR: Well really, in Florida, you had a place, and if you stayed in your place, you got along fine, but in Georgia, you didn't have a place. For example, in Florida, I could go into any of the stores and sit down for shoes, and they'd come and wait on me. In Georgia, I went in the store and sat down. Someone came to me and asked did I want something. I began to tell him what size shoe; he took me back in the back, and I wondered why did I have to come all the way back here? Then when he told me to go out the back door, I understood later I was supposed to come in that back door to buy some shoes. So that was one thing.

MRL: How old were you then?

AR: Of course, by then I was married.

MRL: Okay, you were married.

AR: Yeah, yeah, yeah, yeah, yeah.

And about my childhood, there were some Whites living near the field where we lived, and they provided a school bus for them. And they would ride the school bus to the school in town. If you could get there, you could go. But it was your problem to get to that school, or either stay out there and go to the school in the church. And then, they would give you a teacher. Now one of my teachers, I heard she finished the 9th grade. And I know one of my sisters when she finished

12th grade, and she started teaching school. Then she would go to summer school, and then she got her degree, going back to college.

MRL: You've given me a flavor of some of the political, social situations, the lynchings, being accused of crimes which were not founded, and how you were treated. Economically, how were things?

AR: Economically, we were blessed, and I'll tell you why. My mother made cigars by hand, and my father worked at a wholesale grocery store. He drove a truck, and he unloaded, and he loaded, and it affected his back. I can remember my mom encouraging him to let that job go. I was asking one of my brothers about that job, and he said another company bought them out and that's why my father stopped working for that company. But it did affect his back.

We lived on a 20 acre . . . We had a 20-acres of land, and we had a mini farm. And, that is we grew vegetables, corn, and there was some land near us, and my father rented it for peanuts for the market. They had a thrasher that would come to gather the peanuts, and make hay out of the vines, and things like that. We had plenty hogs; we were Methodists. And, I can remember them having eight hogs hanging up. I don't know if you know how they butcher hogs.

MRL: One of my other interviewees took me through the process. But if you want to give me some additional insight, that would be great. I don't know anything about it.

AR: (*Laughing*) Well, what they would do; they would fatten the hog. They would turn them out in the sweet potato patch. At that time, it was your responsibility to keep your animals fenced in. Now you have to keep your property fenced in. And they would fatten the hog. I remember around Thanksgiving and Christmas, they killed one hog. And then in January or February when it got cold, they'd killed eight. As children, we would look at the hogs and we would decide which hog's bladder we would want for a balloon.

MRL: Which hog's bladder you would want for a balloon?

AR: Yeah, yeah, yeah.

MRL: Oh!

AR: As a child then, I had two brothers younger than me and one brother next to me, we would try to choose the biggest hog, so our balloon would be big. So when they butchered the hog, we'd get the balloon, the bladder – the hog's bladder. We would clean it up, and get a reed – reeds with holes in them from the property – like a straw. We would blow in it and blow, and little by little it would get big and

big, and eventually it would dry out and you'd tie a string and around it and you would have a balloon (*Laughing*).

MRL: Wow! I'm just going to insert this. The way that you were looking at the hogs, and imagining how big their bladders would be, you were doing some reasoning – mathematical reasoning. Whether you knew it or not, that's what it was. That's interesting. That's really interesting!

I understand that when your family was working – your father driving the truck, your mother making cigars until your father was not able to work, what did you do as a part of that work?

AR: I kept house; I didn't do any work (*Laughing*).

MRL: So you kept the house for your family?

AR: Yeah, yeah, yeah. I didn't do any work; I stayed at the house. My mom and the three other girls who were older than me, they learned to make cigars.

MRL: They actually went to a place where they made those?

AR: Okay. What happened then, in Florida, there was a tobacco place, and people raised tobacco. In some of the factories, they pulled the stems out of the leaves of the tobacco. In some of the factories, they sized the leaves of the tobacco and tied them in a bundle. They did different things with the leaves. To make a cigar by hand required special skill, so you had to be invited to come and learn. And I can remember after I finished high school, my two older sisters made their living completely making cigars. They made more than the school teachers made at that time. Because, they didn't use the machine to make the cigars; they used their hands to roll them. There were some people who made the basis of it, and then they would put the wrapper around it. There was somebody at the stop that grinded up the tobacco and made the filling. There were some other people who put them in molds; and you take them out the molds and wrap a leave around it and make a cigar.

And when I finished high school, I had to stay out of school for a year. It was my brother's senior year in college, and I had to wait until he got out, for me to go in. So my older sister said they were going teach some people how to make cigars. My mom let me come to learn how to make cigars, and I did. I didn't make the kind they made. The kind I made, you didn't get but 10 cents for each 100 you made.

MRL: You mean making them, you got 10 cents for each 100?

AR: Yes, wrapping the wrapper around them and because, they were inferior to these special cigars that my two sisters made.

MRL: Could you describe your school setting or its environment for the first school that you attended, the elementary school? How did the school look?

AR: The school was an ordinary church building. It had rows of seats that came part of the way on both sides. Then up at the end, they had rows of seats facing each other. And on one side of church, most of the ladies sat; the men sat on the other side. And I can remember me sitting on the ladies side. We had one teacher. And I was in the first grade. They called that ABC and Primer, the first year.

MRL: I've heard that before.

AR: The second year you had first grade. Now you're in first grade in your first year of school, because you probably have had some kindergarten. But anyway, we had ABC and Primer. The next year, you do your first grade work; the next year, you do second grade work. Because I can remember riding to town to school, I was in second grade. I remember my teacher's name was V.B.

MRL: What was the highest grade at your school?

AR: It went to, I guess, about sixth grade.

AR: I had one brother and a sister there. The teachers taught all grades – ABC through sixth grade.

MRL: Let me back up a minute. Did your parents go to school?

AR: My parents went to school. My mom said when she went to school she was not graded. So whatever book you could read from, that was the grade you were in. And, my father said he went to about the third grade. And there were eight of us that lived; two babies died as babies. And they were not educated as such, but they had a lot of good common sense, because five of the eight went to college and three of the eight got masters degrees.

Mom used to tell us this. She said that her parents did more for her than was done for them, and they did the best they knew. She did more for us than what was done for her. For us to do more for our children, than what was done for us. And I can remember my daughter at her 12th grade graduation making that statement that her grandmother had told her. She (my daughter) said that she didn't know how to do more for her children than had been done for her.

MRL: Do you know when your parents were born?

AR: I am writing a family history book for the family. And, my husband was building a church in Tallahassee, and Tallahassee is, of course you know, the capital of Florida. I looked at some of the records there, when they got married and those type things. And, I have when they were born, but I don't remember it right off.

Both of my grandparents, my mama's mother, according to this record, was about 13 years old when the slaves were freed, my mother's mother. And, my mother's mother died when my mother was eight months old, and her grandpapa who had a wife and eight children when the slaves were freed, raised her, and a step grandmother. So a slave raised her. My father's father was twelve years old when the slaves were freed. So they were children slaves.

MRL: That's very interesting. Very interesting!

AR: My parents, not being educated, and the people raising them not being educated, a . . . But one thing about great grandpa, I was about three years old when he died. And he used to live with us. And I don't remember him that well, but I remember statute of him standing in the door. He was sick. He got out of the bed, and my oldest brother cleaned him up and got him back in the bed. They said that I dreamed that a doctor came and cured him that night, but he died that night.

MRL: Going back to the school environments, can you describe what kind of resources you had in your school – books and materials?

AR: Okay. You had to buy your own books. And for the school at the church, you had to carry your own water to keep from being too thirsty. Because they'd get a bucket of water from the spring and bring it up. And, different children, you'd hold your cup up and they would pour some water in it, and you would get a drink of water that way. Many times, I don't know who fixed the water for me, my sister, my mama, or who, but I would have a bottle of water with me (*Laughing*). And many times, coming from the church . . . We went over there a few times to that church school, but we'd go through a lady's yard by her spring to get a drink of water. The worst thing to me about it was getting a drink of water. So, when I went to town to school, you could drink as much water as you wanted. But, you could take your water with you. Some people did, but I didn't.

MRL: So you had pencils and paper?

AR: You had to buy your pencils and your paper and your crayons, your colors and some of those type things.

MRL: Did you have a blackboard?

AR: Yes, we had a blackboard.

MRL: Did you have slate boards?

AR: No.

MRL: Just the blackboard?

AR: Just the blackboard!

MRL: Of those materials, which did you use for reading and writing?

AR: Okay. You bought your own reading book, and you read from that book. The teacher would write something on the board and you'd copied it. I can remember, she'd print ABCs and then she would write them.

MRL: Was that in cursive writing?

AR: Learning how to do cursive writing. You also had writing tablets. There were writing tablets you could buy. You wrote in your writing tablet. Whatever you had, you bought that. The school furnished the blackboard and the chalk that you used; the school furnished that.

MRL: The way you described the church, you didn't have desks, or did you?

AR: Oh, no. You didn't have any desks. You sat on a bench; you sat on the church bench.

MRL: I want to make sure that I am picturing things correctly.

AR: You sat on a church bench. And later on, the community built a building. They built a two-story building. And the county gave them eight months of school and two teachers. Neither teacher had been to college. At least one of the teachers was my sister's classmate, and at 11th grade, she started teaching. She hadn't finished high school. And what I tried to do was find a word she couldn't pronounce, by then, I was in 6th grade. I went in the rural school that year. Other years, I'd go to school in town. In 4th grade, I stayed in the rural school the whole time, because one of the ladies, if you paid her, she would work the other four months. And my mom paid her for me to go those other four months. By then my brother and sister were going to school. They never did go back to the rural school; they stayed in town.

MRL: So your class size was smaller during those 4 months, right?

AR: Oh, yes. The class was small. At one time there was one teacher. But when they started offering 8 months, you had two teachers. You know, divide them in half.

MRL: Have you ever heard of Julius Rosenwald? Have you heard of Rosenwald schools?

AR: I've heard of it.

MRL: Do you think your school was a Rosenwald school - the one that was built?

AR: No, no. Who built this school was the community, the community; a two-story building. And really the county eventually built a school in our community. They built a school in our community. But wasn't any of us going to school then. Those were lower grades. All of us were in high school or had finished high school or whatever.

When I went to college, I took the two-year teacher training course, and then I applied for a job. And I asked the superintendent to assign me to the . . . They had built a two-room school on one-level with the county.

MRL: What year was this?

AR: This was in 1940 . . . Okay! It was 1936 or 1937. I finished school in 1938, and I stayed out a year. Then I went to college for two years, came back, and I went to teach at that school which was walking distance from where I lived. You didn't fill out a blank for a job; you went to the superintendent's office back in those days. And that was in about the year 1940 or 1941.

MRL: Now D. high and S. high were your high schools?

AR: Yes. Now D. was the original high school, from 1st grade through 12th grade. And that's where I went in 2nd grade and in 3rd grade. I went to the rural in 4th grade, and by then they had built a new school, S. High School. And they named it in honor of the Black doctor – the only Black doctor in town.. S. High. I graduated from high school there – S. High.

MRL: You told me what you did for reading and writing. For arithmetic, what materials and resources did you have to learn arithmetic?

AR: Well, you learned in unison how to count to one hundred, everybody counting. Then you learned to add. You have two; you had two more to it. And little by little, you learned to add more to that and to take away. We were taught that. And one thing I learned about math. I don't remember a teacher telling me; she might have told me. That math is stationary! Two plus two will always be four. Where in English, I used to tell the kids to go out to play, I'd say now, "Everything you do out there is going to be a verb; everything you see is going to

be a noun, but there are some nouns you can't see (*Laughing*); But some nouns you won't see."

With math . . . I was telling my husband about math . . . He mentioned some people in my family were good in math. I think math is something like music. In some families, if one member can sing, usually others can sing. In my family my know I couldn't sing. I used to sing with a group of six, and I didn't know I couldn't sing until later on in life (*Laughing*).

My sister was very good in math, and I remember her helping my older sister's son with math. She would go over it with him, and he didn't understand it. And they were staying with us. And she would get ready go to bed, and he'd start to cry. And she would get go over his studies with him. The next thing about math, sometimes people have a prejudice toward it. This same boy that my sister was helping, he taught math and science in this high school where he was, and has a masters in one of those areas. And her daughter got her masters in math. In fact, I have a daughter who got her masters in math, and my son went into math.

MRL: May get to more of that information later. I appreciate that. So, you never used a book for math? Was it just what the teachers asked you to do?

AR: In the 5th grade, I remember having a math book. This was at S. High. I was in 5th grade; I remember this math book. In the other grades, we did some math, but I don't remember. But anyway, what she'd do, if there was something new, she would go over it if we were going to have it for the next day. If we were dividing a fifth or whatever, she would go over it.

And of course, in the higher grade, we had geometry. I can remember my teacher in geometry, what she'd do, if she thought somebody didn't know the answer, she would call on them. And what I did one day, I just looked out the window and I was listening to everything going on. I was pretending, so she called on me (*Laughing*), but I could answer the question. Geometry, I liked geometry. Because of her strategy, some of the kids raised their hand to act like they knew, and some of them didn't even know. They were doing that to keep her from asking them.

MRL: Did you have any kind of geometric shapes/figures when you took geometry that you could hold in your hand as the teacher was explaining or that you could manipulate?

AR: If they did, I don't even remember it.

MRL: How did you feel about going to school?

AR: How did I feel about going? Well, I felt about going to school like that's what you do (*Laughing*)! You eat, you get up, you get ready, and you go to school.

MRL: Did you like going to school?

AR: Yes. I enjoyed going to school! I think I wrote on the questionnaire what my mom told me when I was getting ready to go to college. My mom said, "Don't study too hard." She told me that if I don't finish what I am trying to do in two terms, I could do it in three if I don't study too hard. I asked my brother, what did she tell him? She told my brother to try to pass. She was afraid for him to study too hard. She was sorry she told him that. But it wasn't him studying. Back in those days, they used to persecute you joining these fraternities. They cut that out. So he came home and brought the paddle that they paddled him with. But she didn't want me to study too hard, so I didn't study too hard (*Laughing*).

MRL: Of the subjects you took in school, which did you like best?

AR: It depends on which area of school.

MRL: So whenever you took reading and writing, did you like? Why?

AR: Between reading and writing . . . With reading you get information. With writing you mostly, you know, put down this, or that, or whatever. But with reading, you get information. And the only subject I remember taking when I was bored with the teacher trying to explain it, and the others not getting it, was the new math. I lacked the thesis and two hours of credit for my Masters. I took the new math for those two hours. Most of the class was summer school teachers, and she was trying to teach them the new math. She was young person, and she was very patient with them. She would go over it and over. I had heard of people being bored because the teacher goes over and over. And I thought, why? At first I was disgusted because I had to take those two hours. But it came in handy, because the teacher at Oakwood who was teaching the new math to elementary teachers got sick. At that time I was at the elementary school. They asked me if I would finish the term up for her.

MRL: Was that at the college level?

AR: On the college level, yes. Well the teacher who was teaching had a Masters, and I had a Masters. I was at the elementary school, but she was at college.

And when I went to public school, they integrated. They three Black teachers at this White school, and I had three Black students. I asked the principal who was teaching the math, and I asked if I could teach it. And so, I taught 6th graders the new math. I saw then why it was that I took the course in new math.

MRL: What year was that when you were teaching? And, you were one of the three Black teachers in that school?

AR: When George Wallace was the Governor of Alabama. It was back then when he governor. During that time, he said that you must read the Bible to the children every day. That's when federal government said not to read the Bible to the children. He was defying the federal government. But, they made them integrate the schools. So what they did, they assigned three teachers to this school, and I was one of the three they assigned there.

MRL: What school did you go to after you finished the two-year junior college?

AR: When I finished the two years, I still took an extension and when to a university in Florida. I got married, after I taught two years at this school near me. And then when I got married, I taught one more year and then I joined my husband.

In 1945, my husband was invited to teach at a junior college in Alabama. By then I had a four-month old baby, and we had decided that I wouldn't be going back to teaching, until he went overseas. He didn't go overseas, but I had a baby, so I wouldn't be going back to teaching. I finished a B.S. at a college in Alabama, but it was not accredited. I went over to another college and they said that I had to take 34 credit hours. It was a college then, it wasn't a university, but it was accredited though; the college where I finished the B.S. was not. So I wrote a letter to request that I wouldn't have to march because I already had a B.S. degree (*Laughing*). And then when the accredited college offered a Master's degree, I went over and got it.

MRL: Your Master's is in what?

AR: Elementary Education.

MRL: Beside the new math, were there any other courses in arithmetic or mathematics that you liked or disliked?

AR: Now with math, I came through in the days when you memorized all of the multiplication tables. And I enjoyed math, because I understood how to work with it. So, if you learned this, you have it. Because, it is so solid! That's one

thing about math; it's just solid. If you learn the basis of it, then you can work with it. And then it calls for a little reasoning.

MRL: Did your parents tell you what they thought the benefit of going to school was, and the benefit of learning to read and write, and the benefit of math?

AR: They didn't tell me that. No, they didn't tell me that. They just exposed me; they just sent me (Laughing); and, provided for me.

MRL: Were you encouraged by them, anyone - by teachers or by others?

AR: Oh, yes. Oh, yes. Really, this is a decision I made. I didn't want to be poor, and I knew if I taught school, I'd get a salary. And I wouldn't be poor. Now, I am not saying I plan to be rich. I plan not to be poor. I plan to be the one to give to people, instead of people giving to me. That was my philosophy. Not being poor.

MRL: Were there any teachers or others who encouraged you to do well in school?

AR: Not verbally. Mostly through observation! Not verbally. I observed that those who were educated did better than those who were not educated.

MRL: You started in church school and went to other formal school settings, but were there any other places where you felt that you were being educated but not formally, like in a school, but you were learning arithmetic or mathematics at that time.

AR: As you live, you learn. I've learned a lot from experience as far as math is concerned.

MRL: You told me that you took geometry. Didn't you tell me that you liked geometry?

AR: Very much.

MRL: Were there any other math courses that you liked? Now, I'm talking about in the years following the primary grades.

AR: I realized that with algebra; I don't know if I was all that much in love with it when I was taking it. But I had the opportunity to assist a friend with algebra, in exchange his wife would do some of my housework. He had trouble with his math. And I'd helped him with his algebra, so I must have liked it okay.

MRL: I think you liked it okay and understood it too.

AR: With this new math, I got an “A” in that. You know, the class I said was boring. And with algebra, I don’t know; it must have been a “B.” It must have been a “B.” I don’t really remember. But I know when I had to take these 30 hours, after I had a degree, I could choose any subject I wanted, and I chose some algebra. That gives me an idea how I felt about it. Yeah. And I am sure I got a “B” in that.

MRL: And while you were taking these classes, what made you think that you were succeeding in your math classes? What were some of the indicators?

AR: That I was succeeding in it?

MRL: Yes.

AR: Well, one of the classes I was taking, the teacher was going to be out. And she wanted me to be in charge of it the next time. And with statistics, that has to do with math.

MRL: Statistics?

AR: Statistics.

MRL: Yes.

AR: Now I am this way. If you explain something to me, I’ll get it if I understand it. But my statistics teacher didn’t know how to explain it, and I couldn’t get it from the other students either. So I asked one of the teachers at Oakwood to explain it to me. And he sent one of the students up to explain it to me, and this student was 18 years old. And I said now why in the world could this teacher not explain it like that. So, he told us to go to the board and start on a problem. And every time you make a mistake, you’d sit down. And so I went a long time and didn’t make a mistake. He said “come on” to see how much I knew about it. I went on through with the problem, because the college student had taught me how to work it out. So after that during our break, I’d work with some of the students in the class and help them to understand it. If the teacher had known how to explain it, they would have gotten it in the first place.

My daughter started to get her first degree in math in college, but she decided that she was more interested in people. And that college didn’t offer a degree in psychology at that time. So she went to Maryland to get her first degree. When she was at college in Alabama, they offered her an equal-opportunity scholarship to get her Ph.D.

MRL: You told me earlier that your parents made sure that you went to school or gave you the opportunity to do so, but they didn't give verbal encouragement; they gave encouragement through their actions.

AR: Yes. And my mom said that she wished she had known about education when the older kids were coming along. But my sister was getting good money, and that was back when you didn't get much money for their work. My sister made more than I did when I started teaching.

MRL: From making the cigars?

AR: Yes.

MRL: How many children did you have?

AR: I had three daughters and one son.

MRL: What did you tell your children about the importance of education?

AR: I told them what my mom had said. My mom wanted her children to do better than she had done. I wanted my children to do better than I had done. I got a Master's degree. My son is a lawyer with a J.D. One daughter has a Ph.D. in psychology. Another daughter has a Master's. And another is a nurse midwife, and she delivers babies in Texas.

MRL: Did you ever specifically tell your children about the importance of mathematics?

AR: I don't remember specifically telling them about the importance of mathematics. I remember working with one daughter in math. My youngest daughter graduated summa cum laude with a degree in math from a college in Alabama. I remember working with one daughter with her math using dried beans. You know something that you can see and feel. Dried beans, so she could see it.

MRL: How old was she when you did that?

AR: Probably about second grade or third grade – in the lower grades.

MRL: You were using what we call manipulatives so that your daughter could touch, feel, and see models of the math.

MRL: You have grandchildren, right?

AR: I have thirteen great grandchildren, seven grandchildren, and four children.

MRL: If you had the occasion to talk to your great grandchildren, or children the age of great grandchildren, about the importance of education, and mathematics, what would you tell them?

AR: I would tell them my experience, and how I felt about it and that it is even more important now. When you fill out an application for a job, they want to know how much education you have, and in what area is this education. You need an education to make a good living. Even if you are going to be a cook, you need to know how to measure your ingredients.

Once upon a time, they had a philosophy: let the girls get an education and let the boys dig a ditch. They use machines now to dig these ditches. And the next thing about education, you need an education to live. You need it to count your money. You need math to do that. To know how much money you are going to get per hour. You need math in every area of your life.

Blueprints

Professor James came around to see
how close we are to breaking ground.
After Uncle Bo told how much money
been raised, the professor beamed.
You're halfway to the goal.
Then, he unrolled big drawings -----
blueprints by a Tuskegee architect.
Seventeen different floor plans,
some with up to seven rooms.
I'd get lost in a building that big.
Our school will have two classrooms
with a moving wall between,
a room for home arts and trades,
cloakrooms, and plenty of windows
to look out and daydream.

- Carole Boston Weatherford

Grace's Story

Ms. GW is a 94 year-old African American woman who was born in Arkansas in 1920. She was the oldest of six children. Even though GW started school at age 6, much of her education was attained through informal experiences. Her first teacher was her mother who was born in 1905, also in Arkansas. GW formally attended school through the 9th grade. GW attended the local school Arkansas from 1926 to 1934.

GW describes her school as a huge, twelve-story, wooden building. There was a lot of timber in the area, so the school was built by the Black community in order to educate its children. GW said that she liked school, but felt that she already knew much of what was being taught in the first grade. Her mother was fifteen years older than she.

GW's mother would sit with her at the age of five to work with her on reading, writing, and arithmetic. GW learned reading, writing, and arithmetic, and believed that she could have started in a higher grade than grade 1 when entering school.

GW lived on a farm. Her mother and stepfather owned land and grew a variety of crops during the year. Subsequently her mother had to sell the land, and thereafter she became a sharecropper. When her mother died at age 30, fifteen year old GW worked off the debt that her mother had at the time of her death.

Because GW utilized math in a variety of every day chores, many of her math experiences were informal in nature. She used estimation to make soap and sausage. She used fractions and estimation when slicing bacon with a gauge that could be set at various fractional increments. She used cubic measurement, or volume, when boxing pork meat for curing. At age 9, she sawed wooden ties to specification for the railroad company.

The Interview:

MRL: Could you tell me a little more about your school?

GW: Yes. The school was 4 miles from my house. We had to walk through the woods.

It was a 12-room building with 12 floors; it was really big. It was wooden, because there was so much timber in the area. The people came together to build it. The first place you went to was the primer where you learned your ABC's. Then you stay in that one room until you get to the second grade. Then you moved up; then after you get to the second grade; and when you get to the third grade, you were ready to pass into another room.

I was in the process of passing from first to second grade because my mother had taught me before I went to school. Because the teacher was a relative of my father and my father's father had my parent's marriage annulled, the teacher

didn't like me. She wanted to put me back in the first grade. My mother became upset, because she said that wasn't right; she had taught me before I came to school. What the teacher was teaching I already knew.

MRL: What did your mother teach you? Your ABCs? Did she teach you about numbers? About, math?

GW: Oh, yes! She did!

MRL: What did she teach you?

GW: $1 \times 1 = 1$ and $1 \times 2 = 2 \dots$

MRL: So she was teaching multiplication before you went to school?

GW: When it got to that point, I was learning, but then I had to stop and take care of the other kids, while my mother had to work. See when you have a crop and you get stuff from the government, and after you get stuff from the government, like horses and mules and things, and like that because you don't have no tractor at the time. And you would have like horse and mules to plow with.

MRL: The government gave you horses and mules?

GW: They would lend them to you. No, they didn't give them to you. When your crop is laid by, you would take them back to the government

MRL: Your mother taught you multiplication. Addition? Did you teach you how to add numbers?

GW: Oh, yeah.

MRL: Subtraction? She taught you subtraction?

GW: Sucha, sucha thing comes to what? You start counting. And, you would say, oh so-and-so, so-and-so.

GW: That's the way she would teach me. Well, I stayed ahead of my class a long time!

MRL: Was your mother working while teaching you, or did she sit down with you to teach you?

GW: Well, see she was teaching me before she had so many kids. I learned quite a bit, while she was not pregnant right away, you know.

MRL: So, you learned to add with you mother, right?

GW: Right.

MRL: Did you learn how to subtract with your mother?

GW: Yes. She taught me. I know how to do that too. You take *sucha* amount away or you add *sucha* amount in, and it comes to *sucha*, *sucha* thing.

MRL: What about multiplication? You told me about that. What about division? Did she teach you division?

GW: Division? Yeah, that was something like... Now this one program we was on, well they were trying to figure out. . . Now, you got about a thousand soldiers in this book that she was telling me about. She (the teacher) asked how many soldiers did they take from *sucha*, *sucha* thing. So, I stood up there and thought about it and I said a thousand. She said, "You're right! How did you know that?" Well, I told her 1,000. After then when she asked something, everyone would look at me to see if I would say it.

MRL: Were you going to school then?

GW: Yes.

MRL: So before you went to school though, your mother would sit down with you?

GW: Yes, she would sit down with me with the book. Yeah. She sat down, and I would sit next to her. We had a seat about like that (*gesturing with her hands*). Where we could sit, and I sat right by her. She would show me everything in that book. And, I learned quite a bit.

MRL: I can see that you learned not only from the book, but you also learned a lot by doing things or everyday living.

GW: No. It hadn't dawned on me what I was doing, but I would get the answers. Some kind of way I would get them answers.

MRL: Tell me some more about your school. It had twelve rooms, what was it made out of?

GW: It was a whole building, like a big hotel. But it . . . See on the first floor, it was all solid. You had to go upstairs to the second floor, you go upstairs to get to the third floor, and you go upstairs until you got to the 12th.

MRL: There were twelve floors?

GW: Yes.

MRL: Okay.

GW: It was a tall, great big school. Everybody went to that school. Everybody there.

MRL: Was there a different grade on every floor?

GW: Yes, a different grade.

MRL: Okay.

GW: The first grade was on the first floor. I'm trying to think. The second grade, I think, was on the next floor. Then you had the second and third. You keep going.

MRL: So, on the top floor was the highest grade?

GW: It was the highest grade, but it was wide, wide. A lot of kids went there, because it was the only school

MRL: Were they all Black kids.

GW: Yes. They sure was!

MRL: Where did the White kids in the area go to school? Did they go to another building?

GW: The White kids come in when I went to visit our auntie, my mama's sister.

MRL: So, you never saw White kids at school when you went to school.

GW: No.

MRL: Just Black kids?

GW: There were having something concerning ... But not at that school.

GW: I know one time, it was a preacher. I don't think he was so cool or something, because the Ku Klux Klan was going to get him. Because, he was staying at our house, and then out in the front there were some people with those things on their heads, and stuff like that.

MRL: You saw them?

GW: Yeah. I looked at them! I looked out the window and see all those folks lined up with those things on their head.

MRL: He was at your house?

GW: Yeah.

MRL: The preacher was at your house?

GW: Yes. My mother had the preacher, his wife and son to stay at her house. And, they would cook and eat and go to church. Well, something that that preacher had done, and somebody knew it was wrong. They were going to run him out of area.

MRL: Wow!

MRL: Your school was a rural school, and you've described it to me. I kind of picture your school now.

MRL: So in school, you took reading, writing, and math, right?

GW: Yes.

MRL: What other subjects did you take. You took history?

GW: I started writing almost as soon as I got to school. Cause my mother was teaching me how to write.

MRL: I noticed on your questionnaire that you took arithmetic, but did you learn fractions?

GW: Fractions?

MRL: Fractions. Did you learn fractions in math? Like $\frac{1}{2}$ and $\frac{1}{4}$, for example a half of a cup and another half cup. You add $\frac{1}{2}$ and $\frac{1}{2}$. . .

GW: That's a full cup. A half of a cup of one thing and a half of a cup of another thing would be a half cup. I do that now.

MRL: But, did you learn that in school? Or did you do that when you cooked?

GW: I learned by looking at my mother do it. And, then they started later on in the years, they started a cooking class at the school, having a cooking class at the school. But, I wasn't interested in it; mama taught me.

MRL: Because you already knew how to cook, right?

GW: Yes (*laughing*).

MRL: So, in your school you had blackboards, right?

GW: Yes,

MRL: You had chalk, pencils, and paper. Did you have desks? Did you sit at a desk?

GW: Yes. The girl that sit at her desk; I'm sitting behind her. I could put my papers and stuff under the desk on a little shelf there. And she could do mine the same way if she was behind me.

MRL: Did you have slate boards? These were like small blackboards that you use on your desk.

GW: No they didn't have that.

MRL: Did you use any type of figures or shapes like squares, circles, etc. to learn math?

GW: We never did have that at the school.

MRL: Did you ever use a protractor to measure angles?

GW: I didn't have to; I wasn't working on nothing to use them with.

MRL: Do you remember the textbook that you used for math?

GW: No. I don't remember.

MRL: On the questionnaire, it says that of all the subjects that you took in school. You liked reading the best?

GW: `Oh, yes, I loved to read.

MRL: When you took math in school, which part of the arithmetic that you took did you like best.

GW: I learned how to add mostly, and take away.

And so ... And then, I learned something else that when you want to take something off. You make a mark like this, then you put a number over here, and then after you put a number over here, you had do something else over here to make that come true over here (*pointing to different places on the table*).

MRL: That sounds like ratio and proportions.

GW: Yeah.

MRL: So, something like this! (*Modeling with a ratio and proportion example*) I might have a number right here; and I might have a number here. And I have to put a number there to make this true.

GW: Yeah.

MRL: That's ratio and proportions.

GW: (*Laughing loudly*) Yes, cause I was always interested in watching somebody do something and see how they came out and see they was true. And they would be! And my mother did the same thing with me!

MRL: Your mother taught you ratio and proportions?

GW: Huh, I don't know. I'm trying to think about that.

MRL: Did you mother or your stepfather encourage you to do your school work?

GW: Yeah. And a . . . I want to tell you. You know. . . Let me see how old I was. When they had the school closing at the Methodist church, we'd always have our program there, and rehearse. And then at the school closing, we had a march we had to do. And guess what? I WAS THE LEADER! When I go somewhere and my mother would take me somewhere, I would learn new steps. Then when we were on the outside, they could look under the school and see what you were doing back there. So I would be dancing and showing them how to dance. And so we had a drill, and that drill was so pretty. And I was the little leader. And that's what they couldn't understand. And at the time, I had some pretty hair; my hair would hang down in Shirley Temple curls down my back, and when I did that march like that, they would bounce, and I would turn that corner (*Laughing*).

MRL: Okay (*Laughing*).

MRL: Let me ask you this. Did you parents encourage you in math, in arithmetic? Did they say, "You really need to learn this?"

GW: My mother was always with me, encouraging me. My stepfather, he was always busy on the land, making new grounds for another crop each time. He would be busy. He was kind of sickly too.

MRL: Do you think there's a benefit to learning math? And, what do you think that is?

GW: It's good to learn. You suppose to know it.

MRL: Why is it good to learn?

GW: You can be cheated out of different things, and they can take everything you got! That's what I see. What you see out of it? The same thing?

MRL: Some of that, yes. I also see it as giving you some capabilities for getting work. But, you used a lot of arithmetic in your work.

GW: Yeah, I can remember quite of bit.

MRL: So, when you took math in school you had a textbook; you had paper, pencil?
What else?

GW: Yeah. I had paper and pencil. Mama had everything for me when I started to school; I had learned quite a bit before I went to school, because she was learning me from five on up.

MRL: How did you feel when you went to school? How did you feel about going to school? Did you like it?

GW: I was fine. I was fine. The words she (*her mother*) told me, “Don’t fight!” And a, I didn’t fight; and so they would fight me and tear my clothes off. And, mama told me not to fight. So, one day I come home, and my clothes were tore off; she said, “I going to tell you one thing right now and I ain’t going to tell you no more. If you come back here with you clothes tore off of you again, I whooping you myself”. Now see, she told me not to fight. If I had been fighting, she would’ve whooped me. But since I started to fight . . . I was glad that she said what she said. Cause when they went to fight me this time, I knocked five down; I knocked they off the steps, down (*Laughing quietly*). I did! They stopped fighting me.

A girl named R.J., she started to school. She lived right up the hill, before I come down out of the woods down to the main road. She was standing at the bridge waiting for me. So, she was scared to go to school. I said, “What you waiting here for?” She said, “They are fighting me, and they won’t let me come to school.” I said, “Okay, let’s go!” We went. If they were going to fight her again, I would hit them first. So they couldn’t fight her.

MRL: You were determined to go.

MRL: You told me that you liked to read. What did you like about reading? Why did you like it?

GW: I would always read books where people come out on top, you know. And get out of trouble that they be in, and see who would come out on the end in the good part. I would read stories, and then I started reading my Bible.

MRL: What did you like about math? Did you like math?

GW: I liked it. But, I was glad to know it, because you knew how to add up and take away and find out how much they took from you, and how much they, you know, allowing you to have.

MRL: Did you look at reading as a skill that would be helpful later in life?

GW: Yes. I have a lot of books in the storage that I read.

MRL: How did you see math being helpful to you?

GW: After I learned it, at that time I never had to use it. I figured it would learn you more about things that you worked for, and that you have, and how you can keep it, and not let people take it from you, and those kinds of things. Is that right?

MRL: There is no right or wrong. It's what you say.

GW: I wanted to know more about, you know, different things. The first thing my mother taught me was 1 is 1, 2 is 2, 3 is 3 and all that kind of thing, then it kept on and it raised up to 1 and 4 is 5, and 2 and 4 is 6 – all of them. Then you have group of more than one or two (numbers), and you have to figure it out how many and you have to come out with the answer. And, you have work on it.

MRL: When you got to the 9th grade, did you quit school?

GW: No, I had to stay home.

MRL: That's when you had to stay home.

GW: Yeah. But, I loved going to school. After she (her mother) told me she was going to whip me if my clothes get tore off, well see, I knew I had to fight. So that way I kept everybody off of me. Then she told me to fight, because if you come back with your clothes tore off, she was going to whip me herself. That was automatically inviting me to fight back.

MRL: I know that you do not have children. But, what would you tell children today about the importance of school. How would you encourage them?

GW: I would tell them it's good to go to school so they can learn how to read and write. And, when somebody telling them the wrong thing, you know that they are lying to you. Because if you read and go to school and get your lesson and get all of your information from your books, they can't cheat you.

MRL: What would you tell them about math?

GW: Well, I would tell them like I told you. It keeps people from running over you, cheating you, taking the goods that you have. If you have the book on them, there's nothing that they can do about it. Take them to a lawyer.

Hand-Me-Downs

Some men were chopping wood
for the classroom's potbellied stoves
and other men were painting –
cream ceilings and gray walls –
when a truck pulled up with old desks
and used books from the white school.
Miss Mays thanked the driver again
and again. Then, she gave us erasers
to clean stray marks from the books:
scribbles, doodles, answers, names.
I wondered if white boys and girls
learned the same as us.

- Carole Boston Weatherford

Alma's Story

Mrs. AO is an 85 year-old African American woman who was born in Missouri in 1929. She was the youngest of eight children. At age 7, she began the first grade at the local elementary school, and she later attended high school there. She resided in a poor neighborhood which had its culture, rules, and laws which perpetuated the separation of Blacks from Whites. Born in Tennessee, her parents migrated to Missouri.

The Interview:

MLR: Would you describe how it was to be an African American child, born in 1929, growing up in the years that followed? What was the severity of the environment at that time – politically, economically, and/or socially?

AO: Well for sure, one thing I know is we, my family where we were, we always felt like we could only live on a certain side of town. There was a limit; there was a street that you could not cross that street and go over there to rent a house or live. We had to kind of live in; well, the term I guess they really called was the “ghetto” you know. But to me it was not the ghetto! So, I felt like living where I lived with my family and everything, was . . . I was happy there, you know. I had no . . . I went to the schools on my side of town. I didn’t go to a school across a certain area. When you crossed that certain area that was where the majority of the students were white. I went to schools that were on a certain side of that street that allowed me and my neighbor girlfriends and guys and all to go just to that school. That’s where I went, and it never dawned on me that. . . , you know. I never felt like I wanted to even go to those other schools across that street. I felt comfortable with the school where I was – Black teachers, Black principal, Black students. And, that’s all I knew and that’s what I lived.

MRL: Would you describe your family – occupations of parents and family life?

AO: Okay. My dad was a Pullman porter on the railroad. You know, he was on trains, as a Pullman porter on a train going north from the south or north going down to the south. There were five boys and three girls in my family; being the youngest one, for the first five of us, we were all maybe like two years apart. But, we got to the fifth or sixth child, that brother was more like . . . Hmm, he was more like seven or eight years older. And, he, of course, went away from home; never saw him very much. And to me, as a young girl, as I grew up, to me, the light skin . . . the older sister and the oldest brother were very light-skinned, you know. And to me, coming up in the schools where I came up, I kind of felt inferior to them, because they were light-skinned, and seemed to have better jobs, and when they got married, they lived on the better side of town, than, you know, my family. That was very obvious to me that because they were light-skinned. . .

MRL: Are you talking about people in other families?

AO: No, this brother and sister in my family!

MRL: Okay!

AO: The oldest brother and the oldest sister in my family were very light-skinned.

MRL: I know you told me about the street that you didn't go pass. Were there Blacks who could live over there because they were light-skinned?

AO: Yeah! Upper-class Blacks! I can imagine they were Blacks that had, you know, good-paying jobs. They were not on welfare, for sure. You know, they had good-paying jobs. And a . . . they had more money. They, of course, had cars. They could afford cars. On my side of town, in my little neighborhood, we all rode the streetcar or the bus. Actually, it wasn't a bus; it was called a streetcar. And, it was on a track. And, of course, you got on it and rode to wherever that was, and you transferred from that one to another one that took you to your destination.

MRL: What did your mom do?

AO: My mama was a housewife. She was at home at all times. From a little newborn and up, my mother was always home.

MRL: Can you describe for me your school setting? The environment of your school, and I am talking about when you first went, and maybe as you. . . I saw you went to a school named, was it Vashon?

AO: Vashon. Yes, that was the high school.

MRL: And the other one was called what?

AO: It was called D. School. I don't even know how to spell it now. There was somebody in our Black race named D. (*Spelling the name of the school*)

MRL: Two Ls?

AO: There was somebody in my race that they had named that school after. I don't know if it was . . . was a maybe a governor or somebody.

MRL: But it wasn't DuBois? It was D. It's what you spelled to me.

AO: Yes. (*Spelling again*) No, it wasn't Du Bois. It was definitely D.

MRL: That was an elementary school, right?

AO: D. was a . . . Let's see. No, no. Yes, D. was the elementary, because V. was the high school.

MRL: Okay. And, were there just one elementary and one high school in your area?

AO: Exactly!

MRL: And that was in your hometown?

AO: Exactly!

MRL: That's interesting.

AO: It certainly is now that I look back. It certainly was interesting!

MRL: Could you describe your school?

AO: Okay. It was ninth through . . . The elementary school was kindergarten through eighth grade. Then you graduated, and then you went to your high school which was a . . . D. was the elementary, but V. High School was the . . . Once I graduate eighth grade that's the school I went to. I went to V. High School.

MRL: What kind of resources did you have at D. Elementary School?

AO: My dad, as I told you, I don't know if I told you, but he was a Pullman porter. We had . . . I never remember being hungry. I never remember wearing old, raggedy clothes or old shoes. So whatever, my mother was a housewife, and whatever money my dad made being Pullman porter on the train, it must have sufficed for us to survive and, you know, not be down and out and be on welfare or anything.

MRL: What about the school resources – like books and materials?

AO: Well, you did have your books and things. But you left them at school. You could not bring your book home. You could not bring your school book home. Your books were there at school. And, if you did want to bring a book home, if I can remember, I think you could go to the library. We had a library there in the school. You could go to the library and check a book out. Which was like . . . it was a book on arithmetic, you could go to the library and you could check that library book out which was, you know, the same kind of book. But you only could keep it so many days, and then you had to return it.

MRL: So for reading and writing, you used paper, pencil, a book – what else?

AO: Well, if you had a tablet at all – for instance, for writing, they furnished you a little book, and in that book were the letters of the alphabet in cursive and in

printing. And so, they passed that out to you; which you could keep. But when you were in the classroom, and you had to look up on the board and write whatever the teacher said; she took your book, gave you a grade, and then it was returned back to you.

MRL: In the area of math, when you were learning math or arithmetic, what resources did you have?

AO: Again, we had another book. We had a little arithmetic book. So many pages of it were addition; so many pages of it were subtraction. I can remember addition, subtraction, and division. Those are the three things that I remember in that book. And of course, when you went in that classroom, the teacher told you what page to turn and that was what did that day. Those pages that she said, “We are going to be working on these.” And, she would start off helping you. Like, the first question, the first problem, she would . . . sometimes she would write it on the board – so it was addition, subtraction, multiplication, and would sometimes allow somebody from the class whoever would raise their hand. She said, “Would somebody want to come here and do this problem for me?” And, of course, some student, somebody from that class, would raise their hand and go up there and do that problem right up there on the board.

MRL: You also learned multiplication, right?

AO: Yes.

MRL: Okay. I am looking at your questionnaire. You did fractions, decimals, and per cents? You checked that.

AO: Yes. But I think the fractions and those things. I don’t remember those until we were in high school. In junior high, I should say; not high school, but junior high. I don’t remember that until I was in junior high.

MRL: And junior high was part of the primary school?

AO: Yes. Exactly!

MRL: How did you feel about going to school?

AO: Oh, I was . . . Oh, I was . . . Oh, I was always delighted. I was always excited. There was never a time, even when I wasn’t feeling good. Even on days when I would have cramps, and it was winter, I still wanted to go to school. But there were also times when my mother told me, “No, you’re going to stay because I am going to give me a nice hot tea so that can help your pain”. And, she would.

There were times she made me stay home, even though she knew I wanted to go. But I wanted to go whether I had cramps or not!

MRL: What did you like or dislike about any of the subjects that you had to take.

AO: I think geography was the one that I can remember. Because that meant memorizing dates, you know, and places, and I can remember, Oooh . . . I learned to write things three and four times. To me, I thought if I wrote it three or four times, like what is the capital of whatever state or whatever; if I wrote it several times, say ten times, then that helped me very much to remember what it was.

MRL: Did you like or dislike reading and writing?

AO: I liked to read. I loved reading! And, like I said, when I would take books out of the library, I bring them home. And, I had an older brother and a sister that lived in that home. And when I didn't know a word, I would go and ask them, "What is this word." And they would tell me what that word was. And then I would go back to the table or in my room and continue reading. And if I got to another word that I didn't know how to pronounce or call it, I would do the same thing with that brother or sister – one of those brothers or sisters. That's how I knew what those words were. Even when I stayed over at my oldest sister's house, like on the holiday weekend of Thanksgiving or a weekend. I had a niece, who was my oldest sister's daughter. She was older than me, even though she was my sister's child, and she would tell me what that word was.

MRL: Let's look at math. What did you like or dislike about arithmetic or math, or the classes you took in arithmetic and math.

AO: Well, I . . . Just the regular arithmetic and math. But when I only got to, maybe fractions . . . Fractions were difficult for me, and you know, you had to break it down to the highest denominator (*Laughing*), as I remember. That was difficult for me!

MRL: (*Laughing*) You are using some of the right terminology there!

AO: (*Laughing also*) Oh, yeah! I do remember the right terminology! It was difficult because nobody in my family were educated high enough I guess to help me. So, I had to just kind of struggle through it, you know.

MRL: What about your brother and sister who helped you with reading?

AO: Well, like I said, they were older than me. And, I don't even remember them . . . I don't remember them going off to school in the morning by the time I was in

eighth grade, say or seventh grade or something. They weren't even in the home anymore. They had married and went away. One of the brothers had become a, what are these men . . . ; you could join the . . . it wasn't the army; it wasn't the navy. You could join the . . .

MRL: Was this during Roosevelt's time?

AO: I have no idea who our president was at that time. I have no idea.

AO: One of these brothers join the . . . Oh, I almost called it. It wasn't the army; it wasn't the navy. It was something you could join, and you would get a little pay. And they would send that little money home to your mother or something. And I remember mother getting those checks from that brother. Now, what I think though was that he was sending them home so that he could have a little money when he got out. But I don't know what happened when he got out. But I do know, while he was in this service, he sent that money home. And that was extra money that mother could use. When she got that little money coming in, I can remember we moved to a better house; it wasn't far from that house, but it was certainly a better house.

MRL: So, your father was on the road a lot.

AO: Yes, at first. And then by the time I was, if I remember, I must have been eight, maybe nine, that father had a heart attack; no, not a heart attack; he had a stroke. That father had a stroke. That dad had a stroke. Wherever he was, I think he was near a bus stop or something, and people saw him slumped over this bench. You know he was sitting on a bench, so he had slumped down and laid over. Police came to our house and told us. He said that people thought he was just sleep on the bench. But actually he had a stroke

MRL: So he passed it away, or did he go to the hospital. He passed away?

AO: Yes, he did. He passed away.

MRL: I am sorry. Life has some good things, and life has some sorrowful things.

AO: So, true. So, true.

MRL: When you compare reading and math, which did you like best, and why?

AO: Well, I believe I liked reading best, because to me as I read I was learning things. Whatever story that I was reading I was learning about it. Whatever book I read, that I brought from the library, I learned something from it. So, I really liked reading a lot; I enjoyed reading. And, back then, they also had little comic books. I don't know whose it was, but I would look up and there it was in the home. I

opened that comic book, and I knew some of those words. Because I enjoyed reading, and in my books I learned words, and so when I read the comic books I knew some of those words.

MRL: Did you think you were learning when you were doing arithmetic?

AO: As I did arithmetic, I was always pleased to know that that problem was correct and it was done right. And, that made me realized, okay, I can do this!

MRL: Going back to when you were young, how did you think the reading courses you took, in elementary school through junior high, would help you later in life?

AO: I certainly felt that I was being educated and learning, and I knew then that if I was being educated and was learning, certainly down the road as I got older that they were going to help me get a better job, you know, or progress better in life. Then if I was illiterate . . . I knew, Oh, I knew, if you were illiterate . . . because I had friends who lived in the neighborhood whose parents or uncle or whoever I knew were illiterate. They couldn't even read. They knew their names, I'm sure, and how to print or write their names. I didn't want to be unlearned. I wanted to be learned; I wanted to know; I wanted to read that book and know what that word meant, and everything.

MRL: Did you feel the same way about writing?

AO: Yes. I knew one thing about writing; I didn't want to print. Even in the lower grades when they gave us that little book that showed you how to do cursive writing. I realized that I didn't want to print my name; I wanted to write my name. When I got to a certain grade, I didn't want to print anymore because in that grade we were writing.

MRL: How did you believe the subjects in math or arithmetic that you took would help you later in life?

AO: For sure, I thought as a young girl, I thought if I knew how to do that, and learned that and learned it well, I just felt that it would make life better for me. You know, like a better job or I would be able to progress better in life. No one told me that, but I knew if I learned that, or I knew that, and had it well in my mind, it would make life better. Even though, nobody ever told me that. I just figured that if I learned how to do my math, that's going to be better for me.

MRL: What did you parents believe to be the benefits of going to school? What about the benefits of learning to read and write?

AO: No. They never talked to me about that. As I told you, my dad, being away from home a lot as a Pullman porter, even when he was home . . . He was always . . . What was dad always doing? He kind of slept a lot; I guess his job on the train worked him and worked him. So at home, my dad was always kind of sleeping a lot. But, my mom was either in the kitchen cooking, or she was in the kitchen washing dishes, or she was ironing, or she was washing. And so, I don't think they realized that it would be good for them to have some time with me, but they were so busy. They had so much to do. And, I was the youngest; I don't know what they did with those older brothers or sisters. But by the time, I was old enough to recognize it, nobody did a lot to help me that I can remember.

MRL: Did anyone else encourage you to do well in school?

AO: I had an older sister, who was of course old enough to be my mother; she had daughter. Whenever I was over their house -- not at my house . . . Whenever I was at their house, there were comic books and there were reading books that I could take, and my niece would tell me what that word was. Even though she was the oldest and I was the youngest, but because I was her mother's sister; that made me her aunt. But she helped me as a young girl.

MRL: Did she help you with math or arithmetic as well?

AO: If I had homework, I am pretty sure she did. But I do know she helped me with the reading very, very much. But if I had some homework in math . . . If she helped with that reading, I am pretty sure I could go to her to ask her what is 9 times 9 or whatever this problem was. Yeah.

MRL: In what way, did your teachers encourage you?

AO: Oh yes! Very, very much! And of course, as you know, back in those days, the teachers could take a ruler to your hand. They couldn't put you across their lap or anything like that. But they could take that ruler to your hand if you didn't get that homework or didn't, you know, do what you should; they had ways of dealing with you.

And another thing about this older sister! Oh, I will never forget this! She didn't necessarily want to . . . In other words, if she was displeased with something that you did . . . I CAN NEVER FORGET THIS! This older sister would slap you. She would! I don't know why she thought that was the way she had to deal with you. In later years, I learned she was really kind of, sort of, an in-house alcoholic.

MRL: Emphasizing mathematics, were there some teachers that stood out to you?

AO: Yes. I do remember one teacher, and, if I remember correctly, her name was Mrs. H. And she sat me down one day, and I don't know if it was because I had not learned my time tables or whatever. And I can remember Mrs. H. And she sat me down one day and told me if I wanted to live better, and go places, and see things in the world and have money, you have to know how to read and you have to know how to do math. I will never forget that day, that time that she sat me down and told me clearly. It impressed me! It did. It definitely impressed me. I kind of took a different way of thinking in life after Mrs. H. sat me down and told me, and it made all the difference in the world, I think.

MRL: Was she a math teacher or did she teach all subjects?

AO: In that classroom, you had all subjects in that classroom in the elementary. You did your math in there; you did your spelling in there; you did your reading in there. Everything!

MRL: When you got to the junior high level, did you go to different classrooms?

AO: Yes. Now, in junior high, you went from room to room, exactly.

MRL: When you got to junior high, do any of your math teachers stand out to you?

AO: Well, not really. I can just remember that we had to change rooms. You went to your homeroom when you got to school. When you got to school that morning, you went to your homeroom. I can't remember how long you stayed in there, but maybe you stayed in there an hour. Then a bell rang and you had to leave your homeroom and go to your next class. When the next bell rang, you went to your next class. Yeah.

MRL: It appears that in elementary school, you did your addition, subtractions, multiplication, and division of whole numbers. And, when you got to junior high, you said you recalled beginning fractions?

AO: Yes. I can remember having to learn to do fractions.

MRL: What about decimals and per cents?

AO: Exactly!

MRL: What about ratio and proportions?

AO: What?

MRL: Ratio and proportions?

AO: Yes, exactly. Oh, yes!

MRL: So you had two fractions, and they were equivalent to each other. And, if you didn't have a numerator or denominator showing in one fraction, you could figure out what it was because you had all the other information.

AO: You had the others, exactly. And I can remember in those books . . . in those books where your math was and everything. I can remember in that back of the book it had your time tables. Your 2s, 4s, 6s, 8s were in there. Your 3s, 6s, 9s, 12s – all of that was in the back of that book. It was to your benefit to learn them. Because you could learn them since they were right in the back of your book.

MRL: Were some other subjects besides reading, writing, and arithmetic that you enjoyed, like science or history?

AO: I don't remember any science.

MRL: Like biology or chemistry?

AO: One thing I do remember – the teachers were . . . the teachers were ready and willing at all times to help you. At any time! At any time! They were willing to help you.

MRL: Were your teachers Black all the way through high school.

AO: Yes. Yep. All the way through high school! Black teachers! Black school! On the Black side of town! Finally integration came into play. The schools were mixed. I would say in later in the years of the 1940s.

MRL: When you were in high school, is that when you took algebra I and II and geometry?

AO: Yes, in high school.

MRL: How did you feel about those subjects?

AO: Well, I do know I had to go . . . There were times when I needed the teacher to help me. I do remember we changed classes, of course. I do remember the teachers were always willing to help you. They would stay after school and help you. When school was out for the evening, and if you had told your parents that you would stay after for an hour, or 30 minutes, or however long. They would stay and help you.

MRL: Did you do that sometimes?

AO: Yes, I did. I sure did. I stayed after. And, I had the nicest teachers. And it made a lot of difference being in that setting with that teacher one-on-one. Rather than being kind of embarrassed to raise your hand in the class and ask questions.

MRL: Was it only in a formal educational setting that you learned math? No church setting? No community setting?

AO: That right.

MRL: Having taken algebra I, algebra II, and geometry, which courses did you like best?

AO: Well, I would think algebra, because it seemed easier for me to learn, and to grasp it and learn it. So, I would say algebra. Yeah.

MRL: And that's why you liked it, because you could grasp it?

AO: Exactly. But as we got into geometry and everything, then it became a more difficult for me to grasp it and to get it. I came to a point in high school, as I got up in those higher grades, those teachers weren't . . . maybe I am not remembering. But those teachers weren't as ready to tell you the answer; they made you go and figure out that answer. Do you understand what I'm saying?

MRL: Yes.

AO: They made you. They would stay after school with you. I can remember teachers would stay after school with you if they needed to. They didn't say well school is out, so you go home and I'm going to my house. Teachers would stay after school and help you. And sometimes, it wouldn't be just me; sometimes it would be a couple or three of us in that after-school meeting.

MRL: After they helped you, how did you feel when you left?

AO: Oh, so much better. You know, I felt like I had achieved something. Okay, I better understand that. It definitely made me feel good about myself and about my learning process.

MRL: What kind of grades did you get in those subjects – algebra and geometry?

AO: I got passing grades. Let me see, how were they doing it? One, of course was good. One, two, three . . .

MRL: It wasn't A, B, C . . .?

AO: Oh, yes! It was A, B, C, and D. I don't remember getting Ds at all. I could get Cs. I remember looking down my report card, and I saw a lot of Cs. An A or two

or three. I don't remember any Ds, because I knew that Ds meant that you were one step from failing.

MRL: When you were succeeding in these math courses, how did you know, by the grades or other ways?

AO: Well, when I saw the grade that I got, I realized I got that grade because I was able to do the work. And so, that let me know that okay, if I got a good grade, my comprehension had been good.

MRL: What jobs did you have after completing high school?

AO: Okay, let's see. After school . . . After I finished high school, I went to night school in a little town about ten miles away. I went to night school and that's when I progressed to a higher level in math – a higher level in geometry or whatever. I thought that was helping to learn better by taking subjects that would elevate myself into a better place. Which it did! In later years for the summer, there were teachers who would allow me to be a helper in their rooms for summer school.

MRL: Were you a helper in the math courses.

AO: Yes. I certainly remember reading. I don't remember math as much as I do reading.

MRL: Again, what jobs did you have after completing your years in high school?

AO: I helped the teachers; one summer I baby set for this Jewish family.

MRL: Did you arithmetic or math skills and abilities assist you in your work?

AO: I remember one time, I worked in a 5 & 10 cent store. I had to work on a cash register, so I was definitely glad that I had learned how to give people correct change.

MRL: What arithmetic skills did you or do you use in everyday life?

AO: Now I don't much in my retired status. But I keep my checking account up to date. I make sure that what's

MRL: Do you know what grade level your parents went to?

AO: Well, they were from the South?

MRL: From what state?

AO: Tennessee. I can't remember my parents talking about school at all?

MRL: What did you say to your three children about the importance of education?

AO: Well. I can't remember saying much, but they knew that they had to go to school every morning. There was no staying at home and playing around. Every morning I went in that room and I woke everybody up. I don't remember talking a lot to them.

MRL: Based on that, you didn't really emphasize mathematics to them at all, or did you?

AO: I made sure that they went to school each morning. And when they brought their reports cards home, whatever those report cards said, that let me know what subjects they needed more help in.

MRL: What did you do if they needed more help?

AO: I would try my best to help them. I would take them to the library, and we would read up on things or take books out of the library that would help them in reading or in geography or whatever. We would sit down at the table at home, and I would try to help them understand better or achieve more.

MRL: Did you help them with math?

AO: Yes. Yes. Oh, yes. Most definitely! I can remember you could buy books from the drug store. And up there on that shelf, there would be arithmetic and math books. I have purchased that kind of book and brought it home and sat down and help them with it, in addition to the books that they brought home from school.

MRL: Did any of your children seek a profession that required a strong mathematical foundation?

AO: The daughter worked for the government, and I don't think she needed math. We lost our older son in the Vietnam War. The youngest son pursued the ministry.

In the family, I was always emphasizing to them that they needed to get an education so that you can get a better job and progress in life. I told them that had to go to school and they had to get good grades in school. As an incentive, my husband and I gave them a dollar for every A that they got on their report cards. Some dollars were given for math and other courses.

MRL: What would you say to a child today, or to your grandchildren, about the importance of an education and the importance of mathematics?

AO: Oh, my. I would tell them . . . And I have said this to my great grandchildren. I have told them over and over; and I have said this many times to them. If you get an A, let me know. If you want to achieve in life or if you want to excel in life, you had better get you a good education. And by getting a good education that will put you in a position to get a good job. You don't have to be a cook or a housekeeper. Oh, have I always. And I do it even now. They don't show it to me now like they use to years ago, but they tell me how they are progressing in school. Their mom and dad also encourage them too.

MRL: I am going to end right there. Thank you for your endurance.

AO: I am pleased that I could participate.

Lumber

A family is like a tree, Daddy always said.
Ours sprouted a new left --- Leona,
my baby sister. Soft, brown, bright-eyed.
I sing lullabies when she cries at night.
This child will have a better chance, Mama said.
Soon, building starts on the new school.
Several farmers, black and white,
cut trees from their land, hauled them
to the sawmill for cutting, then dropped
off the lumber on the lot beside the church.
Those trees about to make history.

- Carole Boston Weatherford

Jean's Story

Mrs. JG is an 83 year-old African American woman who was born in Arkansas in 1930. She was the third child, and first girl, of five children. She began school at age 6. Her first school was the elementary school. The school was built in 1924, and it is registered as a Rosenwald School. Her high school years were spent in larger city in Arkansas as well as in three different schools in Arizona.

The Interview:

MLR: Would you please describe your childhood in the context of being African American and being born in 1930? Can you give me some details about the pros and the cons?

JG: I'll say when we were growing up, we started out in Arkansas. My father was a sharecropper. We were in Arkansas until I was 13 years old, because we came out here (Arizona) in November of that year. We lived in the country. We were farm people, my grandparents. My sister and I lived with my grandparents. My parents lived in town. But, I never did like the city, so I stayed with grandma and grandpa all the time. I like the country; I liked to be climbing trees and carrying on.

We weren't exposed to a whole lot of mix with other people, except for the Black community. We would go to town every once in a while. They would take us to town to see a movie. But, that was every once in a while; it wasn't like every weekend, or something like that, maybe once a month or twice a month some times. The only other people we were in contact with, was the man that my grandfather worked for. You know, they would come by the house and talk about farm work, and stuff like that, but everyone else was African American, you know.

When would go to town, that's when we would see the difference in the way people were treated, you know. We would go in different places than what Caucasians went into. At the movies, you had to go around to the side or some-place else; you didn't go into the front like the rest of them did. And the restaurant, we never went to a restaurant to eat when we were young at that age, back there anyway. If we bought something, we bought it and sat in the car or something like that; we never went into a restaurant during that time. So, like I said that's when we saw the difference of how people were treated.

If you wanted water, you had to go to the Black fountain. They had the Black and White fountain sitting there, maybe back-to-back or side-by-side. But, the Blacks were supposed to drink from the Black fountain, and the Caucasians drank

from the White fountain. In the movie theater, we went upstairs. They called it the buzzard "roof". That's where we went to the movies at. If it was a single floor, you had to sit in the extreme back.

MRL: What did you call it when it was upstairs?

JG: They called it the buzzard roost. That was the name that we gave it, because all us Blacks were sitting up there. It wasn't but a handful of us up there anyway. But they put you upstairs, so you wouldn't mingle with the White people, you know. That was all my dealings with Caucasian people, until I came to Arizona in 1943.

MRL: Did you ever go to a department store or 5 & 10 cents store?

JG: Every once in a while, once in a great while. When we went to get our shoes and clothes, we had to try that on.

MRL: They let you try those on?

JG: Yeah, we could try it on, especially shoes, you know.

MRL: When you moved from Arkansas to Arizona, who was in your family at that time?

JG: When we came here, it was my sister and I. We came together, L and I. My mother, my dad, and youngest sister, J, had already come to Arizona. They were here before we were. They were here for about a year or 6 months or something like that. Then they sent back and got L and I.

MRL: Is that because you were living with your grandparents that they leave you?

JG: Yes.

MRL: I see on your questionnaire that there were two brothers.

JG: Yes. They were much older than we. My youngest brother was at least 9 years older than I am. The older brother was about 11 years older. We were all (the girls) about two years apart, except for the boys and the girls. There was a space between the set of boys and the girls. So they were much older. And, at the time that we came here, the oldest was drafted into the military; the youngest one ran off from home for a long time. We didn't know where he was; he just left. He came back later on, but that is another story. But like I said, they were older than we were. We just knew we had two older brothers.

MRL: Can you describe your family life, your parents' occupation; how your day-to-day living was?

JG: They just really had been farm workers. I think Mom had an eighth-grade education. She was a smart woman! My dad did not have that education. I don't know how far he went in school. I don't remember, but Mom use to tell us that in her day you when you got an 8th grade education, you could get a certificate and teach elementary. She was a smart old lady. She just didn't go to school no further than the 8th grade. And, then she got married and started raising her family.

Living from day-to-day, we just . . . in the morning . . . Let's see . . . The last I remember we I stayed with them, before I went to stay with grandma and grandpa, the last years in Arkansas, they all worked for the government; they worked at the proving ground, they called it.

MRL: Proving ground?

JG: Yeah. It was where they were fixing up things. Getting ready to build . . . Like a, clearing off areas where they would build barracks and things, and set up military camps and stuff like that. They had different sections there that people had to work in. You know, the men did the heavy stuff. And the women, I don't know what mama's job was there, but I know they all worked for the government at that time. And, before that, before you get to that part, she worked at a laundry. They called it Ralph Brothers Laundry. I never will forget Ralph Brothers in that town in Arkansas, because that where they lived in that town.

MRL: T-town, Arkansas?

JG: Yes. And, they worked for that laundry, then they went to work for the proving ground; then they left there to come to Arizona.

MRL: What did your grandparents do?

JG: Farmers. They were farmers.

MRL: Do you know if they were able to go to school?

JG: I don't remember. I don't know if grandpa had any education. Because I don't think grandpa could read, but he could read the Bible. Mama used to say that all the time. I heard her say this that grandpa couldn't read, but he could read the Bible. And, he had a "big" family Bible. And, on Sunday morning, he didn't go to church that often either, he'd get his big Bible down and read it. He kept him a big stick of peppermint candy, one about as big as your arm in his trunk. He would go to the trunk and open it up. And that was my thing, I wanted grandpa's trunk when he passed away. And, would you believe, my grandmother called me and told me your trunk is here and I'm going to leave it with your auntie. But I

never did get that trunk, because my cousin took it away from me and wouldn't give it to me. I don't know, he would get that Bible and read it. That's why I couldn't understand how, can he not read, but he can read the Bible. But, now I understand! A lot of people can read the Bible, but they can't read nothing else, you know, with understanding.

MRL: You don't know if your grandmother went to school?

JG: I don't know about her schooling. See, this grandmother was a step grandmother. This was his second wife. My mother's mother had passed on. I didn't know either one of my parents' parent, except for my mom. That was her dad. That was the only grandfather that I really knew.

MRL: That gives me a good picture. Even though you answered some on this on the questionnaire, I would like for you to describe your school setting when you first went to school – primary school.

JG: Well, when I first went to primary school, I went to a place they called O.G.. And, we were living in the country. We would walk. I used to tell my mama, "Mama, we walked ten miles to school." (*Laughing*) Mama said, "Girl, you ain't walked no ten miles to school." I said, "Mama, that sure seemed like to me that was a long way." She said, "Maybe about two and a half miles." We walked to school in the morning.

Where we lived, other people lived down the road from where we lived. They'd come by; we'd join in with them. Then there another family of people, like to the east of us; they'd come by. And all of us would walk together; we'd go up a little farther; there was another group of kids who joined in. There would be a whole row full of children going to school at the same time, to the same school!

The school had two rooms. One room had the first to the, I guess, sixth or seventh, maybe to the eighth grade; it may have been the eighth grade. Then the other was from eight to twelve.

MRL: Oh, really?

JG: Yes. It was two rooms there. Like I said it was a group of kids; this was just about the amount of the kids that went to that school; the ones that I'm describing, these families I just said we'd meet with each other and walk to school in the morning. It wasn't too many others around there that went to that school.

MRL: It seems like the students who went there were all together as you were going?

JG: Most of us. There may have been a few others coming from the other direction. But it was less of them coming than there were of us from the way we went.

MRL: Were your teachers Black?

JG: Yes.

MRL: You never had a White teacher there?

JG: No.

MRL: You said there were two rooms? Did it start at kindergarten to eighth in one?

JG: Pre-primer is what they called it back in the day.

MRL: Pre-primer, I heard that before.

JG: Pre-primer. Now they call it kindergarten (*Laughing*).

MRL: Did you have very students who were in ninth through twelfth?

JG: I can remember at least four in twelfth grade, because my oldest brother went to the twelfth grade. I remember he was there. The younger one didn't go no where! He thought he knew everything (*Laughing*). But the oldest boy, and a couple of girls; two boys and two girls were in that twelfth-grade class there at that time when we were going through that schooling.

MRL: That was kind of unusual, because most of the people I have spoken with so far, well some of them were older, but when they got to the eighth grade, their school stopped. They had to go to another city to go to school, and some couldn't afford that so that's where their education ended.

JG: He went to the twelfth grade, and he graduate from twelfth grade. The thing of it was, they would go to school when they could because a lot of times they had to work, help my dad work, you know. So it was spasmodic stuff. School attendance was, you know.

MRL: Thinking back to O.G. , what kind of resources did you have – paper, pencils, blackboards, books?

JG: We had blackboards. We did have paper and pencils. Mama, and them, provided our paper and stuff at home, the big flat tablets that we used with the big lines.

MRL: Do you remember specifically what kind of materials was used for reading as oppose to math? Was there any difference in the materials you used when learning reading and learning math? For example, you used paper and pencils

when you were learning to read and write, and you used the same thing for arithmetic?

JG: Yea. We had our math book. We had that arithmetic. Mama was a strict one on arithmetic. I got so I liked math pretty good myself until I got further on into school and didn't get the counseling that I should have had. So, I kind of lost track of it, you know. But when I was going to grade school I was really pretty good in my math.

You know, we had what you call a pre-primer book. That's was the book for the class before first grade. I remember I read the whole pre-primer book on my first day of school, so they put me into the first grade. If you couldn't read or didn't understand the pre-primer on the first day, you had to spend the entire year in the pre-primer class.

MRL: Did the pre-primer book have reading exercises?

JG: No it had reading, writing and arithmetic exercises. I was just able to do them all.

MRL: And, how did you feel about going to school?

JG: Oh, I loved school . . . [PAUSE] until I reached Buckeye (*Laughing*).

MRL: So let's transfer over to when you came to Arizona. So, you were telling me about C.V. or what?

JG: P.V.!

MRL: P.V.. Okay. Can you tell me about that?

JG: Yeah. That's where we had two big barracks down there. And we would have teachers . . . They would get teachers from Phoenix here to come out there; most of them would live out there until the weekend and then they would come back to town, you know. At one end of the barrack, most of them were women teachers too, they would live, and the other half of that barrack would be a classroom. And then the other whole barrack was two classrooms. So, we had like about three classrooms there. It went to the eighth grade.

MRL: So, was it pre-primer to the eighth grade?

JG: Yes. They had pre-primer to the eighth grade there. Yeah. J, my youngest sister, started school in California, that where she started. We would go; every year after we got out of school, we would load up and go to California to work.

MRL: What kind of work were you doing?

JG: Working the fruit, the nuts, and things. Pick up nuts and things; lettuce, tomatoes.

MRL: Kind of like migrant farmers.

JG: Like, what's the name of that movie! I'm trying to think of the name of it.

MRL: Not "Grapes of Wrath?"

JG: That's exactly what I'm thinking about.

MRL: Is it?

JG: We migrated out of here. We'd go to the fields and work. That was the only kind of jobs around here to do!

MRL: So you didn't have work like that here in Arizona.

JG: That's what we did. That's why we were out at P.V.

MRL: Okay. Oh, I see! Your mother (and father) were working.

JG: Yes.

MRL: And, they made a make-shift school.

JG: Yes.

MRL: Okay. So, the kids of those who were working could go to school?

JG: Yes. The African Americans! The White kids had a big school. They always say that we got the left-overs from the Caucasian schools, like the basketballs, any kind of sports equipment, and stuff like that. We got what they discarded, more or less.

MRL: Your books were like that too?

JG: Well, the books . . . They were used books; they sure were. And we didn't have a gym to play in, whereas they did. We played out on the ground. We had a basketball court, but it was outside.

MRL: So, was the White school nearby?

JG: Maybe, five or ten miles from us.

MRL: They didn't want you to be there with them anyway, right?

JG: No. At that time, there was no mixing of races together.

MRL: When you were at P.V. . . . That's where the electric facility is now, right?

JG: Yes.

MRL: There were schools probably in that part of Arizona right? But, there were schools specifically for Blacks and some for Whites?

JG: Yes.

MRL: Did you like all your subjects that you took in school?

JG: Yes, especially in grade school. Yes. I'm going to tell you. Mostly, we had reading, writing, and arithmetic. That's mostly what we had. We had some history. We had some history, because we had a lot of Black history, you know. And, especially back South, we got lots of it. Then we got here, and it started dwindling. It was mentioned every once in a while, but not no in-depth study of Black history.

MRL: I forgot to ask you this. So your teachers at the P.V. site, were they Black?

JG: Yes.

MRL: So, you had no White teachers?

JG: They were Black teachers.

MRL: Mostly all ladies.

JG: Yeah.

MRL: You did have a man or two?

JG: I remember we did have at least three men while we were down there.

MRL: Were you math teaches ladies, for the most part?

JG: At that time, the teacher, whoever's room we were in taught everything (*Laughing*)! You understand what I mean?

MRL: Oh, yeah. All the way through the eighth grade?

JG: Yes.

MRL: How were those three rooms divided up as far as grade level?

JG: Pre-primer or primary kids, they had the big end. Say from fourth grade to say sixth grade was in another room. Seventh and eighth was in the last room, because these were bigger kids.

MRL: So what happened to you when you finished the eighth grade?

JG: When we finished the eighth grade then we went to Buckeye.

MRL: Oh, you moved.

JG: It was that far. We were kind of situated between the two areas, so we just transferred to the school.

MRL: So, when you went to school in the other Arizona town, you were in a real building?

JG: A real building, because we were with the Whites. It was an all-White school.

MRL: It was integrated?

JG: Yes. It was so all over Arizona, though. It was just there because it was a union school, and it was the only school in the area where if you went past the eighth you could go to. So, they allowed us to go to school with the Whites.

MRL: And, that's was called Buckeye?

JG: B. was the high school. It's still sitting down there. That school, as I say, is still there. Every time I go there, I ask to go past my high school. I told my sister that it looks smaller and smaller every time I see it. I used to think that was the biggest school (*Laughing*). It's still sitting there; they're still having school in the same old building.

MRL: What did you like or dislike about subjects that you took?

JG: I loved my math. I love . . . This is one thing; we didn't have like counseling like girls have now in the high school to help you decide what's the best courses for you to take. You just went in and they just assigned you something, especially the Blacks. They mostly wanted you to have something like if you were going to get married; they definitely were going to give you home economics, you know – home economics, sewing, cooking, housekeeping and that kind of stuff.

MRL: So the classes like that – home economics, sewing, and cooking, did they have more Blacks in them than Whites?

JG: No, because there weren't that many Blacks there. When we first started there, I think I was the only girl there for a little while. Then there were some girls who

came from another town. They came up there and started going to school. So at one time the most girls that was there going to school during the three years that I was going to high school at B. was thirteen Black girls and one boy.

MRL: About how many students were there in total?

JG: Oh, I guess . . . maybe two or three hundred.

MRL: You were really a minority.

JG: Very much so.

MRL: You were a minority, minority. You said that you liked math.

JG: I liked home economics too, because I liked to sew. Then I did take Spanish for a couple of years. You had nobody to speak with later on, so I just lost the little bit I had learned.

MRL: With Arizona having such a large Hispanic, now a large Hispanic population, were there Hispanic kids at the high school?

JG: There were some. They changed their minds about associating with the Blacks. There were some we lived near that we still communicated with and played with, and everything. They kind of separated themselves from us. Not cruelly like; they just eased away from us.

MRL: You still had no one to practice your Spanish with?

JG: No.

MRL: Were there some aspects of reading and writing that you enjoyed.

JG: Yes. I also took typing. I got so I could type pretty good. Even I used my typing when I went to college. My mama bought me a typewriter when I graduated from high school. She would do the best she could about helping us to stay in school.

I remember when I graduated from high school, she said, "Would you like to try to go to college." I said, "Mama, don't think about it because you people are not able to send me to college, and I don't know any work to do that I can pay my way through college." That's where my college thing stopped at that time, until I was able to send myself to school.

MRL: So, let's go to arithmetic and math. I see that you took arithmetic which was addition, subtraction, multiplication, and division. And then arithmetic that included fractions, decimals, per cents, and ratio/proportions. I know you started out with that probably in Arkansas at O.G.

JG: Yeah.

MRL: And then you continued that at the school in the other town in Arkansas??

JG: Yeah. But I didn't go there long. It was only like a semester.

MRL: And, then you came to Arizona?

JG: In Arizona was my next major schooling.

MRL: You took those same kinds of courses in arithmetic even in Arizona?

JG: I took the same, but it was more advanced type, you know.

MRL: But it was still arithmetic?

JG: Yeah, arithmetic. And sometimes you would go into like equations, you know. You had your fractions, you had . . . what can I say?

MRL: You had word problems?

JG: Yeah. That's what I didn't care for too much. I didn't like those reading problems. Those problems you had to read and figure out what to do with it. I didn't like it. If the numbers were there, great! I could handle it.

MRL: So, you weren't really exposed to algebra at that time?

JG: Very minute. That's why I said we didn't have counselors to help us figure out our schedule – what we should take and what we shouldn't. No scientific classes – no science like chemistry and stuff like that. I didn't get that.

MRL: Oh, I see what you're saying. So, the counselors just let you kind of fend for yourself.

JG: Right, right!

MRL: And, with you not knowing that there were opportunities to take some of those subjects, you just went the way of the flow.

JG: Right. So true!

MRL: But there were kids taking algebra and geometry?

JG: There were some. Especially the Caucasian children, they were taking that. But, the names sounded strange to me, so I didn't bother to try to get into it. Geometry! Algebra! I just didn't . . .

MRL: I understand. If we were to compare reading and arithmetic, which do you like best, and why?

JG: I would say reading, because I understand what I read. But, arithmetic can get a little too deep for me at certain times.

MRL: As you think back and you think about the subjects you took, was there any time when you thought about reading, writing, or arithmetic as subjects that would be helpful to you later in life?

JG: Even there in school, the sewing and stuff, arithmetic came in there. And also with cooking, you had to measure and there were little fractions there.

MRL: What did you parents believe was the benefit of going to school, the benefit of reading and writing, the benefit of learning math?

JG: Well, they knew that you could get better jobs. They knew that! That's why they tried to keep us in school and keep us from going through the same thing that they had been through. Working on the farm all their lives, you know, and (from sun up to sun down) getting very little for it. Doing whatever you could do to make a living, you know, and getting nothing for it; some hand-me-downs and food and whatever, you know.

MRL: And you were encouraged by your parents to do well, right?

JG: Oh, yes. Yes.

MRL: Did any of your teachers ever encourage you?

JG: I had one little lady, I think that's why I went into the military. She was a military personnel in World War II. And then, my oldest brother also. She talked with me about her experience as a female in the military. And, that always stuck with me. And I did go in, and I got to see her after I had gone in and come out. Before she passed away, I got to see her after I went into the military.

MRL: Was she Black?

JG: Yeah, she was a Black lady?

MRL: And she was your teacher at the Buckeye school?

JG: At P.V. We didn't have any Black teachers at B.

MRL: So there were no Black teachers at B.

JG: No, no!

MRL: Because they would have had to have taught the Whites, right?

JG: Right. So, true.

JG: There were three lady teachers that I know of that were seasoned teachers. The rest of them . . . The men who came out there to teach us out there, they were young men who had just graduated from a university in Arizona. . They would bring them out there to practice with us (*Laughing*) in the country.

MRL: They were student teachers.

JG: This would be their first teaching jobs.

MRL: Okay. So you had all Black teachers who were ladies at P.V. But they would send newly graduated teachers to P.V. Were the men Black?

JG: Yeah, they were Black. We got no White teachers at P.V.

MRL: Okay. That's interesting. And the men would stay for a semester?

JG: They would stay a little longer than that. Some would stay a half a year. They didn't live there. The young men who were student teachers would go home every evening. They didn't stay there. The women who were there all the time, they would stay until the weekend, and then they would go home. Some would go home on the weekend, and some didn't because they would be there to go to church with us on Sunday.

MRL: The teacher who encouraged you regarding the military, she continued to teach?

JG: Yes. Oh, yes.

MRL: When you went into the military and came out, was she still teaching?

JG: She was too old to teach then. She had retired. Yeah.

MRL: So your parents encouraged you, your teachers, well that particular teacher. Is she the only one you can think of who encouraged you?

JG: And my oldest brother, he went in (the military). And you know I lost my oldest brother in World War II. That had a bearing on my also, you know.

MRL: Right. Were there any other people who encourage you?

JG: No, I can't think of any.

MRL: Aside from going into the military, the teacher who encouraged you, did she encourage you in reading, writing, and arithmetic while you were in school.

JG: Oh, Yes.

MRL: What did she say about why those were important?

JG: Well, she told me that it would help me also; I thought that maybe she went in as an officer, but she would tell me that you can get better jobs. The more you knew when you went in, the better placement you would get when you got into the military. Because when I went in, I wanted to drive a truck (*Laughing*). I went in, but that wasn't my calling. I was more suited to be a medic. A lot of girls who went in got to be secretaries or to work in the administrative part. My calibration was to be a medic.

MRL: In you work as a medic, I know you had to read and write. Did your math surface at all?

JG: Yes, it does, because you have to learn how to write out prescriptions and know what dosages to give at a certain time. When we were in the military, we were almost like a RN (registered nurse). They put us through OJT (on-the-job-training). When they put us through an OJT, they might send us out by yourself with an ambulance driver to get you don't know what type of patient to bring back to the hospital, you know. You had to be able to discern what was going on, diagnose, and treat until you got him back to the hospital with that patient.

MRL: So you were like a paramedic?

JG: Yes, that's what it was! They make different names for us (*Laughing*).

MRL: It has a different name now, but you had the same responsibilities.

JG: Yes. Yes, because at that time they had the old-fashioned iron lung. I remember when I was over on Okinawa, people had to come in from Japan, coming to our hospital on Okinawa. I had to go to the airport to pick this person up, me and an ambulance driver. I had to know how to operate this iron lung. Get him out of the one he was in, and hook him up to the one in the ambulance and bring him to my hospital. It was a lot of things we had to go through. Like I said, we didn't know theory that well, but we knew how to do it. We knew how to do the work.

MRL: So, you were in Japan?

JG: I was on Okinawa.

MRL: What other countries did you go to?

JG: I did go to Japan and Okinawa, and I was in Guam for 24 hours. I worked in Okinawa, but I would go to Japan when I went on leave or vacation for a month

or two or whatever time we had off. I was also a basketball player, so I played basketball for the basketball team in Japan.

MRL: That was for the military?

JG: Yes.

MRL: So you were good, huh?

JG: Pretty good (*Laughing*)!

MRL: Do you remember the name of your team?

JG: We were just the Women's Army Corp Basketball Team. We didn't have a name. We just played.

MRL: What years were these?

JG: I went to Okinawa in '53. It was between '53 and '55.

MRL: The women's team, was it all Black?

JG: No, we were integrated then in the military. When I went in in '52, the military was integrated. I remember that my recruiting officer told me, she said, "You'll be living with Caucasian women now; it's not like it used to be." I told her that it wouldn't bother me that much, because I went to high school with Caucasians. It wouldn't bother me one way or the other.

MRL: You were born in the '30s right at the Great Depression. That's why your parents had such a hard time making ends meet. So, they were always looking for a better place to go that why they came to Arizona?

JG: You know what? Even though I was born in the '30s when the Depression was on, we often talk about that - my sisters and I, we say you know we didn't realize that we were poor (*Laughing*). We never went hungry; we always had clothes to wear. We knew that some people dressed better than we did, but we didn't think of that as being poor. Hey, our parents just had something else to do with that little money, you know. As long as we were dressed good; we never were cold; we were never lacking in food. We just never thought we were poor until we got older. Then we realized we were poor, poor, poor. We were so poor that we could view one "o" in that word.

MRL: I going to backtrack a little. Were there any places in your community where you received some additional educational opportunities, outside of the formal schooling you received?

JG: All my schooling was in a formal setting.

MRL: When you went into the military, did you have to take any additional courses?

JG: Yeah. Not to go in. We did have a little slight test they gave you. And then when we got in, we went through what you call the basic training. That was in Virginia. And they taught us how to go into the field and everything; they were just getting us physically fit, you know, for whatever we had to do. And then after we finished our basic up there in Virginia, they sent us to different army bases to take further training. I went to Fort Sam Houston in Texas in San Antonio for my medical training. I went there and stayed there.

MRL: What courses did you have to take for your medical training?

JG: Oh, you took anatomy; you had physiology; you did have some portion of math – a very little bit, but math entered into it, you know. We learned how to do first aid; we got to swim; learn how to rescue in case somebody was drowning - all kinds of medical and preventions, you know, to keep people safe. That was our training.

MRL: When you did take math courses, what kind of grades did you get?

JG: Oh, I made good in my math courses.

MRL: Like A's and B's?

JG: Yeah.

MRL: How did you feel when you succeeded in your math courses?

JG: Wonderful!!

MRL: Why did you feel that way?

JG: Because I accomplished something that I had set out to do. And, I was good at it. And, I got the praise of my parents. That was encouraging to me. There was no let down. They always lifted us up when we were doing something out of the ordinary, you know, I'll say. Because a lot of other kids weren't doing it; they just wouldn't go to school, a lot of kids our age.

MRL: Was it rare for kids your age during that time to be in school?

JG: Some of them. They would be in school, and the next thing I knew they started missing, including some of the girls that I'm taking about when we went to Buckeye. There were thirteen of us (Black) girls who started down there. I was there for three months or so, then these other girls from Avondale came there.

Then one-by-one, they just dropped out. It wound up being nobody but me and my sister at Buckeye Union High School. We were the only (Black) girls left there

MRL: Really?

JG: There was one other girl; she graduated. She graduated from the twelfth grade. She went to California after she graduated. She went out there, and she never came back to Arizona to live. She has some sisters that were left here, but all of them just dropped out of school.

MRL: You and your sister graduated from Buckeye?

JG: No, I came to another Arizona city for my last year of high school. I went there and enrolled at C.

MRL: Okay. How was C.? I've heard a lot about C.

JG: That was the only Black school, totally Black high school here. They had plenty elementary schools – B.T., J., M., MB. – all Black elementary schools.

MRL: Are most of these schools now in the same school district.

JG: Most of them. Yes. Then they had . . . The black school was downtown. They said they had a building in the back for the Black kids to go to. They still wouldn't let them in the classroom with the Whites.

MRL: And that was _____?

JG: That was _____.

MRL: And then they finally decided to let the Blacks have a school, so they put it over there on Grant in the warehouses, but they gave them a little property over there. They built a school, and that's where all the Blacks went to.

MRL: For high school?

JG: For high school.

MRL: So you graduated from C.?

JG: Yes. What I did, like I told you we used to go work out in California. And, we were lucky to finish school when we did. When school was out in May, we'd go out to California. We didn't get back until October or November, but school had started in September. So, we had to get back home and makeup these classes that we had missed out on.

MRL: Right.

JG: But we did it! We caught up with the rest of them!

MRL: In your math, and other subjects?

JG: Yes. We had to catch up. That's why I didn't graduate when I was supposed to graduate, because I had to go to summer school, because I had to take the Arizona Constitution. You couldn't graduate from high school unless you took the Arizona Constitution. So, I went another high school. They were just opening that school. They had just built the new school. They hadn't even finished the yard work (landscaping), you know; it was all torn up. They hadn't settled everything out there. A classroom was open there, and that's where I went to take the Arizona Constitution there. I, and this guy that used to go B. with me; he had to take it too.

My brother got delayed somewhere, he and his cousin. He was much older than we were. When I first came out here I was thirteen; they were sixteen. They were three years older than I was, but they were still going to school. Another boy went into the military, but my brother stayed and went to school since he had not been called into the military. He went in later on. He was three years older than all of us, but I graduated with him, and I went to high school with him as a freshman.

MRL: He was determined to go.

JG: Yes, he was!

MRL: A lot of people would not have done that!

JG: That's true. That's true.

MRL: You've given me a lot of information about many of your math experiences – in school, in your medic training, and in your cooking and sewing. Are there any other ways that you used math in everyday life or in the economy?

JG: Yes, because you have to learn how to count your money (*Laughing*), the little bit you're going to get.

MRL: It interesting that some of the people who I have interviewed, who were much older than you, told me that you had to learn how to count your money so that nobody will cheat you. I guess that was important to them, because they had been cheated in the lives. They talked about what was practical for them.

JG: Right!

MRL: You told me that your parents encourage you to pursue your education?

JG: Yes.

MRL: They would praise you a lot?

JG: Oh, yes!

MRL: Were there any other little things they would do for you when you did well in math or in school?

JG: Well, I know when I graduated from the eighth grade my mother bought me my first watch. I think I still got that little raggedy watch laying somewhere around here now (*Laughing*), and it had my name printed on the back of it. That was for my eighth grade graduation. Like I said when I got through with high school, I got the typewriter, you know; when I was going to high school.

MRL: So they gave you little rewards along the way, which were really big things for them. A watch with your name engraved on it!

JG: Right! Right!

MRL: You had children. How many girls? How many boys?

JG: Just three girls. No boys. All of us girls, had girls. One sister had one; another sister had two; and I had three.

MRL: That sounds like math right there – one, two, three . . . (*Laughing*).

JG: (*Laughing*). None of us had any boys.

MRL: What did you tell your children about the importance of education?

JG: I guess about the same thing my mother told me. “Get your education, because that’s what life is all about. Knowing how to handle yourself in life - in any phase of life; you need education.” You don’t have to let education take over everything. But, you need it. Get it while you’re young. That’s another thing. Get it while you’re young. I tell them, “Don’t wait as long as I did; I was 43 when I went to college, and that was a rough row to hoe (*Laughing*).”

MRL: I need to go back just a little, because we didn’t talk about college. We talked about the high school to military. So, when you went to college, what degree did you go for?

JG: Nursing.

MRL: So you just picked up on your experience in the military and pushed forward in nursing?

JG: Yes!

MRL: What courses did you have to take there that might be math-related?

JG: Chemistry, biology – all of them, just about! Social studies, because you had to figure out what was happening in the community, figure out what percentage of this was that, and whatever, you know. So a lot of it included math; you didn't think of it as so, but just about everything I took had something to do with math.

MRL: What degree were you seeking?

JG: I got my B.S. degree.

MRL: So, you got a B.S. in Nursing. Okay. That's good. People are seeking to do that now; that was a rarity, because the R.N. and LPN were probably the norm.

JG: Like, they'd go the hospital and get a two-year. Then they started later on going to degrees from ASU, doing the four years.

MRL: Where did you go to school?

JG: Here in Arizona.

MRL: Oh, you went to _____. . So, you got your B.S. in Nursing from _____.

JG: Right!

MRL: Congratulations, AFTERWARDS!

JG: *(Laughing)*.

MRL: So you were raising your family, taking care of your family, and going to school? What year was that?

JG: That was in 1974. And, I had to take off; I was late getting out, because I had a bout with cancer. I had to take off; go to Tucson, get my surgery done; do my radiation treatment; come back; got back in school; then I graduated.

MRL: So you were determined.

JG: Oh yeah! That's what I was telling my friend. The teachers were giving me such a hard time. They said that they did that for older people going back to school. They were trying to make you tighten up. I thought they were picking on me.

MRL: At _____?

JG: Yeah! A couple of times I had to take them to the deans and things out there.

MRL: You did?

JG: Yeah! I told them. I going to tell you one thing; I got to tell you, and I want you to hear it good. I came in here to get my degree, and I intend to be here until I get it, one way or the other. That's what I told them. And I stayed and stuck it out. Got my degree, and I was satisfied.

I told my sister, "Well, I tell you what. I promised the Good Lord, first, and several other responsible people, I won't ever study that hard again, unless it studying my Bible (*Laughing*)." That was rough! Like I said I had no chemistries. . . .

MRL: In high school, you had none of that.

JG: None of that!

MRL: No algebra.

JG: No algebra to prepare me for this! Now, had I had that . . . But, I got with a group of young women. They thought that I was about their age. They used to tell me that. I told them, "I was old enough to be your mama." They though that I was kidding until I really proved to them that I was old enough to be their mama.

MRL: Were they African American?

JG: No, they were White girls!

MRL: Okay.

JG: And, they got with me and those girls would seat me down just like I was in grade school and walk me through things that they had had like in high school – algebra and stuff. We were all in the nursing school. They really helped me!

MRL: Do you keep in touch with them, or did you?

JG: I did for a long time. Then when I got sick and went to the VA Hospital, and stayed out there so long, I lost track of my girls somewhere along the way. I know where one of them is; she's in Delaware. Another was a nurse supervisor in some hospital in Seattle.

- MRL: That's good! We're back, after that detour. So you told your kids about the importance of education, and you told them also that the time you do this is important as well, right?
- JG: Yes! Definitely! Get it while your mind is fresh. I've got one who is trying to follow through. That's my little, youngest granddaughter; she's up in S. now. She'll be graduating next year. She's going on through. She's the only one . . . A lot of them have had opportunities, but they let the cycle of life out there take hold, you know, and they couldn't shake it. This kid, she just wanted to go to school; she's been going and she's been doing well. She says she wants to be a lawyer, so she's doing a little internship up there in DC this summer.
- MRL: If you had some children around you, grandchildren or maybe someone else's children, what would you tell them about (1) the importance of education, (2) the importance of mathematics and (3) the need for mathematics today?
- JG: Well, my thing is that all three of them kind of coincide with each other. The importance of education is that you will know how to go out and meet the public and converse with people in an intelligent way. And math would come in there, because somewhere along the line you are going to be talking about money, talking about society, talking about the economy. And so, some way you are going to hit math in there.
- MRL: So in that regard, you see a need for mathematics.
- JG: Yes! Definitely! A MATH-LESS WORLD – I don't think it would work!
- MRL: A math-less world! That's pretty good!
- JG: Yeah. I don't think it would work. There has to be math there – somewhere and somehow (*Laughing*). Yes!
- MRL: If a young person told you he/she wanted to become a neuroscientist, a surgeon, a doctor, a mathematician, or a mathematics professor, or go into a mathematics-related career, what would you say to encourage him or her?
- JG: If they had any reason to . . . Or, if I could be of any help to them, other than just telling them to go for it, let me know and I would do what I could to help them to get into it. I am definitely for further education, in-depth education, and it's not just reading, writing, and arithmetic now a days. That's not our world anymore. We are a scientific, (what can I say.) electronic, computerized world (*Laughing*). Electronic, anyway; because anywhere you go, you are going to be involved with electronics.

MRL: A lot of us, as African Americans, are consumers of these electronics and these technologies, but not many are a part of creating these technologies. We want to encourage more young people to be a part of creating. That's where the jobs are and the money is.

JG: Some of us may have been a part of creating, but we give away a lot of our stuff before we get to realize what we got and how to use it appropriately. We give it away. Like way back when, some of the good inventions that came out, Black men had something to do with them. But they bought them out for little of nothing. Now they hardly ever mention that they did it.

MRL: Thank you for your time and this well-rounded interview.

JG: I appreciate being able to do this.

Raising the Roof

I never knew how fast a building
took shape. After plowing all day,
the men hammer and saw till the sun sets
and they can't see no more.
Just before the cold snap,
they raised the roof. *Soon as
the weather breaks*, said Daddy,
walls and windows go up.
Wont; be long, then.

- Carole Boston Weatherford

Joseph's Story

Mr. J.W. is an 81 year-old African American man who was born in South Carolina in 1932. He was one of five sons. At age 6, he began first grade at an elementary school in Pennsylvania. He continued school at the junior high and the high school. . His father and mother were born in 1884 and 1906, respectively. His family never experienced slavery, so he had some advantages that many Blacks didn't have.

The Interview

MLR: Can you describe for how it was to be an African American boy, having been born in 1932, and growing up in the following years? How was life for you at that time?

JW: I grew up in a Polish community; most of the folk were Polish. And the community . . . let me describe it this way. I grew up in Pennsylvania which was a steel town. And it had been inhabited by people from Europe, and of course, the steel industry grew up. As the steel industry grew, they needed more workers. And so they deliberately went into the South, recruiting Black workers, and they moved into an area, that was pretty much established, but they were coming in so fast until they didn't have adequate housing. So, they began to build inadequate housing. The community was called B-town, because people laughed at the housing that went up so quickly for Black folks. The town was established in 1810. By the year 1940, only about 29 young people had finished high school. The reason for that, they could stop school at age 16 and get a job at the mill. They could go in the mill and make more money than their teachers, because of the steel industry being available. So there's the background.

Now, of my twelve years in school, I only went to a Black school one year, and that was in the 9th grade. And since the community in which I lived, the Whites and Blacks, when I say Whites I am speaking of Italian and Polish and so forth, lived on about the same economic plane. Color and race was something that almost We didn't think about it, because we were all in the same bracket more or less, you know.

I went back years later when I had married and took my children, and my first grade teacher was the principal then. And, I went back to her office to see her. And I made the mistake of asking, "How many African American students do you have in the school now." She said, "You know, J., I haven't really counted them. I don't think of the race." So that type of thinking still existed, and that was just a couple of decades ago now that I did this. But that's the background. So I don't have the typical experience of growing up in a minority or majority Black area.

Because only one of my years, and they allowed that in the 9th grade, so we could get some Negro history.

MRL: That's interesting. Could you describe your family life or how things were for your family in particular?

JW: Actually, my father was a Methodist minister in South Carolina who later became a Seventh-day Adventist. My family eventually moved North to take advantage of economic and educational opportunities. I was 3 years old at that time. My father continued in religious leadership role in the North also.

I knew my mother's mother, but I didn't know my mother's father. I didn't know either of my father's parents. My father was one of the few people born in South Carolina, whose family members were never slaves. He had some advantages that many folk didn't have. (He) ended up starting out as an insurance salesman, and he had a rubber-tire buggy which in those days was the Cadillac. And so he got around and he had many advantages that he enjoyed.

He was married and had four children. And his wife died. And he was left with the four children, then he married Mama; she was a few years younger. She more or less grew up with the children; they were teenagers, and she was not far from them (in age).

My mother's side of the family can trace their history back to the first two who came over here from Africa. Up until two years ago, for the past twenty-five years, my second cousin was the president of a southern university. That part of the family is pulling together the history. My mother had already pulled together 50-plus pages of rough notes that I am handing off to my daughter since she is working on this project.

MRL: Your situation is much different from many that I have spoken to, but it is still provides good source of information about your mathematics experiences. With that said, could you describe your school setting and the environment of your school?

JW: I went to a school called H. Now the first family in _____ was an industrial family from Europe, and their names were H. And, in fact, their house, which my grandmother lived in later years, was a large house; and it also was a clinic because when the town was started in 1810 there wasn't a hospital or anything. And so, part of the house was used as a clinic, and in later years, of course, the clinic gave way to a hospital and other hospitals. The place became a duplex, and my grandmother rented one side of it, you know.

But I went to the H. School, and as I said, the Blacks were not the majority in the community. So, we were just students. And, no one said anything about race, and of course, our families worked in the same place mostly. So, we were in about the same economic bracket, you know. And that solved a lot of problems, because we prayed together, we lived together, and you know, things like that.

MRL: You had all the resources you needed to go to school?

JW: Yes, I did, because the H. School was well-established. And we would go there for eight years, and in the ninth year, you'd go across town to a Black school. Now some Blacks didn't have that experience. They never went to what was called J. A.

. We went there for the ninth grade, and then we learned about our history, because prior to that, except what our parents told us, we didn't get anything about Booker T. Washington, George Washington Carver, and all of this, you know. It just sort of immersed us in Black history that one year. Then the tenth year, you were back in high school with the same students that you had been in elementary school with and junior high, but you were also with students who came who were bussed in from little towns nearby, and so your whole world just opened up, you know. And none of our teachers . . . The only year that I had Black teachers was that ninth year. All of the teachers were White, you know.

MRL: So that ninth year that you went to the Black school, the student population at the elementary and junior high basically became all White?

JW: What happened, they sent them to G., which was another junior high school. So the kids who were with you for eight years, in the ninth year you didn't see them anymore, but you just saw them on the street, you know. Then in the tenth grade, we were all back together again. Because there were no Black teachers in my high school, and of course, after I left, some of the teachers that were in junior high, in the ninth grade, some of them were pulled over to senior high, and the teachers were integrated.

MRL: It appears that you didn't have the traditional barriers and obstacles that a lot of Black people had – economic, political, segregation, and Jim Crow. You didn't have any of that?

JW: Not to the extent that some had. Now, as I mentioned . . . I knew enough from my home environment. For example, one time when I was in about the 7th or 8th grade, the teacher said, "All of you students have some white blood in you, you know." And I piped up and said, "That's nothing to be proud of." And she looked kind of embarrassed and went on to something else. You know, growing

up you are going to hear certain things in the world, and certain people say things to put you down. And you sometimes are tempted to speak up to it, you know.

MRL: In your schools, you had blackboards? I'm looking at the list on your questionnaire.

JW: Yes, I had blackboards; a gymnasium where we had assemblies and we played games and so forth. It was . . . Well, as I said there were people in varying economic brackets because of the mill, and some worked at the mill and some worked at the VA hospital. And their children went to these schools, so they saw that these schools were pretty much equipped with what was the state-of-the-art then.

MRL: I see a list of tools and resources that you used to learn arithmetic and mathematics. I am going to read some, and I will stop to ask you about some of them, okay?

JW: Alright!

MRL: The blackboard, were you called up to do work on the blackboard?

JW: Yes. In fact, afterwards at the end of school, kids considered it an honor to be asked to be the one to stay and erase the blackboard (*Laughing*). You thought that the teacher really thought well of you if you could erase the blackboard.

MRL: To what grade did you have self-contained classrooms? When did you started to change classes?

JW: Each grade had its own classroom, and you were downstairs in the building until you got to about the 6th grade, because the school went to the 8th grade. So you would be downstairs until you got to 6th grade and then 6th, 7th, and 8th was upstairs, second floor.

MRL: Was that considered junior high?

JW: It actually passed from elementary to the first couple of years of junior high. But as I said you stayed in that school through the 8th grade, then in the 9th grade, which would have been like the last year of junior high, you went over to the Black school.

MRL: I see (on the questionnaire) chalk, pencil, paper, but then I see graph paper, which most people didn't have on this list. How did you use graph paper?

JW: Well, actually there were things that you could do, like a chart or something. But here again, I might say, that during that 9th year when we were separated, the

White students were exposed to a few other things that we were not in the Black school.

MRL: So there was differentiated instruction between the Black and the White schools?

JW: In fact, they got some classes that were different. And so, when I went to the 9th grade, I took algebra, and actually I passed it. But I was doing honor work, and I wasn't satisfied with the grade I got, so when I went to the high school, I took it over again and certainly to make a better grade, and I did! Then of course (I took) plain geometry and general math. . . . Now, had I not taken that over again, I would have gotten into, by 12th grade, trigonometry and things like that, which I didn't. But I graduated with honors and that's what I wanted, and I wasn't satisfied with the grade I got. But I must say that that one year did make a difference between the White students and the Black students, because we weren't expose to as much as they were that one year.

MRL: In the area of mathematics?

JW: Math especially.

MRL: Do you know which courses they took that you didn't take?

JW: Well, I can imagine. Because I know they were taking solid geometry and plain, well we had plain geometry, and they were making little models of things, you know. And not having the background in the 9th grade that we would have had. You know, I always said, if I start in a class with somebody that hasn't had any exposure to it (content), I expect to be among the top. But they had an edge on me (*Laughing*). And that makes a difference. And that one year did make a difference.

MRL: What about the number line. How did you use that?

JW: I know that's used quite a bit now when you are making an evaluation or something, you know. You reach zero and then you go to the negative side, yes. No, we have too much of that, not in the grades that I mentioned.

MRL: What about protractor, you checked that?

JW: Oh, yes. We had a protractor and compass and so forth. In fact, we'd get pretty artistic making designs with those (*Laughing*), you know.

MRL: You didn't use a slide rule though?

JW: We were just given exposure to it. I had one, but I never became proficient in it. I know that's just like a calculator.

MRL: It was a calculator for that time. I remember I had a slide rule when I was in high school. Just for clarification, every grade had its own classroom?

JW: That's correct! I might point out that back in those days, they had on the back of your composition books and so forth, they had the math table, you know 12 times 12, and you tended to memorize that so that very quickly, you know, you could just do the calculations. I don't see it too much on books today, but I guess there are other ways of getting that ingrained in you.

MRL: The jury is out on the need to learn the multiplication tables today because of the availability of the calculator.

Looking at your questionnaire, I see that you took reading, writing, mathematics or arithmetic, science, history, and then other subjects you listed were French and mechanical drawing, right?

JW: In fact, you were given an option. You could go into the shop; you could do carpentry; you could do electrical. And I took mechanical drawing. In fact, one of my teachers wanted to encourage me to go into becoming an architect. He was talking how few architects that were Black. Even though I liked the subject, I didn't want to make a career of that. But I've used it quite a bit in doing simple drawings since I have been in the ministry, you know.

MRL: You did drawings maybe of possible building projects?

JW: Yes. And also, metal things, you know. You had to know how to lay it on the page and how to align it so you could print it and it look professional. You'd print by hand. You had to know how many spaces to allow, and so forth. I enjoyed that, because it required a lot of skill, and neatness, and so forth, you know.

MRL: Let's go back to the math. Of the subject that you took in math, was there one that you liked best?

JW: I enjoyed geometry, and I repeated algebra (*Quick Laugh*), so I It wasn't the challenge it could have been had I used the first one as a springboard and gotten into a higher math.

MRL: You liked geometry. Did that kind of align with your like for mechanical drawing?

JW: Somewhat! Somewhat! And you know what's interesting? But I understand that when I was small, I was not too free in just speaking out. And they said in church one time, they were taking up the offering and I just blurted out, "What are

they going to do with all that money.” A (church) member told me, “You said that when you were a little boy.” They told me that after I had become the treasurer of a conference (a consortium of churches over several states). They said, “Now you probably know what they’re going to do with that money.” Maybe it was prophetic that I would say something like that, because my work in the ministry for a number of years dealt with finances.

In fact, I should say when I went to college in Alabama, I was planning to study for the ministry. But when I got there, I met a number of fellows who were going to study business. And I said if I go back home and tell folks that I was studying for the ministry, they’ll tell me, “Look people who preach just get up and preach a trial sermon, and you went to school to be a minister?” So I said I will minor in religion and major in business; which I did. Before the first year was over, I felt rebutted that I wasn’t majoring in religion. I had dreams that I should change. I was told that I could change the next year, because I had taken so much business. When I was told that I could change my chair, that was all the encouragement I needed. During that summer so many things happened that led me to know that I was going in the right direction.

When I came back to school (the next year), I changed, but I had to take additional subject in order to make up for not having been on the same track with my first year. Then I spent a summer at the college, taking summer classes so that I could graduate in my class after four year. But I ended up having taken some many business courses that I ended up with just one or two courses short of having a double major. But I was able to use those as I worked for my Masters, and of course, I went on and got my Doctor of Ministry, you know.

MRL: Now let’s explore that, and I will come back to the math. When you finished James Adams - that was the junior high school, right?

JW: It was.

MRL: And you went to what school after that?

JW: S. H.S. High School.

MRL: And from there you went to college?

JW: From there I went to college.

MRL: From college you went where? And you got a Bachelor’s there?

JW: That’s right. And then I was sponsored for a summer course in Western Pennsylvania, and I went there. Then after that I began an internship in the

Northeast. I announced before I went there that I would be entering the seminary by the next year, and true to my plans at the end of that year, I went to the seminary.

MRL: Going back to the math, of the courses that you took – when you took addition, subtractions, multiplication, division, fractions, decimals, per cents, ratio and proportions, how did you like those areas of arithmetic?

JW: I liked it. At that point, you know, you wonder how are you going to use this later in life. I enjoyed it. Really, it was not much trouble.

MRL: So when you got to algebra I, what was your experience there?

JW: As I said, that was such a change from what we had in the 8th grade, until I passed it, but I wasn't satisfied with my grade, you know.

MRL: Was that in the 9th grade?

JW: The 9th grade. But, I took it again in 10th grade, you know. Then I felt real good and, of course, I accomplish my purpose of being where I wanted to be at graduation time.

MRL: When did you take algebra II?

JW: In 10th grade.

MRL: Did you see algebra I as a foundation for you when you took algebra II?

JW: It was, because it was like auditing a class. I didn't know the word "auditing" in those days. But I knew I didn't want a C; I wanted a B+ or an A. So for my own satisfaction, I took it over again. So it was a challenge, because you know you are just trying to achieve an end. Whereas had I gone on, which I could have, but I felt I might be weaker going on until I really had a good foundation there.

MRL: That's true today. That same idea is true today.

So calculus, statistics, trigonometry, those weren't part of the offerings?

JW: In fact, I took college prep; they had some additional courses that one could take if they had the background to begin them in senior high.

MRL: When you talked about the minority/majority population in your community and your school. Of the kids who were African American, can you tell me the percentage of African American kids in your school?

JW: In high school, I think about we had about 500 to 600 kids. I would say about 60 or 70 were African American.

MRL: So about 10 percent.

JW: But you know they weren't all from the community where I lived. The Juvenile Department in Pennsylvania would pick up young people who were committing little offenses in some town and they sent them to a boarding facility near where I lived, about ten miles from where I lived. And when school time came, they dumped them into the school system. And so these were young people who were pretty hardened; some with some habits; some couldn't make it because they got in difficulty. So a lot of the young people that you knew out of the number that I was telling you about, you really didn't know, because you only saw them at school. They were people you played with and things like that, you know.

MRL: Of those 50 or 60 Black kids, how many were in college prep?

JW: Most were not. Most were not. In fact, it's surprising. From the group we did have, we did have some in the class before me who went on. Let me say this, when I started high school, there was one young man who had gone to the military, and he was a 2nd Lieutenant. There was another young man who went to college in Maryland, and he finished school. He had studied agronomy, and when he came back, he couldn't find any work so he ended up in the mill. And folk would laugh about it and say, "B., he got this education and can't use it; he's back here working with me." As I said, there was a great desire for young people when they got sixteen to go to the mill and make money. The unfortunate thing was they made the money, but they didn't have the mentality to use wisely. So you had that problem through the years. And eventually the mill started offering scholarships to those who excelled in certain areas. And more Blacks began to accept the challenge of trying to get one of those scholarships. Eventually, with Black teachers being there. . . . They had scholarships that were going wanting, because there weren't Black students who would accept them.

And, in fact, when I told the guidance teacher that I was going to college, she laughed at me. I made some contacts on my own.

MRL: Why did she laugh at you?

JW: She said, "J., that school is probably in the back woods of Alabama." She looked in Lovejoy's Complete Guide to Colleges and University, and my college choice wasn't there in those days. She said, "Do you parents know what they are doing?" I said, "That's one of our church schools." She said, "I know, but they're going to cripple you. I have schools with scholarships here, for Lincoln University and

other schools, and they are for minorities. And you're not. . . ." I said, "No." (*Laughing*) But that was the attitude. Of course, even then students going to this college were accepted in other schools, even though this college wasn't accredited. She just saw it as something that was going to be a waste of my time. I told her that I could accept that. She said, "Bring your parents over here." I said, "That won't make any difference, because it's one of our church schools, and they want me to go there."

MRL: Going to the other side now, what did you like or dislike about reading and writing?

JW: I liked reading. In fact, I read quite a bit. Actually, I became aware of some things, and I did a research paper. I did two research papers in high school. One was about the development of streptomycin, and I wrote Dr. Selman Waksman who was the inventor of it. And he sent me material back. The teacher was really surprised that I had gone through the trouble. But then I did another research paper, because I would see the non-White students, when exam time would come, they would be passing around copies of old tests and so forth. That bothered me, because I knew some of them didn't know some of the things I knew.

MRL: You said these were the non-White students?

JW: I, I, I didn't want to say "all White." But at exam time, they would be passing around mimeographed copies of test. The teacher must have been providing it for them, because it would be the same test from a previous year. I did a research paper on "Fairness for All Students in an Inter-racial Society." And so, I went to one teacher, and asked the question, "Did she feel that students from wealthier homes and so forth were given certain privileges that other students were not?" And that was the kind of questions. She looked at it, and she had an embarrassing moment. She immediately put her approval on there and let me go. But I did take the occasion to speak out in this paper about things that I saw that were not equal. Like you couldn't be on the swimming team and things like that . . .

MRL: You couldn't be on the swimming team, why?

JW: Blacks weren't allowed to be – swimming and tennis. Now basketball, football, baseball, you know, you could be. Now I ran cross country, and I happen to set a course record one time, so they gave me special honors in an assembly. I won a gold shoe and everything.

MRL: It appears that even though people said that they looked at everybody the same, there was a subculture of inequality?

JW: That's right! There were no Black teachers that you could identify there. Now what they did; they took some of the teachers from Adams who were very good, and they brought them over about a year or two after I graduated from high school. But the only Black person working for the high school at that time was a secretary who had finished there in a commercial course, and she had gotten married, and she was the only one that you saw who was employed. Not even a janitor was of color in those days.

MRL: You mentioned that you liked geometry, and you went back and honed your skills in algebra, when you compare reading and arithmetic or mathematics, which did you like best?

JW: Actually reading.

MRL: Did your parents believe that there were benefits to you going to school?

JW: In fact, my father would say to us, "Prepare yourself, because the opportunity may come." And he would tell us about some of the famous Blacks who had overcome obstacles to achieve. He kept that before us. In fact, my second oldest brother one time got the bright idea that he wanted to quit school. My father said, "You not going to quit school, not here." That wasn't something that you would ever mention, you know.

MRL: Were you encouraged to do well in school by your teachers?

JW: Yes. Well actually, I guess as I mentioned. I had this course in mechanical drawing, and that teacher encouraged us. Chemistry, biology, and so forth – they didn't discourage us. In fact, I remember in chemistry, there was a Mr. C. Mr. C. was a little prejudice, even though he would never admit it. But we had a young lady who came from Ireland. And so, we had like partners that you would work with, you know. Her seat was right next to mine, and so we partnered. So one day when we went to class, he had changed my seat and her seat. She went up and asked her why. I knew why, because he was prejudice. They weren't too blatant about it.

I helped to recruit kids for the cross country team, because this time I made a record. The cheerleaders were down there. Now they had one Black cheerleader, but the cheerleaders were there. And when I came in, I was ahead of everybody, and I had slobber all over my face. And one of the White cheerleaders grabbed me; I don't know where she got the Kleenex from, and wiped all the slobber off my face and hugged me (*Laughing*). The next year we had several Black fellows who hadn't thought about cross country to join the team.

MRL: I know your parents encouraged you to do well in school; were there any other people that you can remember besides teachers and your parents who encouraged you?

JW: There were folks in the church. And there was a Professor A. who was the principal of J.A. school. Professor M. who lived in the community, and he would follow kids through school. When I say that, he would ask you how you were doing; he would ask you what school you were attending; and at graduation time, when you finished whatever grade, he would give you a few dollars. Everybody called him Professor M. He was one of the people in the community that pushed education.

When I came from college one summer, I went up the hill to the store. And I came back with a bottle of milk, and it was in a bag. So Professor M. saw me, and he said, "J. you didn't drink when you were here; are you drinking now." So I carried the milk down the hill without the bag so that he could see it. He thought that I was picking up bad habits that I shouldn't. He was a force in the community to encourage young people.

I just sent an email last night to a friend of mine who's having a birthday this week. He grew up in the community. He is one of the first to get his Ph.D. His name is R.R. He finished L. University, then got a Masters from D. University, and a Ph.D. from a school in Philadelphia. I didn't know he had his Ph.D., and I congratulated him and told him that he was an inspiration to many who came after him. Professor M. is dead now.

MRL: In regard to arithmetic and math, was there anyone who specifically encouraged you in those areas?

JW: I guess maybe my older brothers.

MRL: What did they say to you?

JW: You know they would check to see how I was doing. In those days, parents weren't able to help you that much, but they would say to ask my brother. And then there were some students that . . . Actually I'll tell you; I got in trouble sometimes with this, because I would do my work, and it would be pretty neat. A few of my friends that I either worked with or went to school with, sometimes they wouldn't do their work and they'd ask to use my paper. I knew what they were doing, but it was kind of hard to say no. So by the time I got to school, my paper would be wrinkled. The teachers knew because they would see erase lines on other papers. They knew the kids weren't doing the work, but they didn't want

to call anybody a liar so it got by. Most of them didn't want to bring books home, and I brought books home every, every day. And they thought that was useless.

MRL: Aside from formal schooling, were there any other organizations in the community where you learned academics?

JW: You know the YMCA had what was called the Greater Sunday Meetings. And most kids wouldn't go there, because it wasn't a "shoot-um-up." And so, I would be there almost every Sunday. Starting a little later in the season, like in the fall, they would put a schedule up out in front of the YMCA of the various meetings. And there would have travelers from all over the world to come, and they would not only show pictures, but like Homer Rodeheaver would come and he would play his slide trombone, you know. And I would be there; it would be Sunday afternoon. I'd go religiously. There would be very few Blacks in the audience, and I'd be there. It gave me a vision of a wider world, and it exposed me to some things that I would not have exposed to otherwise.

Now I worked for the YMCA in the bowling alley, and I worked there for about four years, and thus I could actually go to the movies whenever I wanted to. Like one year, I saw 158 different pictures, at two or three a week. So that added to my repertoire of knowledge.

MRL: You mentioned that you were able to use your arithmetic abilities and skills in work after school, in what way?

JW: I had taken business math, business law, and everything in college. For a long while, I wondered why I had taken so many business subjects. I had taken bookkeeping which was the same as accounting. And I got a special certificate for entering a contest in accounting in college. I could have gotten a position in business, but I said no, if I do that I probably won't be able to get into the ministry. I wasn't thinking about the treasury at that time. But I can see why the Lord allowed me to get this training now.

MRL: How have you used your math and arithmetic skills in everyday life?

JW: Let me say this. When I became treasurer, I took a management accounting course at a university in Ohio and I took additional courses at there too. I tried to add to my knowledge to do the work more effectively as a conference treasurer. I was also a union treasurer in Africa.

MRL: Your parents encouraged you in school in general, but not necessarily in mathematics?

JW: No, not necessarily in mathematics. Just in general. I should say that my dad, to show the type of person he was, even though he had I guess had a good foundation. He didn't have a degree or anything. He took courses as an adult to keep refreshing things. And my mother was a practical nurse. She finished that and she spent a number of years nursing in institutions. During the war, she worked in a munitions plant in Maryland. She was educated in the school system of the Presbyterians.

MRL: On the questionnaire, I asked the question, "How did you feel about learning math?" I had certain characteristics – happy, confident, anxious . . .

JW: I mentioned this chart that was on the back of composition books, and I was just thrilled when people would ask me what is 10 times 10, 12 times 12 and so forth, and to be able to just rattle it off. It gave me more assurance; you like to show off some times when you have studied (*Laughing*)

MRL: You also checked "anxious." What did you mean when you said that you felt anxious about learning math?

JW: Well, knowledge is power. For instance, sometimes you go to stores and folks are at the cash register with a calculator, and sometimes I will come up with the answer, and I'll say it loud enough for them to hear it, then when they get the answer, they look up in surprise (*Laughing*).

MRL: So you had three daughters, right?

JW: That's right!

MRL: What did you say to you daughters about the importance of education?

JW: Oh, we emphasized the importance of education to them. And they all, except one, took courses other than what they finally ended up majoring in. We told them that they had to finish in something. But they did finally find themselves.

Our oldest daughter completed a degree in home economics, and she went on to a university in California. and got her MBA. She works for a financial institution in the home office in Iowa.

Our second daughter started college and went to Korea as a student missionary for a year where she was also learning Spanish. Then she went to Puerto Rico where she graduated. She is a senior auditor and one of seventeen that teaches other auditors their work.

Our youngest daughter went to college and nursing school. She graduated as a nurse, and she has been certified as a public health nurse. She has been doing that

for about twenty years. Her husband is a nurse as well. They both speak Spanish in their work.

MRL: I see that you encouraged them regarding the importance of education, but did you ever insert the importance of mathematics.

JW: One daughter sought additional studies in accounting.

MRL: If you had the opportunity to talk to a child today about the importance of arithmetic or mathematics, what would you say?

JW: Our grandsons are aspiring for college degrees. We say to them all, "You can't make it unless you are qualified today." We encourage them.

Dear Mr. Rosenwald

Even before the bell rang,
we children lined up at the door.
Me with bows in my hair
and ham biscuits in my lunch pail.
I share a desk with Lottie Mae.
Miss Shaw got busy right away.
Our first lesson – letter writing.

Dear Sir,
I am ten. I like to read books.
My best subject is arithmetic.
My parents are counting on me
to learn all I can. This school
is the first new thing I ever had
to call my own. I'm going to stitch me
a dress in the sewing classroom.
One day, I'll be a teacher like Miss Shaw.
Yours truly,

Ovella

- Carole Boston Weatherford

Rita's Story

Mrs. RJ is an 80 year-old African American woman who was born Missouri in 1933. RJ attended elementary school and later attended an industrial school and high school. JR was an only child, but she grew up with a host of family in an extended-family setting during the Depression years.

The Interview:

MRL: Can you describe for me how it was to be an African American child born in 1933 and in the years that followed, maybe up to age ten. Can you tell me how life was for you during that time?

RJ: I was born in 1933, so I wouldn't remember too much at that time until I reach about the age of . . . (We didn't have too much math during the kindergarten, just manipulative things, and the basics things – getting ready for math.). So, I would say it started at about 8 years old.

MRL: Before we get to the math. How was growing up during that time. Did you think that life was great? Did you think that life was not great? I don't mean to go into any personal information. But just in general, how was it being an African American child growing up at that time.

RJ: I was born in 1933, so I will just go on from there, as much as I can remember. Okay.

We lived in an extensive home during that time because we were coming out of the Depression. The Great Depression! Okay? I don't remember too much about the Depression, but I would hear my grandmother and my mother talk about it. So, we lived in an extensive home. It was a pretty big house, where aunts and cousins all lived together to make one pocketbook during the Depression. Families all moved in together. So, you would call it ... What do you call it?

MRL: Are you talking about, an extended-family home?

RJ: Yes, an extended-family home.

RJ: So in this home, we had the grandmother, we had my mother, we had my aunts and cousins -- aunts and cousins. My grandmother was head. Because grandfather died long before I was born. She was a widow lady. And most were widows. My aunts were widows. My mother was dating, but she was very young. So, she worked most of the time, so I was left with my grandmother. I was an only child, so I played with my cousins. My cousins were like fifteen months younger or a year or nine months older. We all grew up in this big house.

It was pleasant. To me it was pleasant, because I never heard them arguing in this big family; this is my child. My aunt who stayed at home had the three children which were my cousins; she always took care of me – like braiding my hair, seeing that I was clean, and all these things. My grandmother would do the cooking and the washing and the ironing, and sometimes she would have the care of us and also her daughter would pitch in and help. So, everyone helped.

The thing that I really remember about my life was my grandmother mostly raised me, because my mother had to go out and work. And they had a program where they - the younger women went out to do this work during Roosevelt's time. They had this program where they went called the NYA. I remember that's where mama would do embroidery and they would teach them. So most of the time, she was always out.

But, my grandmother – I remember her table. She always had a beautiful table. Her table was always with napkins. And, I don't know how she did this, but it was always napkins that were ironed. These were linen napkins. And, she always had her plates out. They were china, china! Grandmother had all these things when she was younger when she was in her marriage.

We always had pleasant food, not very expensive food, at that time. But always on Sunday, she would have chicken and dumplings. During the week days, if we had simple food, it would be like beans, and some rice. She had a little garden outside; we lived in the city, but she would always have a little garden outside. She would have green beans or something. And, it was always flavored with just plain salt and not too much pepper. Sometimes she would have fried chicken with it or something or other. But, we all had a certain time to eat, and the table always had a pretty lace tablecloth. She was raised by very rich White people. She was taught to do these things. You know, it just came naturally.

I played with my cousins. Sometimes we were naughty, but we never got beatings. My aunt would go outdoors and get a little bitty switch and switch our legs or something. And that was about all. And, grandmother didn't like that. She didn't like her even with the little switches. She was very tender hearted. I always went to sleep in my grandmother's arms. This is the way my life went.

When I got older, she would send me down to the corner store. My grandmother didn't go out too much. And, she would give me a list, and I would go to the store, at a young age I remember. I would get items from the store. I would run all the way there and all the way back. And I was just very active. And that's about all.

MRL: Well, that sounds good. I am actually picturing what you are saying.

RJ: I want you to picture a big family.

MRL: So my next question. I have a picture of your home setting. Can you describe your school setting and the environment in the first school that you went to.

RJ: Okay. I went to elementary school. And, I started at kindergarten age. I had to walk. My mother would take me the first day and the second day, and something like that. And, I would go to the kindergarten. And the setting there was they always had a rough, average looking kindergarten school. And mostly Blacks went there. It wasn't White at all, or other races. It was Black races.

MRL: So you would consider it a segregated school?

RJ: It was a segregated school. And, well, we just had kindergarten. And she would have little things to prepare us for math, spelling, reading. And we had manipulative toys.

MRL: Now you've used that term, manipulative toys, a couple of times. Can you explain to me what you mean by that?

RJ: Manipulative toys are preparing the young child for math, reading. It little toys that you may put – it's a board; they have a board. And you would put different colors, little sticks to match the color in the board. Manipulative thing came to coordinate your eyes. Your eyes were different; they needed development because you are a young child. And your hands need to be trained for the coordination of your muscles in your fingers and your hands. That's why it's called manipulatives. So, we had to learn how to work with these things with our hands, our fingers.

MRL: I know in mathematics, there is a term, manipulatives, as well. I just wanted to know what your meaning was.

RJ: It was for math.

MRL: For manipulatives in math, what did you use?

RJ: About the same things. We would use little tiny blocks. Or little balls where we would match. Our paper work would be matching and discrimination of different objects. Like the squares, we learned about squares and triangles and all these things.

MRL: So, you did this for geometry.

RJ: Yes. We did that. And then the math would come where we would match the number one, we would put one dot or one ball there. For two, we would put two little objects there. And three, this was manipulatives and this was for math.

MRL: Did you have a math book?

RJ: Yes. We had math books. Each child had a math book. Sometimes we did sheet work. She had her own teacher's test. She would draw them out from her book when we would have our test. And the test was very simple, pleasant, and not long at all with kindergarten. You know, just a sheet.

MRL: So when you moved up to second, third, and fourth grade, how was it then with math?

RJ: With math then? I always caught on to math really in the early years. We would just have our regular book on math. And during the math period, we would have just about the same things, but only broader. Like what we had in the younger years, we had 1, 2, 3, 4, or 5. But then it began to have like 3 fives, or 4 fives, and we would have great big, large books that had large numbers where we could see very well. We would have these long . . . what would you call them – sheets! that had folds, you could fold them; the teacher would fold them and what would you call them – charts, charts! And they were on rings. And she put them in the middle of the group time. We had always group time. It was very good during this time. During this time, we always had groups for our math.

MRL: So you worked in groups?

RJ: Yes, one or two. And then she put us altogether from the beginning to see where we stood or which group we belonged in.

MRL: So she kind of assessed which group you should go to for that day?

RJ: Yes, for the whole semester.

MRL: For the whole semester, okay.

RJ: So, she had this chart, and she had a long stick and she would point to it. You know. One, two, three, and then she would say add them, add the numbers. And we had 1 and 1 is 2. But as we grew up, she would put them in like 1 and 2, 2 and 3 -- group them and we had to add or subtract as we grouped. It was simple at first, until we got to third and fourth grade.

MRL: Were these different teachers in each grade?

RJ: We had one teacher. If you were in the third grade, you had one teacher. In the fourth grade, you had one teacher.

MRL: How many grades were in your school and how many teachers?

RJ: It went up to the seventh grade.

MRL: So, there were at least seven teachers there.

RJ: Seven teachers were there, and we all had one teacher for each year. And as the years went by I never had trouble with math. I loved math, and I was always in the first group.

MRL: So, the first group meant you were the better students.

RJ: Yes. Yes. And it had to be that way because some children learned slower. And the next semester, she would always test us, and sometimes the children would move from the second group to the first group. It took some children longer, because of their birthdays, you know. We did that. I really liked it. I always got good grades in math, in all my subjects really. Fourth grade, now how long do you want me to go?

MRL: You can go a little longer. Let's go to sixth grade, okay.

RJ: Sixth grade became harder for me, because of different things of my home life began to be interrupted with my school life. In sixth grade, my parents were divorcing, separating. So, that bothered me quite a bit. And, being the only child, I couldn't express it because we had move from the home where all my cousins and all of us lived. We all began to separate, because times got better. So we began to move to our own homes, each family, except Grandmother; she stayed in her own home. They would come to visit, but someone was always with Grandmother. Someone always had to come back home. So we lived like that.

MRL: Did you go to a different school when you moved?

RJ: No. My parents lived in the same house. When my mother moved out with her husband and all; we lived in the same house. The building - my school was about two doors down. So, I did all to the seventh grade.

MRL: And, that was all in elementary school.

RJ: That school had – from one, two, three... to the seventh grade. All the grades was there. And they had very good teachers, very good teachers. Our principal was a good principal, Mr. C. Math, at the sixth grade, math became kind of difficult because of the interruption in my home.

MRL: Let me ask you this; I don't want you to go too much into that.

RJ: Okay.

MRL: It sounds like you liked all of your subjects – reading, writing . . .

RJ: I did.

MRL: History, geography?

RJ: I loved all of them. What happened really; I was coming out of it; somehow it improved by the time I got in seventh grade. And I was passing where the teacher called my mother and had a conference. And, she said that she wanted me to be skipped because I was really a child that needed to be skipped to another grade because I was growing so fast and developing so fast with my studies.

Fractions were just a whiz to me. I loved fractions. When I got bothered or had problems at home, it was something different. I would do fractions; I would come home and just do fractions.

MRL: Oh, really?

RJ: Yes.

MRL: So, it kind of calmed you down?

RJ: Yes. Yes. And took the problems away! THE MATH TOOK PROBLEMS AWAY! (*Quietly laughing*)

MRL: So, the problems took the problems away, huh!

RJ: I would just sit down with paper and do math or do art work. Art work has a lot of math in it. Art work had a lot of math in it! Sometimes, I would just draw different flowers, and I would count them, and have them in this section. And then, I'd have different kind of flowers in the next section. And that was just grouping them. So, I would do that. The teacher just wanted to skip me to another grade. It started around the fifth or sixth grade, things got better. But, my mother had moved back with my grandmother, so things were a little better. I don't remember so much of it, but I know they called my mother, and told her they wanted to skip me because my grades were so high.

MRL: It sounds as if you liked all your subjects.

RJ: I did.

MRL: It sounds like you especially liked math.

RJ: I did like math!

MRL: So, when you compare all of your subjects to math, did you like math better than the other subjects?

RJ: No. No. I liked history. I liked history. I liked it very well. And, I liked reading. But, math came in with all of it, because what happened; I see that math is most important, even when you're reading, because of the lines, every paragraph. Like the teacher would say. . . Well we had reading; I'm just giving an example; the teacher would say, "R, you take the second paragraph". Well we had to know where the second paragraph came in. So, that was math! It really was! Or, take the second or third sentence. She always told us that I think to bring our minds back because she would think that maybe we were deviating from where we should be, or staring in space or whatever, and she call each child's name. Take the third sentence, so we had to count that. Math came in with a lot of things, as I remember.

MRL: I can see the time is moving toward 11:45 appointment, so I'm not going to hold you pass that. We will have to come back and finish up. But, I have a few more questions, okay?

RJ: Alright.

MRL: How do you believe that the subjects you took in school helped you in life? Let's start with reading.

RJ: Reading is important too, because reading gave me an outlook on life a little better. And, it is a means of communicating with people, and learning how to pronounce words. Reading was fun, because you read about different people in different countries. And, that was very interesting. I liked to read about different people in different countries.

MRL: What about writing?

RJ: Writing? I loved writing. And, I still write at home. I write, just write at home – Bible scriptures and those chapters and things, how I felt about a chapter. So, I am always writing here at home.

At school, my writing was superb, or whatever you call it. It was very beautiful writing; the teacher always would call me to the board. We had a lot of board work. And math was always on the board.

MRL: What kind of board did you have?

RJ: Big boards!

MRL: Were they blackboards?

RJ: Yeah. Blackboards! Chalkboards! They were black, and we would use chalk. And, she would call us to the board. And we would have to write our numbers or math. She would call the math out. Like “260”. We had to write that. Then she would say, “490”. We would add that, and “560 or whatever”. And it was grouped. Then she would say, “Add them all”. But, she would say it slowly, so we would have time to write it out.

MRL: So with that said, how do you believe that math has helped you or would have helped you in later life? I mean, from a child, did you ever think that math is going to help me later do something?

RJ: Yes, because math is very important, because, it would help me count my money. My bills, or whatever I would want, you know. Just life, you know! Math would come in with going to the grocery store. The items I would get the store, when my mother would send me to the store. The money that I would have in my hand. How much one item costs, and the other item costs. It helps you all through life. Math is very important. Paying your bills as you grow older, and I always want to do that. So, I would learn how to go to the store, and if someone cheated me, and sometimes that happened. Or if someone would make a mistake and 12 cents or a dollar was missing. That was very important, because when I came home mama would want to know what happened to that or what happened to this. I would say, “This all the man gave me”. You know, at that time, you had grocery stores where one person waited on you, and the food was wrapped in different little papers – white papers.

MRL: Did your mother or grandmother ever encourage you in math specifically?

RJ: No. Because there was so much going on.

MRL: Okay.

RJ: I moved off from grandmother for a little while. Then we went back to grandmother several times, so my life really was with grandmother. She would always say to get my work, and she was interested in our food – what we would carry for lunch and what we would eat, because she was over the table, like I said. She had the dinner, and my aunts had moved away.

MRL: Was there anyone besides your parents – teachers, neighbors, or others, who encouraged you to do well in school?

RJ: My teachers would. I remember my teacher would call me and tell me that I was doing good work and to keep it up. If I needed any kind of help, she would be

there after school for a little while. I could come up and talk with her if I was having any problems in math or reading or anything. Yes, it was my teachers who encouraged me, because my mother worked all the time. She worked all the time, because she was the only support for me. So, she had to work all the time. Sometimes I wouldn't see my mother until late at night, and I was sleep. I stayed with grandmother, and grandmother was so busy. I really didn't have anyone; I had to be on my own. I remember trying to work things out on my own, because all grandmother did; she was a comforter. She always comforted me. It was the teachers who encouraged me.

Q2

MRL: I see that you went to elementary school, and you said that you went there until the 7th grade?

RJ: Yes, I went until the 7th grade. And then they go on to the 8th and 9th that are taken at, it's called A.T.C. You go there for 8th and 9th. You could go there for just the 8th and you can go on to the high school in the 9th. If they want to stay there, they can. But, usually they've taken up some technical training. They wanted you there for the 8th grade because they didn't have the 8th grade at the elementary school.

MRL: Were all of these schools public?

RJ: Yes.

MRL: Did you ever attend a church school?

RJ: No.

MRL: What arithmetic courses did you take after primary school?

RJ: After I finished the 7th grade?

MRL: Yes.

RJ: Okay. At the 8th grade, we still were going slow over different mathematics terms. They review back a lot at the first semester. A lot! We had triple addition, you know, and all. You know the carrying – you carry one number or three numbers over to the next, you know. We had quite a bit of that. And then maybe at the next 3 quarters or so, we would start with a little algebra. You know, just the fundamentals.

MRL: And that was in what grade?

RJ: Eighth grade. And it was just the beginning of algebra. There wasn't any hardship. We had that, and then we went to geometry. We had that. And what else? Then we would go back to general math – like fractions, division, long division. It's complicated. It's getting complicated now. We had a Black math teacher, and we had different teachers.

MRL: Was it a man or a woman?

RJ: A man. It was a Black man, young like. By then we were going to different classes and different teachers, by then. When we got to the 8th grade, we went to different teachers. We had, what you call, general math, you know, just to get you started in math period. All kinds of math, you know. Algebra, geometry, but that came later when you were about to end the 8th grade.

MRL: Which concepts or courses did you like best?

RJ: I liked fractions the best. I liked fractions. And, I didn't like geometry. I didn't care for that. Fractions, and some addition. I liked all types, but I liked fractions – subtractions – all types of, you know, fractions.

MRL: Why did you like fractions the best?

RJ: I don't know. I just liked it, because, it was fun to me. And then there was always a problem to think out. I always like to think about how to do things. To me it was . . . Problems to me, especially fractions, you always had a term to think of before you went to the next. I just liked it. I liked the way I had to think about it.

MRL: What kind of grades did you get in math?

RJ: Okay. After that my grades kind of fell in math again. My mind went to other things. There were problems at home. It wasn't Grandmother. I had a cousin, who was very intelligent. I loved her very much. She went away, and when she came back, her mind was bad. Something happened to her while she was away. I worried about her.

MRL: So that affected you in school.

RJ: It affected me terribly. I didn't want to go to school. Another cousin encouraged me to finish school. She would comfort me, and tell me that I needed my education. My mind just drifted, and by the time I was in the 10th grade, I took art. Art was my favorite. I still draw and paint at home now. I liked to go in the art room and I like the teacher. There was a lot of math in art. More than people really realize. I really liked that part. It was sometimes geometry, and just plain

math. So, I liked to go in the art room, and that was encouragement. It seemed like my spirits came up where I would smile again. I was going into a depression. My mother nor my grandmother paid any attention to what was happening to me. So, I was just left and I was not an expressive person where I could just talk. Sometimes, I would just be silent, and that's when my grades dropped. That was the most terrible time of my life. I didn't care about math anymore, so I stopped going to school in the last part of the 11th grade.

MRL: After you dropped out of school did you go to work?

RJ: No. A whole lot of sorrow came, but I will talk about when I got back in school.

I began working in a program where I was able to take care of other people's children and mine at the same time. I was doing math with pre-school children, working with manipulative toys. We were trained to do a lot of finger play with the children. The lady over the program seemed to favor me.

A little later, a White man encouraged me to get my GED. I should never forget his name. He said that he saw a lot of potential in me. He said that I would be on college grounds. He helped me to get involved in the program. He pleaded for me to get involved. He was looking for 25 persons to participate, and I was one of the persons who were chosen for the program. My sister-in-law and I both participated in the program.

Whenever we came to the class, the teacher would stop and come and talk with us and encourage us. That gave me hope again. Some Hippies didn't like that.

MRL: Was that in the 1960's?

RJ: Yes.

One evening they gathered outside the classroom door. The teacher was aware of this, and he walked me to the door, and watched until I got in my car. He continued to encourage me to stay in the class, in spite of the incident with the Hippies. He assured me that I would be alright and that he would see to it.

He gave us math. He gave us a little algebra. He gave us the basics. He gave us word problems. I was happy again. He would call and remind me about class. He said that I was low in math, and he wanted me to bring up my skills, so that I could pass the GED. He knew I was doing the best that I could, because I had small children.

There was a lot of math on that test. When we took the GED, it was 4-hours on one day and 4-hours on the next day. The test had a lot of algebra. One day, I

went to the mailbox. I saw that the grades had come; I was scared to look at the grades. When I saw the grades, I almost passed out. And, tears just ran down my face, and it was raining. The rain was coming down, I stood in the rain and I was getting wet. And, I came to myself, and I knew I had to go in the house. Then I prayed, "Lord, you knew what was in my heart all those years. You knew that I wanted to finish school. You knew that was bothering me. I carried that hurt all those years in my heart. I carried that stuff in my heart!"

I will tell you what happened. This was the happiest moment in my life. When the scores came, and I saw my grades I don't have the test now, it was so many years ago. When I saw the grades I had to call him to take my grades to him.

I found out that he taught at the university; I went to his office. When I walked in his office, he said that he wanted to see my grades. He said, "You are so different when first I met you". I can't describe how much I see in you now". I showed him my scores. I said, "You take it; it's yours". I went to crying again. He said that there was no use of crying. I said, "You are the one who encouraged me. You wouldn't let a day pass in those 5 days of the week, that you wouldn't call me in the middle of the day when I was snoozing and I didn't want to go anymore and those Hippies were getting after us. He said, No, these are yours". I just wanted you to see what was really in you." Tears filled his eyes, and I was crying. And, that's when we parted after that.

When I finished my GED, they gave a small three-course scholarship. So I went on to the community college. The first thing I did was take math, because I began to like it. I went to this test trial. And, I knew that I could do it! At first I didn't know that I could do this math! You see, you don't know what's in you, you know. It was higher math, but still it was not a lot of algebra. It was the fundamentals. It had a lot of word problems, but it would keep you thinking. We had that on the GED. After completing my GED I was promoted on my job.

Math was my therapy during some of the troubled or difficult times in my life, especially fractions. I would work on fractions and feel better about bad times.

MRL: Let me ask this. I think you have given me a lot of information about your attitude, disposition and self-efficacy in math. Now I want to ask you. . . You saw the importance of math. What did you say to your children about the importance of education first, and then about the importance of mathematics?

RJ: Okay. What I did. . . I would take my books, the fundamental books. I saved all my books until I was of older age. I had to get rid of them when I moved, but I kept them that long. I would take them out, and I would ask the children questions, and things like that. When they came home from school with their

math, I would always go over their math with them. And they would say, “Mama, you know everything about math.” And I would say, “No, it took me a long time.” And I would teach their math! And we would sit down, before we went into our Bible study. We had Bible study every night before we went to bed. So, they would do their homework together. I had a big, round table.

My children were still of a young age. But they were out in school where they went all day. When they came home, I would teach them their math. I told them it was very important. I would tell that once I was very discouraged about math, and I would tell them a little bit of what happened. And I said, “Who’s going to count your money? Who’s going to take care of you?” Everywhere you go, it’s going to be math. Everywhere you move it’s going to be math.

I said you need math. You need to go to school. Count! You need to learn to count. I would have them count to 100, 200, or 300. I would take that much interest. I would take a lot of interest, because I did not have that! I had a good home; it was nice, but it was different. I didn’t have the people who would sit right down (and work with me). Mama was working all the time. Grandmother was in the kitchen all the time. She couldn’t do everything; she had to prepare meals; she had to wash; she had to see that I went to school clean. All these things were on Grandmother. Plus her grandchild had lost her mind. Grandmother was going through a whole lot. She lived to be 100 though. A hundred years old. She sure did.

MRL: You said she was raised by a White family?

RJ: A very wealthy White family. They lived on a farm; they took her when she was 8 years old, coming out of slavery. Grandmother was partly under slavery; her parents were. Her parents both died.

MRL: Her parents died on a plantation.

RJ: I don’t know. She never would tell me. Her little family was divided.

MRL: What state was that in?

RJ: We never went to the South. Kansas. That’s where grandmother was raised.

MRL: Based on the help you gave to your children in math, do you think that their lives today are a result of some of that.

RJ: Oh, yes. Definitely! Especially my son, T, who lives in Texas.

MRL: You think because of your encouragement, your children were not afraid to take math?

RJ: They weren't. I taught math in college. Now, he's in a big company. And, being a Black man he's over a group of all nationalities. He is over a department. He has a Masters in mathematics. He's a genius in mathematics. I hope you can meet him.

MRL: What about the other children?

RJ: One son has a doctorate in education. He was a principal for many years, so you know he had to have math. Then, he was a researcher. Then he counseled veterans about education at the university. Now he's retired.

Another son, teaches in early childhood education, just like I did. He prepares children for school; he teaches them math. He was on television as one of the best teachers.

Another son is a surgery technician in a healthcare system.

Another son has dyslexia, but he learned a trade, including plumbing.

The youngest son is a supervisor at GM in Missouri.

And, finally, my daughter has a degree in health education and nursing.

MRL: It appears that you worked with them; you encouraged them; and your example helped them not to be afraid of math and to pursue whatever career they wished to pursue.