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## **The Alabama Advanced Placement Initiative: The Roles of the Principal, Teacher, and Student in Bridging the Racial and Socio-economic Gap in College Preparatory Curricula**

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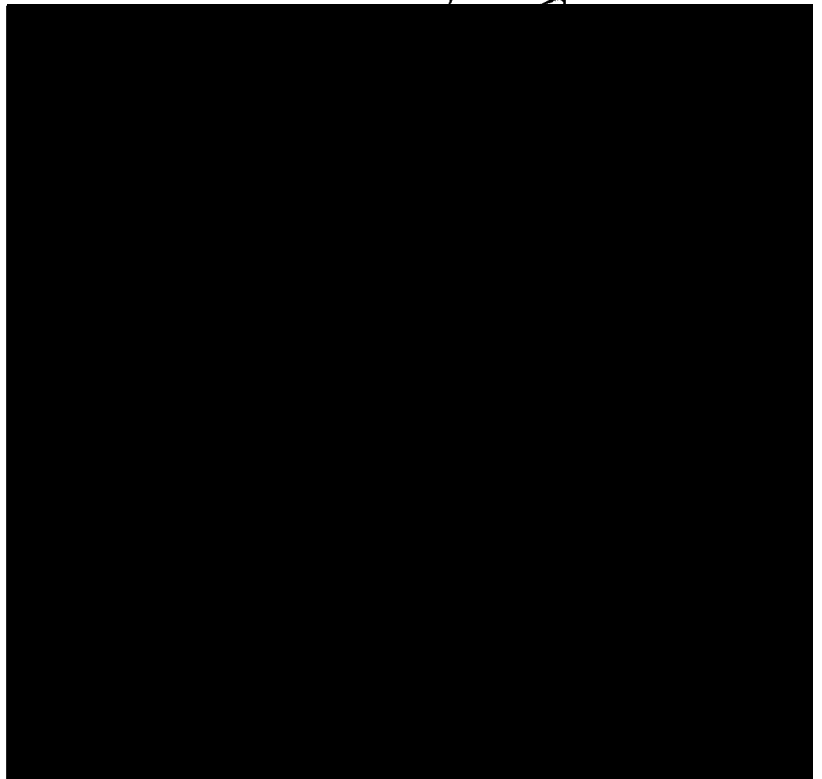
THE ALABAMA ADVANCED PLACEMENT INITIATIVE: THE ROLES OF THE  
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SOCIO-ECONOMIC GAP IN COLLEGE PREPARATORY CURRICULA

by

Kimberly LaRaine Walker

A Dissertation  
Submitted to the Graduate Studies Office  
of The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

Approved: 



August 2009

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## ABSTRACT

# THE ALABAMA ADVANCED PLACEMENT INITIATIVE: THE ROLES OF THE PRINCIPAL, TEACHER, AND STUDENT IN BRIDGING THE RACIAL AND SOCIO-ECONOMIC GAP IN COLLEGE PREPARATORY CURRICULA

by Kimberly LaRaine Walker

August 2009

This research study was designed to determine leadership and instructional behaviors of administrators and teachers who are participants in the Alabama AP Initiative, as well as evaluate the perceptions of the AAPI with regard to student performance. The importance of this research was three-fold. First, this study provided principals, as well as aspiring principals, with statistical research for developing a new AP Program or other advanced curricula. Second, the results of this research provided statistical research for teachers, both experienced and those new to the AP Program, who are developing and/or improving instructional strategies that will become an effective means of teaching the skills outlined by the AP curriculum, while attracting a larger and more diverse group of students into the AP Program. Third, this study provided data that indicates whether the Alabama AP Initiative serves as a means of increasing participation and performance of minority students in inner city and rural school areas.

The researcher developed three instruments to survey administrators, teachers, and students within the state of Alabama. The survey was used to determine leadership behaviors and instructional strategies used to implement

the AAPI into high school curricula and to determine student perceptions of the AAPI. The researcher also examined four hypotheses centered around the comparison of AP exam scores, AP participation rates, and AP course enrollment over a three year period.

A quantitative analysis of archival AP exam scores showed no significant difference in the AP participation rates of minority students, nor in the rates of minority students enrolling in AP courses over the three-year existence of the AAPI. In comparing AP exam scores of minority and non-minority students, data analyses showed a significant difference in only three of the ten subject areas tested.

A descriptive analysis was used to examine the survey results. Administrators reported the following behaviors as useful in implementing the AAPI into their schools curriculum: soliciting teacher input in curriculum changes, recognizing the need for more minorities to enroll in advanced courses, communicating with parents and community leaders, and scheduling professional development workshops for adequate teacher training. Teachers reported maintaining regular communication with parents, incorporating strategies learned at AP training institutes, and encouraging students to take advanced courses as instructional strategies that have were useful in enhancing their AP courses. Students perceived the AAPI as beneficial in providing exposure to a college preparatory curriculum, as well as improving higher order thinking skills and standardized testing scores.

## DEDICATION

For my grandmother, Ms. Elizaetta Walker (1923-2005), a phenomenal woman who taught me the importance of hard work, perseverance, virtuosity, and faith. You will live forever in my heart.

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## CHAPTER I

### INTRODUCTION

Chapter One provides several key elements of this study, including the background of the Advanced Placement (AP) program, the creation and implementation of the Alabama Advanced Placement Initiative (AAPI), and the administrator's role in incorporating this new program into the school's curriculum. The reader will also find a listing of terms, research questions and hypotheses, limitations, and justifications that were all pertinent to this research study.

The primary purposes of this study were twofold. The first objective was to determine the leadership behaviors and instructional strategies of administrators and teachers who were actively involved in implementing the AAPI in high schools throughout the state. The second objective was to examine whether AAPI affected AP participation of minority students and changed AP test scores of high school students in the State of Alabama.

#### Background

Proposals for the reformation of the American public school system have been a controversial issue for over 50 years. During the 1950's, the Supreme Court of the United States addressed educational reform by declaring separate but equal schools unconstitutional and mandated that schools be integrated nation wide (Brown Foundation for Educational Equality, 2004). In 1983, a scathing review of the nation's public schools commissioned by President Ronald Reagan declared the educational system to be at risk of being non-competitive

with other countries. His proposal, *A Nation At Risk* called for changes that would improve students' testing, writing, and critical thinking skills (The Research Center, 2004). Ten years later, President Bill Clinton identified a decline in teacher morale and opined that this was affecting the learning process. His proposal, *Goals 2000*, listed several aims that were intended to assure better support for teachers; this in turn, it was asserted, would benefit students and bring public school systems up to national standards by the year 2000 (Tucker, 1993). However, in 2000, President George W. Bush asserted that too many public school students were academically segregated due to socio-economic status, illiteracy, and low self-esteem. His proposal, *No Child Left Behind*, called for the public school system to undergo tremendous changes so that no child would be placed at an academic disadvantage (The White House, 2008). Yet, before school integration, *A Nation At Risk*, *Goals 2000*, or *No Child Left Behind*, the College Board implemented significant educational reform by developing the Advanced Placement (AP) Program.

In 1955, the College Board launched the AP Program. Initially, the program was slated to offer gifted high school students the opportunity to complete entry-level college coursework (Dounay, 2006). After gaining national attention for its challenging curricula, the program began to expand in an effort to encourage a broader array of students to tackle more challenging content. The AP Program is a collaborative effort among motivated students, dedicated teachers, and committed high schools, colleges, and universities (The College Board, 2006). Since the program's inception, millions of high school students

have been allowed to take college level courses in preparation for the end-of-year AP exam. Achieving a score of 3 or better allows students to earn college credit or placement for each AP course in which this score is achieved (The College Board, 2007).

According to the College Board (2007), a high school curriculum that incorporates AP courses increases students' analytical and critical thinking skills, prepares students for college-level work, helps students earn college credit which saves parents money on tuition, and helps increase college enrollment and completion. The College Board further states that there has been an increase in enrollment of AP programs over the years. The increase in enrollment is credited to the rise of students' and parents' awareness of AP program benefits, students' ability to obtain weighted credit for each AP course taken, students' ability to earn more scholarship awards for earning high ACT, SAT, and AP exam scores, and students' ability to receive honors endorsements for taking AP courses (2007).

However, the College Board released its annual *Report to the Nation* that showed that students from low, socio-economic backgrounds were not enrolling in the AP Program. The report reflected an 11% racial gap in the students who participated in the AP Program (The College Board, 2006). Furthermore, research conducted by the Southern Region Education Board (SREB) found that, although minorities in general were underrepresented in the AP Program, Blacks showed the lowest enrollment. This was particularly evident in Southern states that have a higher minority population (SREB, 2005). With support from the No Child Left Behind Act, funding, grants, and initiatives are now offered to state



school systems to help reduce testing expenses, train more teachers, and provide instructional materials in hopes that more minorities will enroll in AP courses (SREB).

In Alabama, the Department of Education has begun working with the College Board in order to make AP courses available in more of the state's schools. According to Phyllis Rase, AP Coordinator for the State of Alabama, the number of students taking AP courses across the state is increasing. However, disproportionality exists between the proportion of students who take AP courses in more affluent school systems versus those in inner-city and rural school systems (Crawford, 2007). Thus, it has become the mission of the Alabama State Department of Education to close the gap in AP participation between these groups. Rase further stated, "We're trying to make these courses more readily available to students who traditionally have been left out" (Crawford, p. 3). Governor Bob Riley held a press conference on February 3, 2007, in which he addressed his commitment to increasing AP courses throughout the state. During the conference, it was announced that he, along with the State Department of Education, would be launching the Alabama AP Initiative. Through grants received from the federal government, \$2.6 million has been allotted to fund the Alabama AP Initiative (Governor Press, 2007). This funding goes towards training teachers, administrators and counselors, buying instructional materials, and offsetting the cost of the AP exam for students (Crawford). Governor Riley's initiative gives particular attention to offering more rural and inner city students the same range of courses offered in Alabama's

more affluent school systems (Crawford). According to the SREB, in Alabama, there are 168 high schools in 94 school systems that offer two or more courses and there are approximately 200 high schools that do not offer AP courses at all (2005). Thus, the Alabama AP Initiative will allow schools that have pre-existing AP Programs to further enhance them by training more teachers, purchasing additional supplies and teaching supplements, and adding more courses to the AP curriculum. As for non-participating schools, the initiative will provide money for training new AP teachers, purchasing instructional supplies, defraying cost of exams, and recruiting students into the program.

#### Statement of the Problem

Although the AP program gained notoriety for its challenging curricula and collegiate opportunities, it has not benefited all schools, teachers, and students. The rigor and costliness of the program caused a vast majority of minority students, particularly those in inner city and rural area schools, to enroll less frequently in the AP program. The instructional demands and lack of funding for appropriate training and teaching supplements has caused some teachers to show a lack of support for the AP program. Moreover, the disinterest of students, teachers, and parents, in some locations, has left school administrators seeking alternatives to bridging the academic and racial gap in their school's curriculum; while rallying support of the above listed stakeholders in order to strengthen their schools academic courses.

### Purpose of the Study

There were two purposes to this study. The first purpose was to determine the leadership behaviors and teaching strategies of administrators and teachers who were actively involved in implementing the AAPI in high schools throughout the state. The second purpose of this study was to examine whether the AAPI increased AP participation of minority students and changed AP test scores of high school students in the State of Alabama.

### Research Questions

This study attempted to answer the following questions:

1. Which leadership behaviors do principals report that are aimed at involving teachers, students, and counselors in the AP Program?
2. Which teaching strategies, acquired through mandatory AP and AAPI training, do teachers report that are useful to enhancing the skills stated in the AP curriculum and recruiting a larger and more diverse cadre of students into their programs?
3. What are the effects of the AAPI initiative upon the perspectives of students in the Mobile County, Baldwin County, and Washington County schools in Alabama?
4. What are the effects of the AAPI initiative upon the AP enrollment and AP performance of students in Alabama?

## Hypotheses

1. There is a statistically significant increase in the number of minority inner city and rural students participating in the AP program from 2006, 2007, and 2008.
2. There is a statistically significant increase in the relative proportions of minority inner city and rural students participating in the AP program from 2006, 2007, and 2008.
3. There is a statistically significant increase in the performance of inner city and minority students on the AP examinations relative to the previous performance of these student groups.
4. There is a statistically significant difference between the AP exam scores of minority students and the AP exam scores of non-minority students.

## Definition of Terms

The following terms were used frequently throughout this study:

*A Nation At Risk*: A report commissioned by President Ronald Regan addressing the condition of public school education in 1983. It prompted a number of reforms within the educational system of the United States.

*ACT*: Acronym for American College Testing. One of the college entrance exams that are administered primarily to 11<sup>th</sup>, 12<sup>th</sup>, and post-secondary students.

*Advanced Placement*: A program created by The College Board in 1955 to establish a college preparatory curriculum into high schools throughout the nation. The program allows its participants to earn college credit as high school students.

*Alabama Advanced Placement Initiative:* A federally funded program, established by Governor Bob Riley, to incorporate AP courses into all public schools in the State of Alabama. Funding will allow participating schools to send teachers to an AP training institute, purchase instructional supplements, and defray the cost of the AP exam, in an effort to encourage higher participation namely amongst minorities.

*AP Exam:* An exam created by The College Board to measure what was learned during the course of instruction. In order to obtain college credit for the AP course taken, students must score a 3 or higher. The scale of measurement is 1 to 5.

*Brown v. Board of Education of Topeka:* Court case that ruled separate educational facilities were inherently unequal.

*The College Board:* The trademark title of the College Entrance Examination Board. It serves as the manager of the Advanced Placement Program.

*Gifted Students:* Title given to students who are highly advanced, in terms of certain aptitudes, and take classes that accommodates their high level of ability. Students must be tested through Special Education programs before falling into this classification.

*Goals 2000: Educate America Act:* President William Clinton's plan for educational reform that was approved by Congress in 1993.

*Honors Program:* A program that encompasses advanced or college preparatory courses taken by secondary students who attempt to fulfill the requirements for a higher-level high school diploma.

*Inner-city schools:* schools located in older, urban, central parts of a city. They are often characterized by crowded neighborhoods in which low-income, often minority groups, reside. These schools often receive funding for remedial and Title One programs.

*Instructional Leadership:* The role taken on by the principal who works actively in developing and establishing curriculum and instruction to improve the academic climate of a school

*National Governor's Association:* An organization that consists of the nation's governors and promotes leadership, practices, and policy.

*No Child Left Behind:* President George W. Bush's plan for educational reform that was approved by Congress in 2002.

*Pre-AP Courses:* Pre-requisite courses for AP classes that are offered to 9<sup>th</sup> and 10<sup>th</sup> graders who aspire to take AP courses.

*Southern Region Education Board (SREB):* An organization that helps government and educational leaders advance education and improve the social and economic life of the Southern region of the United States.

*Rural-area schools:* schools located outside of city perimeters, in small towns. They are characterized as having little or no minority, bilingual, or magnet students. However, due to low-income residents, the schools often receive funding for remedial and Title One programs.

### Delimitations

The following delimitations existed in this study:

1. Only administrators and teachers in public high schools in the state of Alabama were included in this study.
2. Archival data were only collected for 11<sup>th</sup> and 12<sup>th</sup> grade AP students in the State of Alabama.

### Assumptions

The following assumption was made during this study:

1. All participants responded to the survey items truthfully and accurately.

### Justification

This study was conducted in order to identify leadership and instructional behaviors of administrators and teachers who were participants in the Alabama AP Initiative. The importance of the research was three-fold. This study provided principals, as well as aspiring principals, with statistical research that could be used in developing a new AP Program or other advanced curricula. The results of this study provided statistical research for teachers, both experienced and those new to the AP Program, who were developing and/or improving instructional strategies that became an effective means of teaching the skills outlined by the AP curriculum, while attracting a larger and more diverse group of students into the AP Program. This study showed whether the Alabama AP Initiative served as a means of increasing participation and performance of minority students in inner city and rural school areas.

Administrators are now expected to be visionary leaders who can facilitate change within their schools. One of the primary roles involved in becoming an effective, academically involved principal is that of an instructional leader.

“The principal’s role in the instructional development of schools has been a focus of educational research for twenty years. The research shows the great need for school leaders to be instructional resource providers, effective communicators, visible, and proficient in curriculum” (Whittaker, 1997, p.5). Thus, in an effort to initiate more demanding programs that will enhance students’ academic performance and establish a more challenging curriculum in their schools, principals are becoming more actively involved in curriculum and instruction.

Principals are also becoming more knowledgeable about learning theories that can be used to promote higher-level instruction and learning among the teachers and students. Many principals rely on cognitive learning theories to encourage the growth of cognitive complexity in their teachers (Granello, 2000). When showing teachers effective ways to lead a learner to acquiring new knowledge, principals can also use cognitive learning theories. Principals also rely on Bloom’s Taxonomy to illustrate to teachers various methods of instruction that may fit those unique learning styles of students. The use of Bloom’s Taxonomy can further allow the principal to show teachers how to determine what level of mastery has been achieved in relation to instructional methods used to meet the various learning needs of students.



## Summary

The Alabama AP Initiative was developed to close the racial and socio-economic gap within the AP program's participants. Through grants and federal funding, the State of Alabama's Department of Education has begun working with the College Board in order to make AP courses available in more of the state's less affluent schools. Thus, it was the researcher's intent to determine the following: leadership behaviors and instructional strategies of administrators and teachers, who were actively involved in the Alabama AP Initiative, significant changes in minority enrollment in the AP Program, and significant differences in the AP exam scores of students involved in the AP program within the state of Alabama.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

This chapter contains a review of the literature related to the major topics in this research study. The following theoretical frameworks of cognitive learning was applied to this research project: Bruner's Discovery Learning Theory, Bandura's Social Cognitive Learning Theory, and Bloom's Taxonomy. The themes that were integral to the research literature pertinent to this study consists of the background of the AP Program, the Alabama AP Initiative, the principal as the instructional leader, teachers' instructional strategies used to build AP elements into the curriculum, as well as the effects of the racial and socio-economic gap on student participation in higher level curricula.

#### Theoretical Framework

A theory is a set of statements organized in a way to explain, predict, or control events (Smith & Regan, 1999). According to the McGriff Knowledge Base (2008), learning theories have had the most significant impact on instructional design, primarily because they are descriptive and attempt to explain and predict learning outcomes. Schuell (1986) notes that a learning theory describes what goes on inside the students' head when learning occurs. Moreover, of all learning theories, cognitive learning theories have the most dominant influence on instructional design of learning (McGriff).

Schuell (1986) explains that cognitive learning theories place more emphasis on the learner and less emphasis on factors within the environment. He further names four major influences that cognitivism has had on learning

theories. He asserts that in cognitive theories, 1) learning is viewed as an active and constructive process, 2) high-level processes are present in learning, 3) knowledge is organized in memory when analyzing learning tasks and performance, and 4) cognitive learning theories focus on the learner.

The processes by which students learn is centrally controlled by their environment and their social behavior. "Cognitive theorists strongly believe that a person has the ability to analyze, formulate, and extract received information and stimuli in order to produce things directly attributed to the input given" (McGriff, 2008, p.1). Gredler (1997) notes that cognitive development begins with the identification of high levels of human thinking capacity. The next level of development starts with the description of events that are necessary for the attainment of high levels of thinking. However, higher-level thinking cannot be taught directly; but can be facilitated through schools.

Behaviorists view cognitive theories of learning as those that focus on the mind as a blank slate. The mind decides how information is received, assimilated, stored, and recalled. By understanding the mechanics of this process, teaching methods more suited to fostering the desired learning outcome can be developed (McGriff, 2008).

### *Discovery Learning Theory*

In 1961, Jerome Bruner developed the Discovery Theory of Learning. His theory was primarily based on his strongest belief, which is stated as follows: "Any subject can be taught effectively in some intellectually honest form to any child at any stage of development". From this strong belief evolved a theory that

the teaching and learning of structure, rather than simply the mastery of facts and techniques, is the center of becoming a classic problem-solver (McGriff Knowledge Base, 2008, p.2).

Donald Clark (2000) defines Discovery Learning as an inquiry-based learning method that takes place during problem solving situations. During this time, the learner must use personal experiences and prior knowledge to find new information to be learned. According to Clark, Bruner wrote, "Emphasis on discovery learning has precisely the effect on the learner by leading him to be a constructionist, to organize what he is encountering in a manner not only designed to discover regularity and relatedness, but also to avoid the kind of information drift that fails to keep account of the uses to which information might have to be put" (p. 1).

Von Joolingen (1999) noted the basic concept of discovery learning is allowing learners to develop experimental domains in which they construct their own knowledge. This theory of learning helps students use higher levels of thinking to understand the domains in which new information is found. Often, this type of learning situation can be presented by a classroom teacher or found in an expository learning environment.

According to Krathwohl (1998), Bruner believed that the origin of constructivist theories is found in discovery learning. Also, he believed that discovery learning contributed to problem solving and critical thinking strategies. Furthermore, it was Bruner's theory that discovery learning was not a random act because it required finding relationships within the environment.

Bruner (1967) noted four key themes that are important to the discovery learning process. They are as follows: structure and learning and its importance to teaching, readiness for learning, intuitive and analytical thinking, and motives for learning.

According to Bruner (1967), the role of structure in learning should be practical. The students' ability to learn structure, rather than simply the mastery of facts and techniques, is at the center of the classic problem of transfer. Bruner further noted that readiness for learning has become an issue of avoidance because teaching of important areas are deemed too difficult.

Bruner (1967) views intuitive and analytical thinking as being a neglected feature of productive thinking. He feels that experts in different fields intuitively evolve into a decision or into a solution to a problem. He further examined this phenomenon in hopes that schools might create the conditions for intuition to flourish. Bruner also stated that the best stimulus for learning is having an interest in the material to be learned. According to Bruner, motives for learning must be kept from going passive. They must be based as much as possible upon the arousal of interest in what is to be learned, and they must be kept broad and diverse in expression.

Research studies show that the success of discovery learning theories depends on the learner's ability to generate hypotheses, design experiments, predict outcomes, and analyze data. Learners also need skills in planning and monitoring in order to better process complex information. Should learners lack

any of these skills, their discovery process will become ineffective (von Joolingen, 1999).

### *Social Cognitive Theory*

Theorized by Albert Bruner in 1962, the social cognitive theory of learning addresses how social settings affect a student's ability to learn. Originally called the Social Learning Theory, Bandura expanded his theory to include cognitive processes such as thinking, memory, language, and evaluating and anticipating consequences (Malone, 2002).

“Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action” (Bandura, 1977, p. 69). This theory has been applied to students who are learning how to approach education and teaching while learning the modeled behavior of the instructor. With social-cognitive theories, instruction takes on the personal aura of conveying behavioral characteristics, not just the plain content.

According to the Institute for Dynamic Educational Advancement (IDEA), social cognitive learning theories are most useful during interventions that involve personality, behavior, or health development and promotion. The framework of this learning theory is based upon a learner's ability to learn by observing, reproduce knowledge, examine their self-efficacy, show emotional coping

mechanisms, and develop self-regulatory capabilities. This type of interactive learning promotes the building of confidence through practice (2008).

Social Cognitive Learning Theory is based on the idea that people learn by watching what others do and that human thought processes are central to understanding personality (Miller & Dollard, 1991). According to Ormond (2003), the principles of social cognitive theory are as follows: people learn by observing others, learning is an internal process that may or may not change behavior, people behave in certain ways to reach goals, behavior is self-directed, reinforcement and punishment have unpredictable and indirect effects on both behavior and learning.

Wagner (2008) noted three basic social learning concepts- observational learning, intrinsic reinforcement, and the modeling process. Wagner further explained the concepts of Bandura's theory. Observational learning involves learners acquiring knowledge through the use of a live model, verbal instructional model, and symbolic model. Intrinsic reinforcement involves a learner's feeling pride and a sense of accomplishment to serve as an inner reward. The modeling process involves the learner paying attention, retaining information, reproducing the information learned, and being motivated to succeed.

Moreover, Pajares (2002) noted that Bandura characterized self-efficacy as a key element to the social cognitive learning theory. Bandura's theory viewed learners as being shaped by their ability to organize, reflect, and regulate themselves; rather than being shaped by environmental forces and surroundings. Thus, a learner's self-efficacy can determine how much effort is put into their

work, how well they will persevere, and how resilient they will be when approached with adversity.

### *Bloom's Taxonomy*

In 1956, Benjamin Bloom developed a classification of levels of intellectual behavior in learning. This taxonomy contained three overlapping domains: the cognitive, psychomotor, and affective. According to Anderson and Krathwohl (2001), each domain of learning is organized by a series of pre-requisites. It is suggested that one cannot effectively address higher levels until those below them have been covered.

The cognitive domain is the most frequently used. Within the cognitive domain, Bloom identified six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation (Atherton, 2005). The knowledge domain consists of memorizing facts. Comprehension domains require understanding and illustration of the facts memorized. The application domain uses the facts in other contexts. Analysis is a domain that requires understanding how to break down problems using facts. The synthesis domain makes connections between facts. Finally, the evaluation domain requires the use of knowledge and facts to ascertain the quality of information (Bissell & Lemons, 2006).

Anderson and Krathwohl (2001) describe the psychomotor domain as that of remembering, understanding, applying, analyzing, evaluating, and creating. This is the domain that addresses manual or physical skills. Clark (2000) notes that the development of psychomotor skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution.



Clark proceeds to list the seven major categories, listed from the simplest behavior to the most complex. The first is perception. This involves the ability to use sensory cues to guide motor activity. Set is the readiness to act. This category includes mental, physical, and emotional sets. These three sets predetermine a person's response to different situations. The category of guided response involves the early stages in learning a complex skill that includes imitation, as well as, trial and error. The fourth category is mechanism. This is the intermediate stage in learning a complex skill. According to Clark, learned responses have become habitual and the movements can be performed with some confidence and proficiency. Complex overt response is the fifth category. This category explains the skillful performance of motor acts that involve complex movement patterns. The category of adaptation describes skills that are well developed allowing the individual to modify movement patterns to fit special requirements. The seventh and final category of the psychomotor stage is origination. Origination is creating new movement patterns to fit a particular situation or specific problem. During this phase, learning outcomes emphasize creativity based upon highly developed skills (Clark, 2000).

Anderson and Krathwohl (2001) describe the affective domain as having received less attention, and being more intuitive than the cognitive. It is concerned with values, or more precisely perhaps with perception of value issues, and ranges from mere receiving, to being able to distinguish implicit values through analysis. Clark (2000) lists five major categories within this domain. Receiving phenomena is the first category. This category involves

having awareness, willingness to hear, and selected attention. The second category is responding to phenomena. This describes the process of active participation on the part of learners. Learners attend and react to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding. Clark further notes the third category as valuing. This describes the worth or value of a person as it attaches to a particular object, phenomenon, or behavior. Organization is the fourth category. It involves organizing values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The fifth and final category is internalizing values. As described by Clark, this category is a method of characterization. It has a value system that controls student behavior. The behaviors are pervasive, consistent, predictable, and most importantly, characteristic of the learner.

Granello and Granello (1998) describe Bloom's Taxonomy as a useful method of guiding educational objectives across all developmental levels. It also provides a ready-made assessment of the student's cognitive level on a particular topic. As the teacher moves through questions or other interventions representing the cognitive levels, they eventually reach the students' current level of cognitive processing for the topic at hand.

#### *Learning Theories and Advanced Placement*

With respect to AP courses, cognitive learning theories are inherent in the development of the curriculum, training of teachers, and development of the AP exams. The AP curriculum is formulated to challenge students to expand their

knowledge. It stresses analytical and critical thinking which are vital when applying what has been read or learned. During training, teachers are given instructional strategies that will allow students to enhance their higher order thinking skills while formulating analytical comparisons and contrasts of information. Also, the use of this learning theory shows teachers how to initiate organization and retention of information learned in their lessons. Furthermore, Bloom's taxonomy is used when developing the AP exams. Being that the premise of this theory is the application of knowledge and analyzing information during evaluations, the AP exams are structured so that students are required to apply the six levels of the domain in order to be successful on the test.

For administrators, these same cognitive learning theories can be used as a method to help principals encourage the growth of cognitive complexity in their teachers (Granello, 2000). This learning theory also shows a teacher the best way to lead a learner to acquiring new knowledge. The taxonomy can be used during in services when principals are charged with guiding their teachers through the various methods of instruction. The principal's use of the taxonomy also determines what level of mastery has been achieved by teachers in relation to methods of meeting the various learning needs of students.

#### Review of Literature on Pertinent Research and Expert Perspectives

##### *The Advanced Placement Program*

The College Board collaborated with public school systems and post-secondary schools to incorporate the AP Program; which provides high school students the opportunity to take college level courses (College Entrance

Examination Board [CEEBS], 1996). The AP program serves three educational groups: high school students who aspire to earn college credit, secondary schools aspiring to provide a more challenging curriculum for students, and the colleges that grant credit to these students (The College Board, 2006). According to Santoli (2002), the success of the AP program can be attributed to the teachers' course syllabi as well as the program's high standards. These attributes were meant to provide a curriculum guideline for the course, set achievement and testing standards, and provide a curriculum reference for colleges.

### *Background*

Over 50 years ago, AP was the creation of the elite of America's collegiate system. This system consisted of Ivy League schools such as Harvard, Yale, Princeton, Swarthmore, Oberlin, Wesleyan, Andover, Exeter, and Lawrenceville (Casement, 2003). The AP Program was intended for the brightest high school seniors who had completed their curriculum requirements and wanted to take college-level courses as a challenge. A pilot program was planned and implemented using only a few dozen schools. In 1951, the AP Program was initiated as one of two projects financed by the Fund for the Advancement of Education of the Ford Foundation. The first project, spearheaded by the Headmaster of Andover Academy, addressed the problem of academically inclined students who reported having to repeat courses they had in high school during their introductory courses in college (Santoli, 2002). Thus, a committee of college and high school teachers developed the concept of giving achievement

examinations for major subjects in order to obtain college credit while still in high school.

The Kenyon Plan, the second project in the development of the AP Program, involved high school teachers, collegiate professors, and representatives from the Educational Testing Service who began creating a curriculum for this new program (Santoli, 2002). By 1954, the College Board assumed control of this new educational concept, its curricula, and tests. This new program was named the Advanced Placement (AP) Program. By 1956, over 1,200 students were enrolled in the program and 2,000 exams were administered at the end of the courses (Casement, 2003). After gaining national attention for its challenging curricula, the AP program began to expand in an effort to encourage a broader array of students to tackle a more challenging content.

Over the years, the AP Program has rapidly spread to high schools throughout the United States, resulting in over one million students taking the courses and exams. School systems throughout the nation began to incorporate AP courses into their curriculum in order to improve student achievement, to help students move smoothly from one educational system to another, and to ensure that all students who enter the university system are prepared to succeed (U.S. Department of Education, 2004). According to the CEEB (2006), the AP Program is an enhancement to the academic curriculum of high school students because of its commitment to academic rigor, its reliance on outstanding secondary school teachers and college faculty for the maintenance and development of the

program, and a belief that able secondary school students can effectively handle college level material.

*The AP exam.* At the end of an AP course, students may opt to sit for the course related exam. For a score of 3 or higher (out of 5) on an AP exam, most colleges and universities award college credit for an entry level course in that discipline (Dounay, 2006). According to the College Board (2007), the AP exams contain multiple-choice questions and a free response section. The exams represent a culmination of AP courses and are, thus, an integral part of the program. As a result, many schools require that students who are enrolled in the AP Program take the corresponding exams.

*Advantages of the AP program.* According to Dounay (2006), enrolling in AP courses increases the level of rigor in high school coursework, prepares students for entry level college coursework expectations, helps students and parents save on postsecondary tuition by earning college credit while still in high school, and boosts postsecondary enrollment and completion. AP courses have begun to affect not only the advanced student, but the regular student as well. When AP students were asked their reasons for enrolling in AP courses, their answers varied from: “escaping the chaos” to “having all the best teachers” to “being considered a serious student” (Santoli, 2002, p.24). However, according to Casement (2003), students taking no AP classes, from high schools with extensive AP Programs, did better in college than would normally have been predicted from their grades and test scores.

Besides taking more challenging classes and having highly trained teachers, another factor for being an AP student is increasing chances for college admissions. A research study conducted by Santoli (2002) showed high school transcripts with AP courses on it strengthens chances for college admissions. Many colleges award extra points for AP courses taken when evaluating transcripts for admissions. Not only is college admission an advantage of having taken AP courses, but finishing college seems to be as well. According to the College Board (2007), rigorous high school courses better prepare students for college work, and drop out rates are lower among AP students. Further studies revealed that AP students were not only a superior group prior to college entry, but had a better overall four year college performance (Santoli).

Becoming an AP student can result in having economic as well as academic advantages. A study conducted by the College Board (2007) shows that most AP students enter college with at least 10 college credits. With college tuition averaging over \$15,000 per year, credit earned through the AP program could amount to tremendous savings. Considering the fact that \$84 for one AP course can result in 3 hours of college credits, becoming an AP student proves to be economically advantageous (Dounay, 2006).

Research also shows that AP students tend to have higher scores on college entrance examinations. Students who take more academic courses do significantly better on the SAT, ACT, and AP tests (Chenoweth, 1996). In releasing its scores, the College Board (2006) emphasized the significant increase in the number of high school students taking core courses compared to

the number of students taking academic courses ten years ago. The College Board's report also revealed that 41% of students taking the SAT took more than 20 core courses during their high school tenure. Also, ACT attributed the increase in testing scores to the vast amount of students taking advanced core courses, which are listed as English, math, social studies, and science (CEEB, 2006).

### *Concerns about the AP Program*

The AP program has been growing dramatically, but several emerging trends have the potential to comprise the College Board's mission of setting a national standard of excellence while expanding access to traditionally underrepresented students. According to Klopfenstein (2003), placing teachers out of field without professional development, applying narrow enrollment criteria for entering students, using the AP exam scores for program assessment, and communication failures between teachers, parents, and administrators can diminish the effectiveness of an AP program.

With a nationwide teacher shortage, administrators are finding themselves attempting to fill vacant teaching slots. Out of administrative desperation, many teachers are being placed out of field. This phenomenon is certainly apparent in lower socioeconomic schools. Given the rigor of the AP program, new teachers often find themselves teaching AP courses and learning the material along with the students (Klopfenstein, 2003). The College Board (2007) suggests that AP teachers have considerable experience, and usually an advanced degree in the discipline before undertaking an AP course.



Setting criteria for enrollment into an AP program can be beneficial to some; yet, detrimental to others. The accelerated pace and rigorous college level curriculum of AP classes is not appropriate for all students. The CEEB (2006) believes that setting a selection criteria that is unobtainable can eliminate minority students who are worthy of being a part of the AP program.

Block scheduling has also proven to be a hindrance to students wanting to take AP classes for several reasons. In data collected in 1995-1996, students who took year long courses outscored those who took semester block classes in 77% of the tests (AP Notations of Block Scheduling, 1996). According to the College Board (2006), part of the scoring discrepancy may be due to the fact that national AP exams are given in May of each year. Students who take an AP class during the fall semester block have many months prior to the AP exam without any classes in that subject. Also, instructional time for AP classes is reduced on a block schedule. Considering the amount of time available weekly for the class, as opposed to a year long schedule, instructional time is still reduced further as the exam is given several weeks before the end of the school year (Hansen, Gutman, & Smith, 2000). In a research study conducted by Santoli (2002), results showed that some schools on block schedules have tried to compensate for these problems by offering AP classes all year on an every other day schedule or by splitting a block and offering two AP classes in that time slot for the entire year.

Minority students are at a disadvantage in the college admissions process because many schools with high minority populations do not provide AP courses

(Cunningham & Cordeiro, 2003). In May of 2006, an estimated 750,000 students took one or more AP exams; less than 5% of these students were African-American (Burdman, 2007). A study, conducted by researchers for *Black Issues in Higher Education* (2000), also showed that minority students enrolled in AP classes had a lower passing rate compared to non-minority students. Research showed a nation-wide passing rate of 65% for AP classes. However, only 33% of Black and 50% of Latino students passed their AP courses.

The racial gap in AP courses and test scores are not surprising considering the research that shows a history of inequitable educational resources that are available to minorities (Burdman, 2007). But, in an effort to better prepare minority students for college, the College Board, along with state officials, have started programs as well as provided resources to expand the AP program to underserved schools. However, higher education experts question if the program will serve as a means of college preparation while retaining student enrollment populations for the minority students who attend these underserved schools (Burdman, 2007).

Although the College Board has increased the number of AP courses, and the numbers of schools offering AP courses is increasing, many high schools are dropping AP programs due to the amount of funds needed for instructional supplies, teacher training, and testing (Santoli, 2002). In an effort to rectify the inequalities that exist because of funding, several programs have been established (Klopfenstein, 2003). In fact, The College Board has authorized grants and incentives to be awarded to school systems participating in the AP

Program. These grants must be used to purchase instructional supplies as well as cover registration and housing fees for teachers to attend the AP Training Institutes (The College Board, 2006). Also, for low income families who can't afford the \$84 testing fee for each exam, the College Board has authorized subsidies for exam fees (Dounay, 2006).

In 2000, the University of California College Preparatory Initiative began offering online AP classes to schools unable to offer AP courses (SREB, 2005). Georgia, South Carolina, and Tennessee have teamed with the SREB to create a federally funded program called "AP Nexis Online" that offers access to AP courses to low income, academically able students (SREB). Seeking federal funding for teacher training and exam costs, partnering with other schools to share teachers, participating in online, satellite, or CD offered AP classes are ways that schools can establish or expand AP classes (Santoli, 2002).

#### The Alabama AP Initiative

As noted previously, a number of initiatives across the nation have been targeted at increasing performance, participation, and diversity in the AP program. Alabama has instituted its own program to address these goals. The Department of Education has begun working with The College Board in order to make AP courses available in more of the state's schools. According to Phyllis Rase, AP Coordinator for the State of Alabama, the number of students taking AP courses in Alabama is increasing. However, disproportionality exists between the volume of students who take AP courses in more affluent school systems versus those in inner city and rural school systems (Crawford, 2007).

Thus, it has become the mission of the Alabama State Department of Education to close the gap in AP participation between these groups. Rase also added, "We're trying to make these courses more readily available to students who traditionally have been left out" (Crawford, 2007, p.2).

Alabama Governor Bob Riley held a press conference to address his interest in increasing AP courses throughout the state. During the conference, it was announced that he, along with the State Department of Education, would be launching the Alabama AP Initiative. "Expanding Advanced Placement programs is critical to providing a world class education for our children and making sure they are prepared to succeed in today's global economy. Today, we no longer worry about competing with Mississippi in education because we are now competing with students in China", said Governor Riley (Mullinax, 2008, 2B). Through grants received from the federal government, \$2.6 million has been allotted to fund the Alabama AP Initiative (Governor Press, 2007).

This funding goes towards training teachers, administrators and counselors, buying instructional materials, and offsetting the cost of the AP exam for students (Crawford, 2007). Governor Riley's initiative centers particular interest towards giving more rural and inner city students the same range of courses offered in Alabama's more affluent school systems (Crawford). "This budget is about the future of our children and making sure they have every advantage available to them so they'll succeed. The education reforms we've fought for are working because they put our dollars into the classrooms", said Governor Riley (Governor's Press, 2007, p. 2).

According to the SREB (2005), in Alabama there are 168 high schools in 94 school systems that offer two or more AP courses and there are approximately 200 high schools that do not offer AP courses at all. Thus, the Alabama AP Initiative is designed to allow schools that have preexisting AP Programs to further enhance them by training more teachers, purchasing additional supplies and teaching supplements, and adding more courses to the AP curriculum. As for nonparticipating schools, the initiative will provide money for training new AP teachers, purchasing instructional supplies, defraying the cost of exams, and recruiting students into the program.

The *4<sup>th</sup> Annual AP Report to the Nation*, released by the College Board, shows significant gains in Alabama's AP student performance and participation. According to the 2008 report:

AP growth in Alabama is outpacing the nation, both in participation and high scores, Alabama's African American students posted the biggest gains; more than doubling the national percent increases on both participation and high scores, 11.4 percent of the Alabama public school class of 2007 took at least one AP exam in high school, the percentage of Alabama 12<sup>th</sup> graders earning a score of 3 or higher has increased steadily since 2000, over half of AP exams taken received 3+ score, and Alabama has made significant gains in closing achievement gaps in participation and scores of African American students and has eliminated the gap among Hispanic students. (p.2)

According to the College Board's report (2007), Alabama is a leader in the effort to expand access to and success in AP courses. Carol Crawford, AP Project Director for the State of Alabama, reports that as a part of the Honors State Grant Program, the National Governors Association (NGA) provided funding to Alabama and seven other states to test a variety of innovative strategies to prepare more teachers to teach AP, to expand course offerings, and to increase student preparation for and success in AP courses as a means to raise standards for all students. The NGA grant is in its final year and is providing a foundation for future AP expansion (2007).

Contrary to the conclusions of the College Board relative to the AAPI, there are also less than positive reports on the initiative. According to *the Birmingham News*, Alabama still ranks in the bottom three states in the percentage of students earning college credit through the advanced high school courses (Spencer, 2008). According to a report released by the College Board, 6.4% of Alabama high school students passed one or more AP tests. That is an improvement over the 5.8% of students who passed AP tests in 2006. But, it trails the national average of 15.2% of students who pass at least one test (Orndorff, 2008).

Reports also show that there is a disparity between the races. While the state has closed the gap between White and Hispanic students who take the AP tests, the gap between Whites and Blacks remains significant (Orndorff, 2008). Blacks make up 32.7% of the student population in Alabama public high schools,

but only 14.9% of AP test takers. Whites make up 62.3% of the high school population, but account for 75.9% of those taking AP tests (Orndorff).

Overall, 4,325 students from Alabama's public high school class of 2007 took at least one AP exam during high school, compared with 3,790 in 2006 and 3,267 in 2002 (Spencer, 2008). The portion of students who scored a 3 or higher on one of the tests has gone up from 3.9% of all students graduating six years ago to 5.7% last year (Orndorff, 2008). According to the State Department of Education (2007), Alabama is expanding access to the courses and the test, and efforts in recent years have made progress in closing the achievement gap. Black students in Alabama posted the state's biggest gains in both participation and success on the test, more than doubling the national percent increases for Blacks. Ruth Ash, deputy Superintendent for the Alabama State Department of Education, said "Despite the overall performance, the improved participation and performance heartened state officials. This is another indicator that Alabama can lead in educational achievement. Alabama students can compete with the rest of the nation and the rest of the world" (Orndorff, p. 2).

#### *Impact of the APPI on Other Alabama Initiatives*

Funding provided for the Alabama AP Initiative has also allowed other advanced programs to be piloted. According to Mary Boehm, president of A+ College Ready, Alabama's AP gains are impressive and reflect the growing investment the state of Alabama had made in its AP programs (2008). "We expect next year's gains to be even more impressive as the A+ College Ready

Training and Incentive Program is launched”, said Boehm (Spencer, 2008, p. 2B).

A+ College Ready is a statewide program to encourage students to take rigorous college courses by increasing the enrollment and success of high school students in English, math, and science AP courses (Spencer, 2008). According to the Alabama State Department of Education, A+ College Ready will invest more than \$250,000 in training and incentives for pilot schools in the next year and within five years, the total value of the grant will exceed \$1.3 million.

A+ College Ready is a division of the A+ Education Foundation and was created with a \$13 million grant from the National Math and Science Initiative, which is the largest private grant on record in Alabama for public K-12 schools (Spencer, 2008). According to information released by the ASDE, teachers will receive \$100 for each of their students who test high on AP exams and students will be paid \$100 for each score of 3 or higher on a math, science, or English AP exam (2008).

A total of 12 public schools in Alabama will pilot the A+ College Ready Program. Among the 12, four schools are a part of the Montgomery Public School System. They are: Robert E. Lee High School, Booker T. Washington Magnet High School, Brewbaker Technology Magnet High School, and Loveless Academic Magnet Program High School. The other eight schools are a part of the Jefferson County Public School System (Spencer, 2008). Boehm (2008) said teachers will receive stipends to compensate them for the extra work and time



involved in teaching AP courses to students and financial incentives will be given based on academic results of the AP Exam.

### The Administrator's Involvement in the School's Curriculum

The principal is a key person in creating an effective school. The managerial knowledge and skills of the principal are of great importance to the professional development of teachers and they play a significant role in the overall success of the school. In many respects, the principal is the most important and influential individual in the school. It is his or her leadership that shapes the school's learning climate, the level of the relationship between staff, and the teacher morale (Anderson, 1991). Moreover, the leadership style of the principal can be considered a key to success (Korbazz, 2007).

Stephen Covey (2002) defines leadership as the act of performing in a consistent manner to bring about positive changes in people and businesses to provide services and/or products. Moreover, Howard (2005) states it can be defined as the process of communication (verbal and non-verbal) that involves coaching, motivating/inspiring, directing/guiding, and supporting/counseling others. As described by Covey, leaders are those who are continually learning, service oriented, radiates positive energy, believes in others, lead balanced lives, sees life as an adventure, synergistic, and exercises self renewal.

There are various types of leaders. For example, Bennis (2000), differentiates between a leader and a manager. He describes a leader as one who is innovative, has a long range view, asks "what" and "why", challenges the status quo, and does the right thing. He describes a manager as one who

administers, has a short-range view, asks “how” and “when”, accepts the status quo, and does things right. Covey (2002) believes that a school that has effective leadership will have effective results. His research shows that effective leadership practices produce the following: organizational effectiveness, focus on mission, positive work environment, continuous improvement, and change.

There are several factors that are important to leadership. They are: one person can make a difference, success comes only through others, become a leader now, combat model of leadership transfers to all situations, leadership is simply motivation, leaders are made; not born, and leadership is independent of ‘good deals’ or pleasant working conditions (Cohen, 2002). Integrating these factors into school leadership practices provides balance, better working conditions, and positive attitudes of faculty and staff. Fiedler (1997) suggests that a leader could be effective or ineffective depending on the situation. Ineffective leadership results in chaos, a mediocre working environment, a lack of focus on the future, fragmentation, and a sense of uncertainty (Covey, 2002).

Bennis (2000) believes that effective leaders share four characteristics. First, effective leaders provide others with direction and meaning. It is imperative that leaders keep their team members focused on established goals and objectives. Second, they provide others with a feeling of trust. When leaders act honestly, they become trustworthy. Third, they exhibit skills in action and risk taking. Leaders are expected to operate outside of their traditional circle of safety. Fourth, effective leaders communicate a feeling of hope.

### *Leadership Styles*

According to Fiedler (1997), a leader's style is based upon personality. Covey (2002) lists two leadership personalities that make for a positive environment. They are: charismatic and transformational. Leaders with charismatic personalities focus on the excitement of leadership and on providing inspiration and motivation; those with a transformational personality focuses bringing about a change factor in the world of leadership. Transformational leaders enhance the quality of in-school relationships by actively participating in the operation of the individual value system of the staff in their institutions. They also encourage their staff by stimulating them intellectually to adopt creative thinking processes, and push them to reconsider the solution of old problems through new techniques (Korbazz, 2007).

Leadership styles are widely regarded as sets of leadership behaviors or actions that can be measured or compared (Sun, 2004). In 2005, W.C. Howard conducted a study to determine leadership styles and how they impact the people, tasks, and environment that are being lead. The results of his research stated that leadership styles are divided into four types: fact based, creativity based, feelings based, and control/power based.

According to Howard (2005), fact-based leaders work comfortably with facts, logical reasoning, research-based theory, quantitative analyses, and scientific and mathematical applications. These leaders set high performance standards for themselves and their employees. They are very unemotional

because their central concern is the final result. Fact-based leaders are very organized and support their decision making with research and data.

Howard's study also found that creativity-based leaders are very artistic and flexible with their levels of creativity. These leaders have vivid imaginations and are very spontaneous with synthesizing facts. Howard (2005) noted that, when communicating with others, these leaders are very direct and open. Creativity-based leaders have a tremendously creative thinking pattern as well as a very relaxed, reflective demeanor.

Feelings-based leaders ignore research and facts; which often leads to the formulation of pre-judgments and decisions about how they feel about people, tasks, and the environment (Howard, 2005). Moreover, these leaders are not afraid to incorporate emotions, intuition, or empathy into their daily administrative processes. However, feelings-based leaders are not comfortable making decisions based upon data analyses. They prefer using their intuition versus scientific methods. Howard further notes that they, too, are direct when communicating with others; yet, are approachable.

According to Howard, control/power based leaders use their power to control others, tasks, or their environment. These type leaders do not use imagination or creativity when making decisions or performing tasks. Control/power based leaders are not flexible thinkers or taskmasters. Due to their controlling nature, control/power based leaders do not use encouragement as a means of motivation; which tends to not work favorably with school improvement.

A research study conducted by Sun (2004) showed that positive change in a school's climate takes place under conditions where the principal's values attached to his or her actions are the same or similar to those of the teacher. However, negative change, or a lack of change, takes place when the principal's values severely conflict with others in the school. Thus, the organizational health of the school is a medium through which this success can be realized. For, if a school is open to innovation, it is able to build good relationships with its environment, can give better instruction, and its students can exhibit their skills (Korbazz, 2007).

### *The Principal as the Instructional Leader*

Research studies show that principals who are actively involved with curriculum and instruction tend to be more effective. Thus, instructional leadership became the primary example for school administrators to follow (Lashway, 2003). According to Lashway, initially, instructional leadership consisted of administrators taking on the following roles: goal setter, distributor of instructional resources, curriculum facilitator, monitor of lesson plans, and evaluator of teachers. Today, instructional leadership involves having an in-depth knowledge of the core technology of teaching and learning, having more urbane views of professional development, and emphasizing the appropriate use of data in the decision making process (King, 2002). Dufour (2002) also notes the term "learning leader" is often preferred over "instructional leader" due to the shift in attention given to teaching and learning.

Instructional leadership is defined as actions that a principal takes to promote growth in student learning (Phillips, 2002). According to Phillips, principals who act as instructional leaders fill six administrative rolls. They prioritize the learning process of students and adults, promote the use of data to assess learning, set high academic standards for student performance, create an environment conducive to continuous learning, direct curriculum and instruction to learning standards and objectives, and invite parents and community leaders to be a part of the learning process. Supovitz and Poglioco (2001) note that instructional leaders use dialogue in lieu of dictatorship as a means of maintaining a clear focus on curriculum issues as well as creating a safe instructional environment for teachers.

Andrews and Soder (1987) characterizes the instructional leader as a provider of resources, an instructional resource, an effective communicator, and a visible entity within the school. As a resource provider, principals have the innate ability to identify teachers' strengths and weaknesses and provide them with continuous professional development to improve their instructional abilities. As an instructional resource, principals acknowledge superior work given by teachers and students, give feedback in a timely manner, and encourage camaraderie and teamwork amongst faculty members. As effective communicators, principals listen to their constituents, express themselves in a manner that guides the instructional and decision-making process, and maintain an approachable demeanor. As a visible presence, principals carry out the school's vision through leading by example (Andrews & Soder, 1987).

According to Foriska (1994), instructional leadership is the critical element that guides the development and maintenance of effective schools. Instructional leaders are charged with maintaining focus on student learning, motivating teachers through incentives and acknowledgments, and influencing others to become a part of the school's instructional process (Whittaker, 1997). Moreover, through visibility, instructional leaders promote positive reinforcement in the learning environment. As a result, teachers and students do what needs to be done to achieve success (Andrews & Soder, 1987).

#### *The Effects of Leadership on Student Achievement*

Witziers et al. (2003) notes that the effective principal comes to the forefront as an instructional leader charged with positively affecting student achievement. Principals should have high expectations of student achievement. This can be implemented by monitoring curriculum, emphasizing the teaching of basic skills, and monitoring student progress (Brookover, et al., 1979). A research study conducted by the Mid-continent Research for Education and Learning (McREL) attempted to determine what leadership responsibilities and practices have the greatest impact on student achievement (Waters et al., 2004). McREL's reported the following conclusions: leadership matters, we can empirically define effective leadership, and effective leaders not only know what to do, but how, when, and why.

*Leadership matters.* According to Waters et al. (2004), data from McREL's meta-analysis showed a substantial relationship between leadership and student achievement. Research shows that an average effect size between leadership

and student achievement is .25. This means as leadership improves, so does student achievement (Marzano, et al, 2005). Marzano further suggests that improving principal's leadership abilities by one standard deviation, from the 50<sup>th</sup> to the 84<sup>th</sup> percentile, would lead to an increase in average student achievement from the 50<sup>th</sup> to the 60<sup>th</sup> percentile; which is a substantial improvement.

*Leadership defined.* The McREL study also attempted to define effective leadership. Through an analysis of 70 studies, Marzano, et al. found that effective leadership comprises 21 responsibilities of the school leader which all have a positive correlation to higher levels of student achievement. The responsibilities of the school leader were as follows: being aware of culture, order, discipline, resource, and curriculum, instruction, and assessment. A leader should also have knowledge of curriculum, instruction, and assessment, focus, visibility, contingent rewards, communication, outreach, and input. Moreover, recognizing affirmations, relationships, ideals and beliefs, and situational awareness can also improve student achievement. Finally a leader should be a change agent, optimizer, and monitor and evaluator, while showing flexibility and intellectual stimulation.

According to research, situational awareness, giving awareness to details and undercurrents in the running of the school and using this information to address current and potential problems, has the highest correlation to student achievement (Marzano et al., 2005). Waters et al.,(2004) notes that the average effect size between situational awareness and student achievement is .33. This



means that a school leader must understand the innermost workings of the school, at the nuts and bolts level, to be effective (Marzano et al., 2005).

*The differential impact of leadership.* Waters et al., (2004) interpreted the data from the McREL study of leadership to mean that two primary variables determine whether leadership will have a positive or a negative impact on student achievement. They are focus of change and order of change. Focus of change determines whether or not leaders properly identify the correct focus for school and classroom improvement efforts, those that are most likely to have a positive impact on student achievement in their schools (Waters et al.).

Waters et al. notes that principals can act like effective leaders, but if they fail to guide their schools toward making the correct changes, these changes are likely to have a diminishing effect of student achievement. "We believe that the school and classroom practices we identified in our two previous meta-analytic studies are the right things to do in school improvement" (Waters et al., 2004, p. 50). The McREL report further states that leadership practices should encompass a guaranteed and viable curriculum, challenging goals and effective feedback, parent and community involvement, a safe and orderly environment, and collegiality and professionalism.

The second variable, order of change, is whether or not leaders properly understand the magnitude that they are leading and adjust their leadership practices accordingly. Waters, et al state that first-order changes build on past and existing models. They are consistent with stakeholders' prevailing values and norms, and can be implemented largely with existing knowledge and skills.

Second-order changes, on the other hand, break with the past and challenging existing models, norms, and values. As a result, they cannot be implemented by outside experts (Waters et al., 2004). According to the McREL report, if leaders fail to understand or acknowledge that some changes are second-order for some or all stakeholders, they may struggle to get support for the successful implementation of these changes. As a result, their initiatives may fail to improve student achievement (Waters et al.).

#### The Teacher's Role in Assuring Fidelity to AP Program Elements and Equitable Representation and Performance of Students

Historically, school teachers have been viewed as rulers of their own tiny fiefdoms, their classrooms, and as having little or no contact with anyone but their students. In recent years, the overall climate of educational curriculum has changed. Teachers have emerged from the classroom to collaborate with their colleagues and with administrators to influence a wide range of educational curriculum. Teachers are the ultimate arbiters of curriculum because they implement it (Bowers, 1991).

“A teacher must know the subject he or she is teaching, love people and students in particular, believe in the abilities of all motivated students to master material, possess a genuine desire to motivate those who are not as aggressive as the others, be able to make the material he/she is teaching fun and be able to make the students laugh about something between problems” (Burton et al., 2002, p. 89).

According to Ruth Wright (1991), one of the most important variables influencing teacher involvement in curriculum is intrinsic motivation. Extra pay or release time for participation in curriculum committees is viewed favorably by most teachers, but the expectation that their involvement in the existing curriculum is more critical to continued teacher participation. She further notes that teachers are more willing to work with curriculum development because the materials are likely to be used in their schools and classrooms.

Wright's research concluded that teacher involvement in curriculum presented a positive opportunity to improve existing curriculum, increased effectiveness as a teacher, improved self-efficacy, and satisfied the need to participate in the decision-making process that affects their work (1991).

#### *Successful AP Courses*

The College Board (2006) conducted a survey to determine methods used by AP teachers to create a successful program; while drawing others' interest. The purpose of the study was to explore methods of identifying AP teachers who are successful in enrolling and teaching students from minority groups now underrepresented in higher education, and identifying the background, training, and teaching practices used by such successful teachers. The results showed that the teachers expressed a high opinion of students, both majority and minority, and held them to high standards. They made sure that students understood and could apply the fundamental concepts in the discipline. They also helped students and parents understand and feel comfortable about college (The College Board, 2006).

Wright, Horn, and Sanders (1997) believe that teacher test scores are strongly related to improvements in student test scores over the course of a year. Specific kinds of teacher knowledge were found to be important in several studies: students learn more from teachers with good basic skills test scores, teachers with high verbal skills, and teachers who have a major or minor in the field they teach (Burton et al., 2002). Moreover, Wenglinski (2000) found that professional development activities are the principal way of improving existing teachers' subject area and professional knowledge.

Recent research has established a connection between teacher professional development and student achievement. The College Board provides seven to ten day seminars that enable teachers to understand and teach the AP curriculum (Blattner, 2001). AP Teacher Institutes are formulated to help teachers design, discuss, and implement AP pedagogical strategies; while developing strategies, resources and materials for use in AP courses. It is further structured to allow teachers to develop an AP course syllabus for use in high schools (Ferguson, 2003).

According to Duchsl and Gitomer (1997), the development and maintenance of successful AP courses requires the teacher to build their curriculum upon AP standards and set high academic expectations for their students. It is further suggested that their curriculum emphasize higher-order and critical thinking skills (Raffini, 2003). Furthermore, AP teachers should be thoroughly knowledgeable of their subject matter in order to help their students build on the information they have previously learned (Darling-Hammond, 1998).

### *Teaching Minorities in AP Courses*

Good teachers of minority students are good teachers (Darling-Hammond, 1998). During a recent research study, it was discovered that the teachers did not want to generalize about minority students. They consistently maintained that effective teaching for minority students is no different than effective teaching for any student (Steele & Aronson, 2005). “The personal attributes needed to be a teacher of minorities would be the same attributes needed just to be a teacher: knowledge and love of your subject, organizational skills, patience, perseverance, the ability to see your students as individual people with their own needs and personalities” (Burton et al., 2002, p. 92).

The teachers were unwilling to commit the common error of assuming all minority students are academically backward and poor. These teachers emphasized having a commitment to teaching the subject to demanding academic standards. They wanted to make clear that they would not change their standards for minority students. Another important factor is the teachers’ belief that to teach students well, one must demand excellent performance and believe that the students are capable of excellent performance (Darling-Hammond, 1998). They did not believe that they would benefit minority students by changing their standards (Steele & Aronson, 2005).

In drawing minority students into the AP program, Villegas (2002) has proposed several competencies for teachers: have an attitude of respect for cultural differences, a belief that all students are capable of learning, and a sense of efficacy. Villegas further notes that one should be familiar with the cultural

resources their students bring to class and be aware of the culture of their own classrooms. Furthermore, Villegas (2002) noted it is most important to implement an enriched curriculum for all students, build bridges between the content, process of instruction, and the cultural backgrounds of students in their class, and be aware of cultural differences when evaluating students.

Before one can succeed in teaching minority students, the students must enroll in class. In general, the students who take AP do not represent the national population of minority students in their age group (Burton et al., 2002). An earlier study of high school minority schools with a high proportion of students earning a 3 or better on the AP examination asked students about important educational influences. 70 percent of the students mentioned an elementary school teacher and 75% mentioned a middle school or high school teacher (Coley & Casserly, 1992).

According to Honora (2003), academic success among African-American students is nurtured by teacher support. Too often, African-American students receive neither the quality nor the quantity of support needed to develop a positive identification with the academic culture of school (Steele, 1992). As a result, African-American students “psychologically insulate” themselves from negative school experiences, thereby misidentifying with the academic culture of school (Honora, 2003). Honora further emphasizes that identification with school is sanctioned as one of the many explanations for discrepancies in school achievement among American youth. Thus, achievement motivation, a sense of

school belonging and academic trust, heightened self-esteem, and identifications with school have been found to positively influence school achievement.

### *The Absence of Minority Students in AP Programs*

A research study conducted by Santoli (2002) showed that students' cultural background had a definite impact on their enrollment in Advanced Placement courses. Over the past ten years, minority representation in AP courses has increased more than 50%; however, compared to non-minority students, the representation is still very low (Kyburg et al., 2007). Kyburg et al. further noted that the dramatic increases in minority participation; however, has not been matched by dramatic increases in successful performance. The College Board (2006) released a report showing 72% of AP exams taken by African-American students, in 2006, were assigned a score less than 3. In contrast, just 36% of Caucasian students were assigned scores less than 3 on AP exams.

According to Baldwin (2004), high-ability minority students have distinct cognitive, educational, social, and emotional developmental needs. Callahan (2005) states that talented minority students from impoverished backgrounds confront unique challenges to their educational achievement. Of particular concern is the under-representation of African-Americans, Hispanics, and Native Americans among high-achieving students in advanced courses such as AP (Kyburg et al., 2007).

According to Callahan (2005), to gain access to quality educational experiences, such as those purportedly available in programs for advanced

learners, the evidence suggests that minority adolescents must overcome major hurdles that fall into two broad categories that are often referred to as *Nominate* and *Participate*. First, talented students with potential must be nominated for gifted programs, and secondly, those students, once they do gain access, must participate in the program on an ongoing basis in order to profit from its services.

*The 'participate' problem.* Black adolescents from impoverished backgrounds face unique obstacles in successful participation in gifted programs. Those factors suggested in the literature as possibly inhibiting satisfactory achievement and personal satisfaction in participation include (a) an absence of cultural capital, (b) negative expectations and stereotype threat, (c) loneliness, (d) psychosocial variables, and (e) environmental stresses (Kyburg, 2006). Brooks (2005) states that barriers to participation in advanced learning opportunities and possible consequent long-term negative effects on students who perceive they must relinquish their cultural heritage and ethnic identity and assimilate in order to succeed are not limited to African-American students.

*Absence of education process capital.* Research suggests that some minorities are not familiarizing themselves with functional and navigational skills that are often taken for granted by others. This causes minority students to be at a disadvantage in the schooling process (Worrell et al., 2001). Worrell et al. further states that children who have grown up in families with a history of educational success have already learned many lessons such as how to access resources, how to use a library, or how to apply to college. "Educated parents



not only pass down economic resources to their children, they pass down expectations, habits, knowledge and cognitive abilities” (Brooks, 2005, p.2).

*Negative expectations and stereotype threat.* A number of experts in the gifted education field have noted the harmful influences of negative expectations and stereotype threat (Steele & Aronson, 2005). According to Kyburg (2007), negative expectations can be manifested in teachers’ assumptions that minority and gifted cannot inhabit the same student. These expectations might mean that teachers negatively assess the potential and the work of minority students on the basis of their own biases rather than the actual performance of the students.

Steele and Aronson (2005) confirmed this phenomenon in a series of experiments where Black students under-performed in relation to Whites in testing circumstances they believed would result in assessments of their ability. Gordon (2005) notes that when students find themselves in anxiety-producing situations, such as exams, in which they perceive an external negative expectation based on their minority status, their anxiety that they may confirm the stereotype may lead to diminished performance.

*Loneliness.* Another factor that may hinder talented minorities from impoverished backgrounds from successfully participating in gifted programs is loneliness (Gordon). Treisman (1990) conducted a study of Black students’ poor grades in Calculus and concluded that the social and academic isolation they experiences on a predominantly White campus was a factor in their poor performance. According to Kyburg (2007), Black students studied alone and socialized with a different group of friends outside of college. These students

explained that they struggled to maintain two distinct peer groups, one in their classes at school, and another at home in their neighborhoods. Callahan (2005) notes another potential cause of a sense of loneliness for gifted minority adolescents may be a lack of role models of successful minority individuals that are engaged in various professional endeavors.

*Psychosocial variables.* Baldwin (2005) described psychosocial variables that may present educational challenges to talented minority adolescents from impoverished backgrounds. These include perceptions of career opportunities, college aspirations, future orientation, belief in self, and other personal characteristics such as sense of inner will and motivation to succeed. According to Steele and Aronson (2005), these variables are describes as important components to success in all advanced level programs.

*Environmental stresses.* Ford and Harris (1999) stated that advanced programs conceived on the basis of standard conceptions of intelligence and White-American values and traditions may be perceived as unwelcoming environments by gifted minorities. One conflict may be different expectations and styles. Traditional African-American values include cooperation, social-orientation, mutual interdependence and collectiveness, as juxtaposed to traditional White-American values of competition, task-orientation, independence, and individuality” (Ford & Harris, 1999, p.7). According to Kyburg (2007), such a contrast in styles might lead to very different expectations in an advanced classroom and may result in a sense of dissonance and alienation, inhibiting minority adolescents’ successful participation. This challenge may be particularly

acute for Hispanic students who perceive that in order to succeed in school they must relinquish their home culture and language.

### Summary

The review of the literature related to the major topics in this research study showed that Bruner's Discovery Learning Theory, Bandura's Social Cognitive Learning Theory, and Bloom's Taxonomy were pertinent to the development of higher-level learning programs. Furthermore, the research literature reviewed the background of the AP Program and Alabama AP Initiative; while showing its relationship to the principal as the instructional leader, teachers' instructional strategies used to build AP elements into the curriculum, and the effects of the racial and socio-economic gap on student participation in higher level learning programs. Chapter three describes the research protocols for the study, which addressed variables that were explicated in this chapter.

## CHAPTER III

### METHODOLOGY

The intent of this study was to determine the leadership behaviors and teaching strategies of administrators and teachers who were actively involved in implementing the AAPI in high schools throughout the state of Alabama. It was also the intent of this study to examine whether the AAPI increased AP participation of minority students and changed AP test scores of high school students in the State of Alabama.

Chapter 3 addresses the protocol used to conduct this study. The following sections provide information on the processes for identifying participants, developing and administering surveys, collecting archival student data, running descriptive statistics on information gathered from surveys, and analyzing the archival data.

#### Research Design

A quantitative study was conducted to determine leadership behaviors and teaching strategies of administrators and teachers involved in implementing the Alabama AP Initiative in their school's curriculum, as well as to determine if there were statistical differences between the AP exam scores of minority and non-minority students. Also, the study attempted to determine if the AAPI had a significant impact on minority students' enrollment in the AP program.

A survey was administered in order to gather information from administrators, teachers, and students. Surveys represent one of the most common types of quantitative research (Colorado State University, 2007).

According to Babbie, surveys enable researchers to make generalizations and draw inferences from smaller sample groups to larger populations about specific attitudes, characteristics, and behaviors of the population (2005). Through the use of a written survey, information was gathered to answer the following research questions:

- 1) Which leadership behaviors do principals report that are aimed at involving teachers, students, and counselors in the AP Program?
- 2) Which teaching strategies, acquired through mandatory AP and AAPI training, do teachers report that are useful in enhancing the skills stated in the AP curriculum and to recruiting a larger and more diverse cadre of students into their programs?
- 3) What are the effects of the AAPI initiative upon the perspectives of students in the Mobile County, Baldwin County, and Washington County schools in Alabama?
- 4) What are the effects of the AAPI initiative upon the AP enrollment and AP performance of students in Alabama?

Archival data were also gathered. A written request was submitted to the AP Coordinator for the Mobile and Baldwin County Public School Systems (See Appendices B and C) in order to obtain permission to collect AP exam scores of students enrolled in AP courses. These data were collected to examine the following hypotheses:

- 1) There is a statistically significant increase in the number of minority inner city and rural students participating in the AP program in 2006, 2007, and 2008.
- 2) There is a statistically significant increase in the relative proportions of minority inner city and rural students participating in the AP program in 2006, 2007, and 2008.
- 3) There is a statistically significant increase in the performance of inner city and minority students on the AP examinations relative to the previous performance of these student groups.
- 4) There is a statistically significant difference between the AP exam scores of minority students and the AP exam scores of non-minority students.

The collected data also included the following demographic information: the participants' grade-level, gender, and race.

#### Participants

The participants for this study were divided into three groups: administrators, teachers, and students. According to the State of Alabama Department of Education, there are approximately 190 high schools involved in the Alabama AP Initiative (2007). The principals of these high schools were asked to complete a written survey (See Appendix E). Contact information was obtained from the Alabama State Department of Education's school directory website for each of the selected participants.

The teachers included in this study were those listed as teaching one or more AP courses. They were also those who were scheduled to attend the

Alabama AP Vertical Teaming Institute during the early Winter of 2008. However, due to the rapid decline in the economy, the Alabama AP Vertical Teaming Institute was cancelled. As an alternative strategy, the researcher obtained a list of AP teachers from the Mobile, Baldwin, Montgomery, Jefferson, and Madison County School Systems and asked for their participation in this study. These are the largest schools systems in the state of Alabama and they each have schools that are located in rural, inner city, and urban areas. They also contain minority and non-minority students whose socio-economic backgrounds range from poor to affluent.

The students involved in this study were those 11<sup>th</sup> and 12<sup>th</sup> grade students who were enrolled in one or more AP courses in the Baldwin, Mobile, and Washington County school districts (See Appendices B, C, and D). These districts have schools that are located in rural, inner city, and urban areas. The students of these districts come from poor, middle class, and affluent socio-economic backgrounds.

The AP exam scores of students in the Baldwin and Mobile County school districts were gathered. Appropriate measures were implemented to assure that student identities were not disclosed. The researcher collected enrollment information from the participating high schools, in the selected school districts, in order to determine the proportions of minority students who are enrolled in the AP program. A representative group of AP students from the selected school districts was also surveyed to examine their perspectives regarding the AP program.

## Instrumentation

Three written surveys were developed. One was developed to assess the leadership behaviors of administrators who were involved with the Alabama AP Initiative (See Appendix E). The second assessed instructional strategies used by AP teachers who were also a part of the initiative (See Appendix F). The third assessed the perspectives of students who were enrolled in the AP program (See Appendix G). Each survey contained no more than 25 items and used a Likert Scale for responses. The questions that were used to develop the surveys were a compilation of those used during meetings of the researcher's school district AP meetings. During these meetings, the participants were asked a series of questions regarding their perceptions of the Alabama AP Initiative. The information collected from the meetings informed development of the survey instruments.

The survey instruments were field tested with a panel of experts from the Mobile County Public School System and Alabama Department of Education. The panel members were asked to review the surveys and give particular attention to the directions as well as the clarity and content of individual items. Thereafter, they were asked to return the surveys with any recommendations regarding the elements. The researcher conducted a Cronbach's alpha, at a value of  $\geq .70$ , on each instrument for proper assessment of reliability. The reliability coefficients for the three surveys were as follows:



The Advanced Placement Administrator's Survey	.930
The Advanced Placement Teacher's Survey	.901
The Advanced Placement Student's Survey	.967

The final survey instruments were submitted to the Institutional Review Board (IRB) at the University of Southern Mississippi for approval; which was granted in February 2009 (See Appendix A).

The administrator's survey was sent by mail to those principals whose schools are participating in the Alabama AP Initiative (See Appendix E). The school addresses were obtained from the Alabama Department of Education website. A total of 190 surveys were mailed. The teachers' survey was also administered by mail (See Appendix F). The researcher informed participants that completion of the surveys was voluntary. A total of 200 surveys were mailed.

The students' survey was administered to 11<sup>th</sup> and 12<sup>th</sup> grade AP students who were enrolled in high schools in Mobile, Baldwin, and Washington Counties (See Appendix G). The researcher contacted the schools' principal and AP instructors and solicited their permission to survey the selected students. A total of 200 surveys were sent to various AP teachers to be administered to the students.

### Validity

To ensure the validity of the survey instrument developed, a panel of experts employed by the Department of Curriculum and Instruction in the Mobile County Public School System was solicited to participate in a field test. A total of

twelve employees, curriculum supervisors who work with the AAPI initiative within the school systems, were randomly selected to participate in the pilot study. Each participant was asked to evaluate both surveys, paying close attention to the objectivity of each survey item in relation to the research questions. The panel concluded that the survey items were aligned with the objectives of the AP curriculum, as well as the research questions used in this study.

A pilot study reinforced the validity of the student survey's content, constructs, and length of time required for completion. A total of 12 students from the Mobile County Public School System were randomly chosen to participate in the pilot study of this student survey. Parental permission to participate in the study was obtained. The students completed the survey within 5 to 7 minutes. They appeared to understand the instructions and survey items. Each of the survey items was deemed reliable and usable.

### Procedures

After gaining permission from the dissertation committee and approval from the Institutional Review Board, the researcher began the survey process (See Appendix A). The researcher accessed the State of Alabama Department of Education's website to obtain the names and school addresses of the principals whose schools were a part of the Alabama AP Initiative. A written survey was mailed with a formal letter of request for participation. A self-addressed, stamped envelope was included for the survey's return. Following a

one-week wait, the researcher mailed a reminder card that requested an expedient return.

A written survey was mailed to AP teachers in the Mobile, Baldwin, Jefferson, Montgomery, and Madison County School Systems. The teachers were asked to complete the survey with the understanding the participation was voluntary. After one week, the research sent reminder emails asking for the teachers' participation.

Eleventh and 12<sup>th</sup> grade AP students from the Mobile, Baldwin, and Washington County School Systems were administered the student survey. Prior to administration of the survey, the students were given permission forms in order to receive parental consent. The survey was administered only to students who returned a signed parental consent form.

In order to gather the archival data, the researcher submitted a written request to the AP Coordinator of the Mobile County School System for use of the AP exam scores and enrollment data. With permission, exam scores and enrollment data from all students enrolled in AP courses for the 2006, 2007, and 2008 school terms were obtained. The identity of individual students was not disclosed. The researcher also collected the following demographic information for students in this sample: grade, gender, and race.

#### Data Analysis

After collecting the data, the researcher used SPSS for Windows 13.0 to conduct statistical analyses. Descriptive statistics, frequencies, and percentages were used to answer the research questions.

An independent sample t-test was conducted on the testing data collected in an attempt to support or reject the hypotheses. Descriptive statistics, frequencies, and percentages for the data used in addressing the hypotheses were also reported. The results of the statistical analyses were reported in summary form.

### Summary

Although the AP Program has provided significant benefit to many students, schools, and school districts by enforcing a rigorous, college preparatory curriculum, it has also generated feelings of hesitation and fear among teachers, students (particularly minority students), and parents, with its expensive program costs and rigid requirements. The College Board has worked extensively with the United States Department of Education to create an initiative that would provide funding necessary for school systems across the nation to actively involve high schools, particularly those in rural and inner city communities, in the AP Program. The aim of this study was to determine the leadership behaviors and teaching strategies of administrators and teachers who were actively involved in implementing the AAPI in high schools throughout the state. An additional purpose of this study was to examine whether the AAPI increased AP participation among minority students and impacted AP test scores of high school students in the State of Alabama. The next chapter will discuss the results of the research study.

## CHAPTER IV

### DATA ANALYSIS AND RESULTS

There were two areas of focus for this study. The first major focus was determining the leadership behaviors and teaching strategies of administrators and teachers who were actively involved in implementing the AAPI in high schools throughout the state. The second area of focus was examining whether the AAPI affected AP participation of minority students and changed AP test scores of high school students in the State of Alabama.

This chapter provides an analysis of the data collected for this study. The researcher collected data by means of gathering archival AP exam scores and administering surveys. The data collected were analyzed using a one-way ANOVA and independent sample t-tests. The data analysis also provided a computation of descriptive statistics and frequencies.

#### Response Rate

The researcher developed, piloted, and administered three survey instruments. They were as follows: the *Advanced Placement Administrator's Survey*, the *Advanced Placement Teacher's Survey*, and the *Advanced Placement Student's Survey*. Each survey instrument contained no more than 25 questions and used a Likert scale for responses.

The researcher distributed 190 survey instruments, by mail, to administrators of high schools participating in the Alabama Advanced Placement Initiative (AAPI). The administrators were given two weeks to respond. After week one, an email was sent to each administrator as a reminder and second

request for his/her participation in the survey. The researcher received 48 survey instruments. All survey instruments submitted were complete and usable. Thus, the *Advanced Placement Administrator's Survey* yielded a 25% response rate.

The researcher mailed 200 *Advanced Placement Teacher's Surveys* to randomly selected AP teachers in the Baldwin, Madison, Mobile, Montgomery, and Jefferson County School Systems. The teachers were given two weeks to respond. As a reminder, each teacher was emailed and asked for his/her participation at the end of week one. The researcher received 91 completed and usable survey instruments, yielding a 46% response rate.

The *Advanced Placement Student's Survey* was administered to Advanced Placement students in the Baldwin, Mobile, and Washington County School Systems. Two hundred surveys and permission forms were given to AP teachers for distribution. The directions asked that students be given two days to return the permission form in order to participate in the survey. Most teachers gave an incentive in order to encourage student participation. Mid-week, the teachers were emailed a reminder to conduct the survey by the end of the week. The researcher received 116 surveys. However, only 113 were complete and usable. Thus, the *Advanced Placement Student's Survey* yielded a 57% response rate.

#### Presentation and Analysis of Data

By March 2009, archival data and usable survey instruments were processed. The statistical analyses were performed using SPSS 13.0 for Windows. The following analyses were conducted on the archival data: one-way,

within-subjects, ANOVA, one-way ANOVA, and independent sample t-test. The survey instruments were analyzed by use of descriptive statistics, frequencies, and percentages.

### *Analysis of Hypotheses*

A one-way, within-subjects, ANOVA was conducted to evaluate Hypothesis 1, which was stated as follows: There is a statistically significant increase in the number of minority inner city and rural students participating in the AP program in 2006, 2007, and 2008. The factor was the year of exam and the dependent variable was the number of student participants. Archival data were collected for 10 schools; however, only 8 of these schools contained AP exam scores for three consecutive years.

The results for the one-way, within subjects ANOVA conducted on Hypotheses 1 indicated that there was not a significant increase in the number of students participating in the AP program over the three-year period,  $F(2, 6) = 2.08, p = .206$ .

In 2006, the mean for the number of students participating in the AP program was 41.00. The data also showed a mean of 34.88 for students participating in the AP program 2007, as well as a mean of 51.88 for student participation in 2008. Table 1 provides the means and standard deviations for variables used in Hypothesis 1.

A one-way, within-subjects, ANOVA was also conducted to analyze Hypothesis 2, which states: There is a statistically significant increase in the proportions of minority inner city and rural students participating in the AP

program in 2006, 2007, and 2008. The factor was the year of exam and the dependent variable was the percentage of student participants. The results for the one way, within-subjects ANOVA conducted on Hypotheses 2 indicated that there was not a significant increase in the percentage of students participating in the AP program over the three-year period,  $F(2,6) = .37, p = .704$ . Therefore, the hypothesis was rejected.

The data showed a mean of 38.26 for the percentage of minority inner city and rural students participating in the AP program for 2006. In 2007 and 2008, means of 35.84 and 37.25 were representative of the proportions of minority inner city and rural students participating in the AP program. Table 1 reports a summary of the means and standard deviations for the percentage of students participating in the AP exam.

Table 1

*Means and Standard Deviations for the Percentage of Minority Inner City and Rural Students Participating in the AP Program*

Year	Number		Percentage	
	Mean	SD	Mean	SD
2006	41.00	44.73	38.26	39.95
2007	34.88	42.75	35.84	41.44
2008	51.88	72.29	37.25	40.49

A one-way ANOVA was used to analyze Hypothesis 3. It reads as follows: There is a statistically significant increase in the performance of inner city, minority students on the AP examinations relative to the previous performance of these student groups. The independent variable, year of exam, included three levels: 2006, 2007, and 2008. The dependent variable was the AP exam scores. The ANOVA was significant in three subject areas – AP Literature



and Composition, AP United States History, and AP United States Government and Politics. All other subject areas tested were non-significant.

Minority inner-city students performed better on the AP Literature and Composition test in 2007 than in 2006 and 2008,  $F(2, 157) = 5.76, p = .004$ . In comparison to 2006, there was an increase in minority student performance on the AP United States History exam in 2007 and 2008,  $F(2, 390) = 4.22, p = .015$ . There was also a significant increase in scores of minority inner-city students in 2008 when compared to 2006 and 2007,  $F(2, 68) = 3.96, p = .024$ .

The mean scores for AP English Literature were as follows: 2.35 in 2006, 3.00 in 2007, and 2.62 in 2008. The data also showed mean scores for AP United States History. They were 2.38 in 2006, 2.77 in 2007, and 2.70 in 2008. The mean scores for the AP United States Government exam were reported as follows: 2.19 in 2006, 3.09 in 2007, and 2.94 in 2008. Table 2 provides the means and standard deviations for the exam scores reported for Hypothesis 3.

Table 2

*Means and Standard Deviations for the Performance of Inner City and Minority Students on the AP Exams in 2006, 2007, and 2008*

Subject	Year	Number	Mean	SD
Language	2006	23	2.34	.98
	2007	20	3.00	.65
	2008	78	2.61	.97
	<b>Total</b>	121	2.62	.94
Literature	2006	40	1.97	1.23
	2007	57	2.72	.88
	2008	63	2.44	1.10
	<b>Total</b>	160	2.42	1.09
US History	2006	126	2.38	1.16
	2007	108	2.76	.88
	2008	159	2.69	1.21
	<b>Total</b>	393	2.62	1.13
European History	2006	80	3.06	1.07
	2007	67	2.83	.95
	2008	45	2.66	.95
	<b>Total</b>	192	2.89	1.01
US Government	2006	26	2.19	1.27
	2007	11	3.09	.94
	2008	34	2.94	1.09
	<b>Total</b>	71	2.69	1.19
Calculus AB	2006	9	2.44	1.81
	2007	5	3.00	.71
	2008	13	2.53	1.45
	<b>Total</b>	27	2.59	1.44
Biology	2006	4	3.00	1.15
	2007	2	3.00	.00
	2008	2	2.00	.00
	<b>Total</b>	8	2.75	.89
Chemistry	2006	1	2.00	.00
	2007	5	2.40	.55
	2008	43	2.32	1.14
	<b>Total</b>	49	2.32	1.08
Studio Drawing	2006	6	2.83	.75
	2007	3	3.33	.58
	2008	8	2.62	1.06
	<b>Total</b>	17	2.82	.88

An independent samples t-test was conducted to analyze Hypothesis 4 which reads as follows: There is a statistically significant difference in the AP exam scores of minority students and the AP exam scores of non-minority students. The grouping variable was race and the dependent variable was the AP exam scores. There were significant differences found in three testing areas: AP Literature and Composition, AP United States History, and AP Chemistry.

In AP Literature and Composition, non-minority students scored significantly higher on the exam than minority students,  $t(158) = 5.04$ ,  $p < .001$ . Non-minority students also scored significantly higher than minority students on the AP United States History exam,  $t(391) = 2.46$ ,  $p = .014$ . However, scores from the AP Chemistry exam showed minority students scoring significantly higher than non-minority students,  $t(47) = -2.81$ ,  $p = .007$ . Although scores for 18 AP tests were collected, only 10 areas could be analyzed due to an insufficient number of student participants on the remaining exams.

The mean scores for the AP English Literature exam were 2.77 for non-minority students and 1.93 for minority students. The mean scores for the AP United States History exam were 2.71 for non-minority students and 2.40 for minority students. The mean scores for the AP Chemistry exam were 2.15 for non-minority students and 3.25 for minority students. Table 3 lists the means and standard deviations for Hypothesis 4.

Table 3

*Means and Standard Deviations for the AP Exam Scores of Minority and Non-Minority Students*

Exam	Race	Number	Mean	SD
Language	Non-Minority	90	2.68	1.00
	Minority	31	2.48	.72
US History	Non-Minority	278	2.70	1.09
	Minority	115	2.40	1.17
Euro History	Non-Minority	137	2.85	1.03
	Minority	55	2.98	.97
US Government	Non-Minority	66	2.75	1.18
	Minority	5	1.80	1.10
Economics	Non-Minority	33	2.21	1.08
	Minority	3	1.66	1.15
Calculus AB	Non-Minority	10	2.30	1.25
	Minority	17	2.76	1.56
Biology	Non-Minority	4	2.50	.58
	Minority	4	3.00	1.15
Chemistry	Non-Minority	41	2.14	.88
	Minority	8	3.25	1.58
Studio Draw	Non-Minority	11	2.54	.93
	Minority	6	3.33	.52
Literature	Non-Minority	94	2.76	.97
	Minority	66	1.93	1.09

### *Analysis of Surveys*

An analysis of descriptive data was conducted to examine the following research question: Which leadership behaviors do principals report that are aimed at involving teachers, students, and counselors in the AP program? A total of 48 administrators, 31 principals and 17 assistant principals, responded to the survey. Of the 48 respondents, 54% were African-American, 35% Caucasian, and 10% Hispanic.

The survey participants reported their years of experience as follows: 18 administrators had 1 to 3 years of experience, 18 administrators had 4 to 5 years of experience, 3 administrators had 6 to 10 years of experience, and 7 administrators had 11 or more years of experience. Thirty-three percent of the administrators noted that this was their first time working with the AP program. Another 35% of administrators had 2 to 5 years experience working with the AP program. Thirteen percent of administrators had 6 to 10 years of experience working with the AP program and 19% of administrators reported having 11 or more years working with the AP program. A majority of the administrators, 65%, were employed in public school systems. Thirty-five percent of the administrators worked in schools located in urban areas, 40% of the administrators worked in schools in rural areas, and 25% worked in public schools located in the inner city area.

Administrators reported the following leadership behaviors as useful in implementing curriculum changes: assigning curriculum duties to assistant administrators, receiving AP training through the AAPI Summer Institute, being

very organized, acting as a visionary leader, and recognizing that there is a lack of minority students enrolled in AP courses. When aiming to involve teachers in the AP program, administrators reported the following useful behaviors:

scheduling professional development workshops for teachers, allowing teachers to work with curriculum development and changes, soliciting teacher input on curriculum issues, and creating ways to help teachers become interested in curriculum changes.

As it applies to motivating more students to enroll in AP courses, administrators noted the use of the following behaviors: establishing high standards of behaviors for students, becoming actively involved in the students' learning process, communicating with parents in order to gain their support of the school's AP program, and soliciting student input on AP curriculum development. Overall, administrators reported that they received adequate funding to help implement the AAPI into their school's curriculum and were pleased with the program's progress. Table 4 lists the questions, means, and standard deviations for Research Question 1.

Table 4

*Means and Standard Deviations for Leadership Behaviors of Administrators Involved in the AAPI*

Survey Item	Mean	SD
I am actively involved in my school's curriculum.	4.67	.48
There is a lack of minority students enrolled in AP courses at my school.	4.60	.54
I establish high standards of behaviors for students.	4.60	.49
I am actively involved in students' learning process.	4.48	.51
I am a visionary leader.	4.41	.71
I communicate with parents in order to gain their support of our school's AP program.	4.25	.48
I am organized.	4.23	.52
I establish high standards of achievement for teachers.	4.20	.65
I solicit input from teachers, students, and parents.	4.16	.62
I give teachers no choice but to work with curriculum changes.	4.14	.77
I spotlight student achievement as a means of motivation.	4.13	.79
I assign curriculum duties to assistant administrators.	4.08	.54
I create ways to help teachers become interested in curriculum.	3.96	.77
I have received AP training through the AAPI Summer Institute.	3.94	1.31
I schedule professional development workshops for teachers.	3.69	.99

Table 4 (continued)

Survey Item	Mean	SD
I am comfortable with data analysis.	3.67	.93
I am pleased with the implementation of the AAPI into our school's curriculum.	3.42	1.13
I involve parents in the school's curriculum activities.	3.40	1.18
My school has received adequate funding for the implementation of the AAPI into the curriculum.	3.17	1.19

\*Scale for survey instrument items ranged from 1 (lowest) to 5 (highest).

Descriptive statistics were also used to analyze Research Question 2 which reads: Which teaching strategies, acquired through mandatory AP and AAPI training, do teachers report as useful in enhancing the skills stated in the AP curriculum and in recruiting a larger and more diverse cadre of students into their programs? A total of 91 AP teachers completed the survey instrument. Five survey instruments contained missing information and were not able to be used.

Ninety-three percent of the responding teachers were Caucasian and 2 % were African-American. Ninety-five percent of the respondents were employed in public school systems throughout the state of Alabama. Thirty-one percent of the teachers worked in schools located in urban areas, as well as inner city areas, and 32% of the teachers worked in rural locations.

Twelve percent of the respondents were first year teachers who were new to the AP program as well. Thirty-four percent of the teachers had 4 to 9 years teaching experience and 2 to 5 years experience working with the AP program. Eighteen percent of the teachers had 10 to 15 years teaching experience.



Twenty-nine percent of the teachers have worked with the AP program for 6 to 10 years. Twenty percent of the survey participants had 16 to 20 years of teaching experience and have worked with the AP program 11 or more years.

In order to enhance the skills stated in the AP curriculum, teachers reported attending yearly AP training, meeting regularly with other AP teachers for vertical curriculum alignment, incorporating the teaching strategies learned at AP training institutes into daily lessons, incorporating critical thinking skills into daily lessons, and patterning tests after the AP exam as most useful. When recruiting a larger and more diverse student body into their AP courses, teachers sought parental involvement. They noted the use of the following strategies: communicating AP information to parents regularly, inviting parents to sit in on their AP classes, and creating ways to get parents actively involved in the school's instructional process.

Teachers recognized the low number of minority students enrolled in AP courses at their respective schools; however, they reported having difficulty recruiting these students into their classes. Thus, the teachers reported the following strategies useful in promoting minority student enrollment into their AP classes: encouraging students to take academically challenging courses, discussing college options with students, helping students recognize the importance of taking advanced courses for college preparation, and encouraging 9<sup>th</sup> and 10<sup>th</sup> grade students to enroll in pre-AP courses to develop a foundation in advanced curricula. Moreover, teachers noted having the support of administrators, as well as other teachers has aided in the success of their

program. Table 5 provides the survey items, means, and standard deviations used for the analysis of Research Question 2.

Table 5

Means and Standard Deviations for Instructional Strategies of Teachers Involved in the AAPI

Survey Item	Mean	SD
I encourage students to take advanced to challenging courses.	4.87	.34
I find it difficult to recruit minority students into my AP courses.	4.68	.47
I feel that it is important to recruit minority students into AP courses.	4.67	.47
I discuss with students the importance of challenging courses in preparing for college admissions.	4.67	.47
I incorporate critical thinking strategies into my daily lessons.	4.67	.47
I discuss college options with my students.	4.64	.48
The administrators support the AP program at my school.	4.56	.50
I attend AP training institutes yearly.	4.39	.58
I incorporate the teaching strategies learned at AP training institutes into my daily lessons.	4.32	.70
I pattern my tests after the AP exam.	4.31	.94
I give timed tests as a practice for the AP exam.	4.31	.94
I teachers are supportive of the AP program at my school.	4.21	.61
I communicate with parents regularly in order to get their support of the AP program.	3.92	.31

Table 5 (continued)

Survey Item	Mean	SD
I encourage 9 <sup>th</sup> and 10 <sup>th</sup> grade students to enroll in Pre-AP courses.	3.71	.66
I meet regularly with other AP teacher for vertical curriculum alignment.	3.62	1.10
Parents are disgruntled with the AP program at my school.	2.99	.66
I invite parents to sit in on my AP classes.	2.78	.78
Parents are actively involved in the instructional progress in our school.	2.69	.90
Parents show an active interest in the AP program.	2.69	.90

**\*Scale for survey instrument items ranged from 1 (lowest) to 5 (highest).**

The researcher conducted a descriptive analysis to evaluate Research Questions 3 and 4 which read as follows:

- What are the effects of the AAPI upon the perspectives of students in the Baldwin County, Mobile County, and Washington County schools in Alabama?
- What are the effects of the AAPI initiative upon the AP enrollment and AP performance of students in Alabama?

The sample population included 113 students, 77 of whom were females and 36 of whom were males. Of the 113 respondents, 50 percent were Caucasian, 33 percent were African-American, and 16 percent were Asian. Thirty-five percent of the survey participants received free or reduced lunch. Seventy-six

percent of the students attended schools in rural areas, with 52 percent having taken 1 to 2 AP courses previously.

The students' primary positive perspective regarding the AAPI was the exposure to college preparatory curriculum provided by AP courses. They further noted that enrollment in AP courses has thoroughly prepared them for college, as well as placed them in an environment with highly intelligent students. The students also reported that the AP teachers were very encouraging and motivated them to continue taking collegiate preparation courses. Table 6 lists the survey items, means, and standard deviations used to analyze Research Questions 3 and 4.

Table 6

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*Means and Standard Deviations for Student Perceptions of the Effects of the AAPI on Student Learning and Performance*

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Survey Item	Mean	SD
I enrolled in AP courses for the exposure to a college preparatory curriculum.	4.66	.475
I enrolled in AP courses to be in the midst of smarter students.	4.66	.474
Taking AP courses has prepared me for college.	4.66	.474
The AP teachers are very encouraging and motivating.	4.66	.474
My parents are supportive of the AP program.	4.57	.498
There is a lack of minority students enrolled in the AP courses in my school.	4.57	.498
I encourage other students to take AP courses.	4.57	.498
I find AP courses challenging and rewarding.	4.57	.498
I enjoy taking AP courses.	4.56	.499
I have improved my critical and analytical thinking skills since taking AP courses.	4.55	.502
Taking AP courses has helped me increase my ACT/SAT scores.	4.53	.501
The administrators are visibly involved in supporting the AP program at my school.	4.37	.908
I enrolled in AP courses to be with my friends.	4.33	.958

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\*Scale for survey instrument items ranged from 1 (lowest) to 5 (highest).

## Summary

The aim of this chapter was to provide the reader with a detailed analysis of the data collected for this study. This chapter provided information on the response rates and presented an analysis of data. Data were collected by means of gathering archival AP exam scores and administering surveys to administrators, teachers, and students involved in the Alabama Advanced Placement Initiative. The next chapter provides a discussion of the primary and ancillary findings along with recommendations for policy, practice, and future research.

## CHAPTER V

### DISCUSSION AND RECOMMENDATIONS

This chapter provides the reader with a discussion of the purpose and findings of this study. Recommendations for policy and practice are also included. Also included in this chapter are limitations to the study, a review of pertinent literature, and ancillary findings. Finally, the chapter asserts the importance of this study, and encourages future research in this area.

#### Purpose

This study was designed to determine the leadership behaviors and teaching strategies of administrators and teachers who are actively involved in implementing the AAPI into high school curricula throughout the state of Alabama. This study was also conducted to examine whether the AAPI has increased AP participation of minority students and has changed AP test scores of high school students in the State of Alabama.

As stated in previous chapters, the AP program has provided significant benefits to many students, schools, and school districts by enforcing a rigorous, college preparatory curriculum. Yet, the program's expensive operating costs and rigid requirements have also caused teachers, students, and parents to become hesitant and fearful of the program. Through grants and federal funding, the College Board has begun working with State Departments of Education in order to make AP courses available in more public schools that are less affluent. Thus, the Alabama AP Initiative was developed to close the racial and socio-economic gap within the AP program's participants in the state of Alabama.

The researcher's data provided a comparison of AP exam scores, as well as a comparison of the number of participants over a three-year period – pre and post AAPI. The researcher also provided data that show instructional methods and administrative behaviors practiced by teachers and principals who are involved in implementing the AAPI into their school's curriculum. This study further provided data showing student perspectives regarding the reported effects of the AAPI on their academic performance.

It was the researcher's goal to add to the existing body of knowledge regarding these topics and provide more research for administrators and teachers who are seeking programs that will academically enhance their school's curricula. Because this is only the third year that the AAPI has been offered to schools throughout the state, it was difficult for the researcher to find ample data and research on this type of initiative. With the increase in the need for schools to become more academically competitive, the researcher strongly believes that the AAPI can be a resource for developing a more challenging, college preparatory high school curriculum.

### Discussion of Statistical Findings

#### *Hypothesis 1*

The researcher hypothesized that there was a statistically significant increase in the number of minority inner city and rural students participating in the AP program in 2006, 2007, and 2008. To perform the statistical analysis, the researcher collected archival AP data from the Baldwin and Mobile County School Systems. The researcher used a one-way, within-subjects ANOVA to



conduct the analysis. The results showed that there was not a significant difference in the number of minority inner city and rural students participating in the AP program over the three-year period.

The researcher found that participation in the AP program slightly decreased in 2007, which was the first year of implementation for the AAPI. However, during the second year of the AAPI, 2008, minority inner city and rural student participation began to rise. The demographic data showed that inner city schools serviced more minority students than rural schools. Ruth Ash, Deputy Superintendent for the Alabama State Department of Education, said “Despite the overall performance, the improved participation and performance heartened state officials. This is another indicator that Alabama can lead in educational achievement” (Orndorff, p.2).

### *Hypothesis 2*

The researcher hypothesized that there was a statistically significant increase in the proportions of minority inner city and rural students participating in the AP program in 2006, 2007, and 2008. The researcher used archival data from the Baldwin and Mobile County School Systems. A one-way, within-subjects ANOVA was used to analyze the data. The data analysis revealed that there was not a statistically significant increase in the proportions of minority inner city and rural students participating in the AP program in 2006, 2007, and 2008. According to Crawford (2007), the number of Alabama students taking AP courses has increased yet a gap still exists between students attending inner city and rural schools and students attending more affluent schools. A research study

conducted by Santoli (2002) showed that minority representation in AP courses has increased more than 50% over the past 10 years. However, in comparison to non-minority students, the representation is still very low (Kyburg, et al., 2007).

The researcher found that in 2006, the percentage of minority students participating in the AP program was higher than in 2007. However, after the first year of the implementation of the AAPI, minority student participation in the AP program increased in 2008. Past research studies show that many schools with high minority populations do not provide AP courses (Cunningham & Cordeiro, 2003). Nearly 10 years ago, the College Board began working with states to create initiatives that would promote higher minority student enrollment in AP courses. In 2000, the University of California College Preparatory Initiative began offering online AP classes to schools unable to offer AP courses (SREB, 2005). The SREB further noted that Georgia, South Carolina, and Tennessee teamed with the SREB and created a federally funded program to offer AP courses on-line. These on-line courses were established for low income, academically able students who did not attend schools that offered AP courses.

With the launching of the Alabama Advanced Placement Initiative, particular interest was to be given to providing a more challenging curriculum to students who attended rural and inner city schools (Crawford, 2007). Crawford also stated that, in an effort to recruit more minorities into AP courses, funding from the AAPI would not only train more teachers and purchase more instructional materials, but it would offset the cost of the AP exam for minority students attending school in low income, rural or inner-city areas.

### *Hypothesis 3*

The researcher hypothesized that there was a statistically significant increase in the performance of inner city, minority students on the AP examinations relative to the previous performance of these student groups. Using archival data collected from the Baldwin and Mobile County School Systems, a one-way ANOVA was used to conduct the analysis. Results from the data analysis showed a statistically significant increase in the performance of inner city, minority students on the following AP exams: AP English Literature, AP United States History, and AP United States Government.

The researcher found that, according to the mean scores, the performance of inner city minority students on the AP exams were higher in 2007 than in 2006 and 2008; yet the increase was not large enough to be statistically significant. Considering the research that shows a history of inequitable educational resources available to minorities, Burdman (2007) notes that the racial gap in AP courses and test scores are not surprising. Although the College Board and state officials have provided means to expand the AP program to underserved schools, higher education experts continuously question if the program will serve as a means of college preparation while retaining student enrollment populations for the minority students who attend these schools (Burdman).

### *Hypothesis 4*

The researcher hypothesized that there was a statistically significant difference in the AP exam scores of minority students and the AP exam scores of

non-minority students. An independent sample t-test was used to analyze the archival data. Of the areas analyzed, a significant difference in minority and non-minority test scores was found in AP English Literature, AP United States History, and AP Chemistry.

The researcher found the minority students scored higher than non-minority students in only one subject area. Those minority students who scored significantly higher on the AP Chemistry exam were Asian. Although they are considered minority, past research shows that these students typically score higher in the areas of math and science than the overall mean. In May of 2006, an estimated 750,000 students took one or more AP exams; less than 5% of these were African-American (Burdman, 2007). A study conducted by researchers for *Black Issues in Higher Education* in 2000 showed that minority students enrolled in AP classes had a lower passing rate compared to non-minority students. The research further showed a nation-wide passing rate of 65% for AP classes. However, only 33% of Black, 17% of Asians, and 50% of Hispanic students passed their AP courses. A smaller percentage passed the actual AP exam (Chenoweth, 1996).

#### Discussion of Findings Based on Descriptive Data

##### *Research Question 1*

The researcher conducted descriptive analyses to answer the following question: Which leadership behaviors do principals report that are aimed at involving teachers, students, and counselors in the AP program? The Advanced Placement Administrator's Survey results showed that the administrators were

experienced leaders and had been working with the AAPI for the three years of its existence. The respondents were leaders of public high schools in rural and inner city areas and were increasingly interested in incorporating the AAPI into their school's curriculum in order to establish high academic standards for their students, as well as motivate more minority students to enroll in higher level academic courses.

The researcher found that the administrators who implemented the AAPI into their school's curriculum were leaders who described themselves as maintaining active involvement in their schools' curriculum development. They also indicated that they rallied support from outside stakeholders such as parents and community leaders in an effort to make the AP program more attractive to minority students. Research shows that administrators should restructure a school's climate and learning environment in order to better enhance the inclusion of minority students (Pena, 2002). Pena's study further concluded that administrators must first admit that inequalities exist, then make an effort to develop reforms that attempt to change climate in order to create cultural diversity while enhancing successful school experiences.

The researcher also found that the administrators reported that they support teacher involvement and input in curriculum development, while setting high standards of achievement. According to the administrators, their leadership behaviors encouraged more teachers to become involved in the AAPI and seek training and professional development in AP programs. Covey (2002) reports the use of transformational leadership skills as the most useful leadership behavior in

motivating teachers to adopt new thinking processes as well as curricula.

Covey's research further notes that the administrator's use of transformational leadership enhances the quality of in-school relationships by participating in the operation of the individual value system of the staff in their institutions.

Transformational leadership encourages teachers by stimulating them intellectually, thus guiding them to reconsider solving old problems with new techniques (Covey, 2002).

The administrators appeared to recognize the need to enhance student achievement through becoming involved in their learning processes, rewarding student achievement as a means of motivation, and establishing high behavioral standards for them. According to Phillips (2002), instructional leadership promotes growth in student learning. Witziers et al. (2003) notes that the effective principal comes to the forefront as an instructional leader charged with positively affecting student achievement. This can be implemented by monitoring curriculum, emphasizing the teaching of basic skills, and monitoring student progress.

### *Research Question 2*

The researcher conducted a descriptive statistical analysis to evaluate the following research question: Which teaching strategies, acquired through mandatory AAPI training, do teachers report that are useful in enhancing the skills stated in the AP curriculum and in recruiting a larger and more diverse cadre of students into their programs? Over 50% of the teachers responding to the Advanced Placement Teacher's Survey were experienced educators who

reported having a lot of exposure to the Advanced Placement curriculum. They further indicated that being employed in public, inner-city and rural area schools inspired them to seek new and creative ways to get their students motivated and interested in higher level courses.

Responses indicated that the teachers involved in the AAPI recognized that there was a shortage of minority students enrolled in the AP program. They further noted the difficulties they'd experienced in recruiting these students into their courses. The teachers developed a rapport with their minority students and began talking to them about the effects of advanced courses on college preparation while steadily encouraging them to take more advanced or challenging courses. Villegas (2002) proposed several teacher competencies aimed at drawing minority students into their AP program. These strategies included having respect for cultural differences, believing that all students were capable of learning, and showing a sense of efficacy. According to Honora (2003), academic success among African-American students is nurtured by teacher support. Achievement motivation, a sense of school belonging and academic trust, heightened self-esteem, and identifications with school have been found to positively influence student achievement.

#### *Research Questions 3 and 4*

A descriptive statistical analysis was used to evaluate the following research questions:

- What are the effects of the AAPI upon the perspectives of students in the Baldwin County, Mobile County, and Washington County schools in Alabama?
- What are the effects of the AAPI initiative upon the AP enrollment and AP performance of students in Alabama?

The respondents to the Advanced Placement Student Survey were 11<sup>th</sup> and 12<sup>th</sup> grade AP students in the Baldwin, Mobile, and Washington County School Systems. The students received parental permission to participate in the survey. Over 30% of the respondents received free or reduced lunch; this qualified them to receive assistance to offset the cost of the AP exams.

Students reported that in an effort to become more academically challenged and prepared for college, they wanted to take more AP courses. Although enrollment in AP courses has been low, more students have been willing to try the courses in an effort to enhance their critical and analytical thinking skills, as well as their ACT and SAT scores. With the rapid decline of the economy, college tuition is increasing and scholarship amounts are decreasing. These factors may help to explain why students in the study recognized the need to become more academically competitive.

According to Dounay (2006), enrolling in AP courses increases the level of rigor in high school coursework, prepares students for entry level college coursework expectations, helps students and parents save on postsecondary enrollment and completion. Further studies revealed that AP students were not



only a superior group prior to college entry, but had a better overall four-year college performance (Santoli, 2002).

#### Limitations of the Study

This study was limited primarily because of fiscal constraints. The researcher planned to survey teachers and administrators at the Spring 2009 Alabama AP Vertical Teaming Workshops. Due to the rapid decline in the economy, monies for federally funded educational programs were drastically cut. This resulted in the cancellation of the workshop. Thus, the researcher surveyed teachers and administrators by mail and received a smaller response rate than was originally anticipated.

#### Recommendations for Policy and Practice

Higher education experts question whether federally funded programs such as the AAPI will serve as a means of college preparation while retaining student enrollment populations for the minority students who attend underserved schools. In the state of Alabama, Blacks make up 33% of the student population in Alabama public high schools, but only 15% take AP courses as well as the AP exam. Whites make up 62% of the high school population and account for 76% of those taking AP courses and exams (Orndorff, 2008). Thus, programs such as the AAPI were designed to close the racial gap in higher level courses by providing money for the training of new AP teachers, purchasing of instructional supplements, adding more courses to the curriculum, and reducing the cost of the AP exam for those students who receive free or reduced lunch.

This study was conducted to determine if the AAPI closed the racial gap in the AP programs by increasing enrollment in AP courses and increasing AP exam scores of minority students from lower socio-economic backgrounds. The results of the study showed that the AAPI has not been successful in recruiting more minority students into AP courses nor, has it been successful in increasing the AP exam scores of these students. Thus, the recommendations for policy and practice are based upon the above stated results.

The AAPI should be re-evaluated with particular attention being given to determining why the program has not succeeded in increasing minority student enrollment in AP courses, as well as increasing AP exam scores of minority students. The data from Hypotheses 1 and 2 shows an inconsistent fluctuation in the number and proportions of minority students enrolled in the AP program. The data for Hypotheses 3 and 4 shows non-minority students scoring significantly higher than minority students on the AP exams. Thus, it is further recommended that more aggressive techniques be developed that can be used to attract minority students into such a rigorous and costly academic program.

The data from Research Questions 1 and 2 showed that administrators and teachers have positive perceptions of the leadership behaviors and teaching strategies associated with the implementation of the AAPI into the curriculum. However, the results did not indicate that these behaviors and strategies have been successful in bridging the racial gap in higher-level academia. Thus, the researcher recommends continuous AAPI training for administrators and teachers. During this time, both parties should be surveyed to determine their

perspectives on the lack of minority student enrollment in AP programs and what can be done to increase the participation of these students. Furthermore, administrators and teachers should discuss those leadership behaviors and instructional strategies that brought about positive changes; they should also discuss failures in promoting the AAPI among minority students in their respective schools.

The data analyzed for Research Questions 3 and 4 shows that students who are enrolled in the AP program are pleased with the curriculum. The students acknowledged that there is a lack of minority students enrolled in the AP program. However, the study did not yield the students' perspective as to why so few minority students enroll in these courses. Thus, it is recommended that students be evaluated in order to determine their opinions on this matter, as well as their opinions regarding possible solutions.

An ancillary finding of the study showed of the 91 teachers participating in the *Advanced Placement Teacher Survey*, 93% were Caucasian and only 2% were African-American. There were no Asian, Native American, or Hispanic teachers responding to the survey. Based upon these data, the researcher recommends an evaluation to further investigate the absence of minority teachers who are certified to teach Advanced Placement courses. Perhaps the presence of more minority teachers might be helpful in recruiting more minority students in the AP program.

### Recommendations for Future Studies

This study did not produce any evidence suggesting that the leadership behaviors of administrators, along with teacher's instructional strategies, have been successful in bridging the racial and socio-economic gap when implementing the Alabama Advanced Placement Initiative into the high school curriculum. Based upon this conclusion, the following recommendations for future research are made:

1. This study should be repeated with closer attention given to obtaining larger sample sizes in order to better ascertain whether minority student participation and performance are impacted by the AAPI.
2. Yearly surveys or evaluations regarding the AAPI should be given to teachers, administrators, and students in order to determine if the academic needs of these entities are being met in accordance to those stated in the AP curriculum.
3. Consideration should be given to developing a study that looks beyond the socio-economic limitations of minority students in order to better determine what other factors are associated with the lack of these students enrolling in higher-level academic courses.

### Conclusion

Advanced Placement programs have been praised for their challenging curricula, while also being criticized for their rigor and costly testing expenses. Although the AP programs are noted for their ability to expose students to collegiate-level learning experiences, minority students, particularly those in inner

city and rural areas, sometimes shy away from the program. In addition to a lack of minority student enrollment, the instructional demands and lack of funding for appropriate training have caused many teachers to be unsupportive of the AP program. This apparent disinterest has forced administrators to seek new ways bridge the racial and academic gap in their school's curriculum. Through the implementation of the AAPI, administrators and teachers have been afforded the opportunity to be trained and well-versed in Advanced Placement programs while learning how to create an advanced learning environment that will strengthen their school's curriculum while recruiting a more diverse population of students into higher-level courses.

Although the data derived from this study did support that the AAPI has been successful in bridging the racial and socio-economic gap that exists in higher-level academia, it can be used by local school systems to re-evaluate the usefulness and effectiveness of the program. It is the researcher's hope that these data will help in showing the continuous existence of a racial gap in the AP program and prompt policymakers, administrators, and teachers to discover why minority students in the state of Alabama still show a lack of interest in advanced academia. Such information might then serve as a catalyst for improving rates of participation in AP courses among these students.

## APPENDIX A

## IRB APPROVAL




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**THE UNIVERSITY OF SOUTHERN MISSISSIPPI**


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Institutional Review Board

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**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE  
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 29010505

PROJECT TITLE: **The Alabama Placement Initiative: The Role of the Principal, Teacher, and Student in Bridging the Racial and Socio-Economic Gap in College Preparatory Academia**

PROPOSED PROJECT DATES: 10/27/08 to 03/25/09

PROJECT TYPE: **Dissertation or Thesis**

PRINCIPAL INVESTIGATORS: **Kimberly La Raine Walker**

COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Educational Leadership & Research**

FUNDING AGENCY: **N/A**

HSPRC COMMITTEE ACTION: **Exempt Approval**

PERIOD OF APPROVAL: **02/09/09 to 02/08/10**

  
 \_\_\_\_\_  
 Lawrence A. Hosman, Ph.D.  
 HSPRC Chair

2-10-09

\_\_\_\_\_  
 Date

APPENDIX B  
SCHOOL SYSTEM APPROVAL



**Mobile County  
Public School System**

Carolyn Lee Taylor  
Assistant Superintendent  
Curriculum and Instruction  
251-221-4141  
[cltaylor@mcpss.com](mailto:cltaylor@mcpss.com)  
Fax 251-221-4147

P.O. Box 180069 • Mobile, Alabama 36618

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December 4, 2008

Educational Leadership and Research  
University of Southern Mississippi  
Hattiesburg, Mississippi

To Whom It May Concern:

Permission is extended to Kimberly L. Walker to conduct research in the Mobile County Public Schools to partially complete requirements for a Doctor of Philosophy degree in Educational Leadership and Research from the University of Southern Mississippi. Ms. Walker will secure permission from parents of all students included in the research and maintain the confidentiality of all students. Upon completion, Ms. Walker will share her research findings with the Mobile County Public School system.

If further information is needed, please contact me at 221- 4141 or at [cltaylor@mcpss.com](mailto:cltaylor@mcpss.com).

Respectfully,

A handwritten signature in cursive script that reads "Carolyn Lee Taylor".

Carolyn Lee Taylor, Ed. D.  
Assistant Superintendent  
Curriculum and Instruction  
Mobile County Public Schools  
One Magnum Pass  
Mobile, Alabama 36618

CLT/cp

## APPENDIX C

## SCHOOL SYSTEM APPROVAL



# BALDWIN COUNTY PUBLIC SCHOOLS

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*Building Excellence*

FARON L. HOLLINGER, Ed.D.  
*Superintendent of Education*

November 25, 2008

*Board of Education*

FRANK J. TRIGONE  
*District 1*

ROBERT A. WILLS  
*District 2*

ELMER MCDANIEL  
*District 3*

NORMAN MOORE  
*District 4*

MARGARET C. LONG  
*District 5*

ROBERT B. CALLAHAN, JR.  
*District 6*

TRACY ROBERTS  
*District 7*

Ms. Kimberly L. Walker  
 Doctoral Student  
 Satsuma High School  
 1 Gator Circle  
 Satsuma, Alabama 36572

Dear Ms. Walker:

This correspondence comes as a follow-up to your letter dated November 25, 2008, requesting to collect Advanced Placement testing data as well as to conduct surveys with Advanced Placement students within the Baldwin County Public School System.

Please know that I am not only honored that you have decided to include our students in your doctoral study, but I am also elated to be able to assist you in this very monumental, yet worthwhile task. I am confident that the results from your study will prove to be significant in assessing the effectiveness of the Alabama Advanced Placement Initiative.

I am more than willing to assist you in any way possible during this research study. I can be reached at 972.6857, or via e-mail at [pharris@bcbe.org](mailto:pharris@bcbe.org).

I wish you much continued success in your pursuit of the degree of Doctor of Philosophy in Educational Leadership and Research. I know that upon completion of your degree, you will be even more of a tremendous asset than what you already are to both Satsuma High School and the Mobile County Public School System.

Sincerely,

Patrice Harris  
 Intervention Supervisor  
 Baldwin County Public School System



APPENDIX D  
SCHOOL SYSTEM APPROVAL



## McIntosh High School

Highway 43  
McIntosh, AL 36553

Dr. Joanne Barnes  
Principal

Kimberly L. Walker  
Satsuma High School  
1 Gator Circle  
Satsuma, AL 36572

Ms. Walker:

I am writing to grant you permission to conduct surveys with the junior and senior students at McIntosh High School in the Washington County School System. I am very interested in the Alabama Advanced Placement Initiative. Therefore, I will be anxious to review the results of your research study. I do appreciate you adhering to strict student confidentiality.

Please feel free to contact our school counselor to set up the time you would like to conduct the surveys at McIntosh High School. I am looking forward to meeting you. Should you need any additional information, please contact me at (251) 944-2449.

Sincerely,

A handwritten signature in cursive script that reads "Joanne P. Barnes".

Joanne P. Barnes, Ed.D  
Principal

## APPENDIX E

## Advanced Placement Administrator Survey

1. What is your position? \_\_\_\_\_ Principal \_\_\_\_\_ Assistant Principal
2. Which of the following best describes you?  
 \_\_\_\_\_ White \_\_\_\_\_ African-American \_\_\_\_\_ Asian-American  
 \_\_\_\_\_ Hispanic \_\_\_\_\_ American-Indian \_\_\_\_\_ Other \_\_\_\_\_
3. How many years have you been an administrator?  
 \_\_\_\_\_ 1-3 \_\_\_\_\_ 4-6 \_\_\_\_\_ 7-9 \_\_\_\_\_ 10-15 \_\_\_\_\_ 16-20 \_\_\_\_\_ 21+
4. How many years have advanced placement courses been offered in your school?  
 \_\_\_\_\_ 1<sup>st</sup> year \_\_\_\_\_ 2-5 years \_\_\_\_\_ 6-10 years \_\_\_\_\_ 11 or more
5. What is the geographical location of your school?  
 \_\_\_\_\_ urban \_\_\_\_\_ rural \_\_\_\_\_ inner-city \_\_\_\_\_ other
6. What type of school system do you work for? \_\_\_\_\_ public \_\_\_\_\_ private

Please rate how strongly you agree with each statement below.

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>No Opinion</b>	<b>Agree</b>	<b>Strongly Agree</b>
7. I am actively involved in my school's curriculum development.	1	2	3	4	5
8. I am comfortable working with data analysis.	1	2	3	4	5
9. I schedule professional development workshops for teachers.	1	2	3	4	5
10. I involve parents in the school's curriculum activities.	1	2	3	4	5
11. I am actively involved in students' learning process.	1	2	3	4	5
12. I have received AP training through the AAPI Summer Institute.	1	2	3	4	5
13. I assign curriculum duties to assistant administrators.	1	2	3	4	5
14. I establish high standards of behaviors for students.	1	2	3	4	5
15. I am very organized.	1	2	3	4	5
16. I give teachers no choice but to work with curriculum changes.	1	2	3	4	5
17. I am a visionary leader.	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>No Opinion</b>	<b>Agree</b>	<b>Strongly Agree</b>
18. I establish high standards of achievement for teachers.	1	2	3	4	5
19. I communicate with parents in order to gain their support of our school's AP program.	1	2	3	4	5
20. I spotlight student achievement as a means of motivation.	1	2	3	4	5
21. I solicit input from teachers, students, and parents.	1	2	3	4	5
22. There is a lack of minority students enrolled in AP courses at my school.	1	2	3	4	5
23. I create ways to help teachers become interested in curriculum changes.	1	2	3	4	5
24. My school has received adequate funding for the implementation of the AAPI into the curriculum.	1	2	3	4	5
25. I am pleased with the implementation of AAPI into our school's curricula.	1	2	3	4	5

## APPENDIX F

## Advanced Placement Teacher Survey

1. What is your gender?  male  female
2. Which of the following best describes you?  
 African-American  White (non-Hispanic)  Asian  
 Hispanic  Hispanic or Latino  American Indian  
 Other \_\_\_\_\_
3. How many years have you been teaching school?  
 1-3  4-6  7-9  10-15  16-20  21+
4. How many years have you been teaching AP classes?  
 1st year  2-5 years  6-10 years  11 or more
5. What is the geographical location of your school?  
 urban  rural  inner-city  other
6. What type of school do you work for?  public  private

Please rate how strongly you agree or disagree with each statement below:

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>No Opinion</b>	<b>Agree</b>	<b>Strongly Agree</b>
7. I encourage students to take advanced or challenging courses.	1	2	3	4	5
8. I discuss college options with my students.	1	2	3	4	5
9. I discuss with students the importance of challenging courses in preparing for college admissions.	1	2	3	4	5
10. I feel that it is important to recruit minority students into AP courses.	1	2	3	4	5
11. I find it difficult to recruit minority students into my AP courses.	1	2	3	4	5
12. I communicate with parents regularly in order to get their support of the AP program.	1	2	3	4	5
13. Parents are actively involved in the instructional progress in our school.	1	2	3	4	5
14. Parents show an active interest in the AP program.	1	2	3	4	5
15. Parents are disgruntled with the AP program at my school.	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>No Opinion</b>	<b>Agree</b>	<b>Strongly Agree</b>
16. I invite parents to sit in on my AP classes.	1	2	3	4	5
17. I encourage 9 <sup>th</sup> and 10 <sup>th</sup> grade students to enroll in Pre-AP courses.	1	2	3	4	5
18. I attend AP training institutes yearly.	1	2	3	4	5
19. I meet regularly with other AP teachers for vertical curriculum alignment.	1	2	3	4	5
20. I incorporate the teaching strategies learned at AP training institutes into my daily lessons.	1	2	3	4	5
21. I incorporate critical thinking strategies into my daily lessons.	1	2	3	4	5
22. I pattern my tests after the AP exam.	1	2	3	4	5
23. I give timed tests as practice for the AP exam.	1	2	3	4	5
24. The administrators support the AP program at my school.	1	2	3	4	5
25. The teachers are supportive of the AP program at my school.	1	2	3	4	5

## APPENDIX G

## Advanced Placement Student Survey

1. What is your gender?      \_\_\_\_\_ male    \_\_\_\_female
2. Which of the following best describes you?  
      \_\_\_\_\_ African-American      \_\_\_\_\_ White (non-Hispanic)    \_\_\_\_Asian  
      \_\_\_\_\_ Hispanic                      \_\_\_\_\_ Latino                      \_\_\_\_\_ American Indian  
      \_\_\_\_\_ Other \_\_\_\_\_
3. What is your lunch status?  
      \_\_\_\_\_ Free              \_\_\_\_\_ Reduced              \_\_\_\_\_ Full Price
4. What is the geographical location of your school?  
      \_\_\_\_\_ urban              \_\_\_\_\_ rural              \_\_\_\_\_ inner-city    \_\_\_\_other
5. How many Advanced Placement classes are you enrolled in for the current year?  
      \_\_\_\_\_1-2              \_\_\_\_\_3-4              \_\_\_\_\_5-6              \_\_\_\_\_7-8
6. What is your current grade level?  
      \_\_\_\_\_ 11<sup>th</sup>              \_\_\_\_\_12<sup>th</sup>

Please rate how strongly you agree or disagree with each statement.

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>No Opinion</b>	<b>Agree</b>	<b>Strongly Agree</b>
7. I enjoy taking AP courses.	1	2	3	4	5
8. I find AP courses challenging and rewarding.	1	2	3	4	5
9. I have improved my critical and analytical thinking skills since taking AP courses.	1	2	3	4	5
10. Taking AP courses has helped me increase my ACT/SAT scores.	1	2	3	4	5
11. I enrolled in AP courses for the exposure to a college preparatory curriculum.	1	2	3	4	5
12. I enrolled in AP courses to be with my friends.	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>No Opinion</b>	<b>Agree</b>	<b>Strongly Agree</b>
13. I enrolled in AP courses to be in the midst of smarter students.	1	2	3	4	5
14. Taking AP courses has prepared me for college.	1	2	3	4	5
15. The AP teachers are very encouraging and motivating.	1	2	3	4	5
16. My parents are supportive of the AP program.	1	2	3	4	5
17. There is a lack of minority students enrolled in the AP courses in my school.	1	2	3	4	5
18. I encourage other students to take AP courses.	1	2	3	4	5
19. The administrators are visibly involved in supporting the AP program at my school.	1	2	3	4	5
20. I feel satisfied with the quality of learning in my school's AP program.	1	2	3	4	5

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