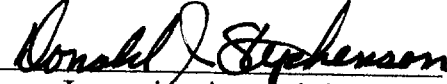Instructional Strategies for Building African-American

Males' Self-Efficacy

by:

James E. Eppert

A Research Paper
Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
With a Major in
Industrial/Technology Education

Approved: 2 Semester Credits

Investigative Adviser

The Graduate College
University of Wisconsin-Stout
July, 2000

The Graduate College

University of Wisconsin-Stout

Menomonie, Wisconsin 54751

<u>Abstract</u>

Eppert	James	E.
(Writer) (Last Name)	(First Name)	(Initial)

Instructional Strategies for Building African-American Males'

(Title)

Self-Efficacy

Industrial/Technology Education	Dr. Don Stephenson
(Graduate Major)	(Research Advisor)

August, 2000	62
(Month / Year)	(Pages)

APA

(Name of Style Manual Used in this Study)

The purpose of this study was to determine if The Efficacy Curriculum would increase self-efficacy in African American male high school students exposed to the curriculum in technology education classes. African American males are a group whose academic achievement has lagged behind that of other groups. The design of the study was a pre-experiment study of difference. The Student Self-Efficacy Instrument was administered to the students at the beginning of their ninth grade school year to determine their self-efficacy level. The Efficacy Curriculum was delivered as a curricular theme for the technology education content for a period of a semester and then the instrument was re-administered to determine the students' level of self-efficacy after the instruction.

The study found that the students' levels of self-efficacy did increase as a result of the use of the Efficacy Curriculum. The curriculum was also postulated to change the

students' conceptualization of self-efficacy and also to increase the students' levels of another variable, academic responsibility, to an even greater extent than found with the self-efficacy variable.

The self-efficacy variable has been shown in the past to be a strong determinating factor in higher academic achievement in students whose self-efficacy was determined to be at high levels.

Table of Contents

CHAPTER 1

INTRODUCTION

While a high school diploma was once a reliable ticket to a living-wage job, it has

become little more than a certificate of attendance, destroying it as a credential. As a result,

many students do not try hard in high school, and they fail to learn the skills that they truly

need for employment or post-secondary education. (Lewis et al, 1996). Since 1983, when

A Nation at Risk depicted the graduates of the public education system as unqualified to be

participants in the modern workplace, public education has been in the throes of a reform

movement. This vision of the uneducated high school graduate has focused public attention

on the level of quality in public schools, and on the debate about the purposes of public

education. While this debate continues, educators, political figures, and mass media have

paid increasing attention to the goal of preparing students for successful participation in the

present and future workplace. The focus of this vision of the purpose of education is on the

negative effects of large numbers of low skilled graduates entering the job market on the

ability of the nation to be competitive with other developed countries in the global

marketplace. According to some observers in fact, all education can be viewed as

vocational in nature (Gray, K., 1996). From the stand point that the quality of an

individual's education is most often gauged by that individual's take home salary totals for

his or her working life. Career paths are the subject of discussion from the earliest years in

elementary school, and some very successful secondary school programs begin with the

notion that high school students should be sorted according to their chosen career areas with all instruction to be integrated around this career context. Both parents and students overwhelmingly indicate that students' entire secondary educational career is focused on positioning themselves to get into the post-secondary institution of their choice, in order to be successful in their future career. The success level of public schools in general and school districts in particular are increasingly judged by looking at the ultimate success of their clientele at joining the economic system as full participants.

Since the 1960s, some persistent patterns have been observed. In large urban areas, and in particular demographic groups, the low level of general economic health has paralleled the low level of academic achievement. In the past, the economic problems of urban areas and urban populations were attributed to a myriad of inter-related economic factors. Increasingly, the focus has been on public education as a causal agent. Public education is failing in its mission to adequately prepare its participants for sustainable employment; there are large groups who are not able to play their parts as full contributors in the economy.

African American males, as a group, have lagged behind other groups in most academic measures. This group has sustained unacceptably high unemployment rates and low wage expectations. These phenomena have been implicated as causal factors in a large set of problems seen in the inner city. While some of the employment problems may relate to political forces rather than educational shortcomings (Bailey; Waldinger, 1991), overall academic achievement, attendance, and graduation rates for African American males lag

behind all other population groups. Of those who do graduate, African American males also lag in post-secondary educational pursuit and achievement (Parham and McDavis, 1987).

These phenomena of low wage expectations and high unemployment are part of a larger picture of poverty and social malaise that has been cited in turn as a risk factor in the low academic achievement that continues the cycle of continued low wages and high unemployment that defines much of the economy of the inner city. This cycle of causes leading to effects that lead to the same causes can be viewed as a positive feedback loop, or vicious-circle phenomenon that can't stop until the system crashes. This vicious, downward spiral continues for many residents of the city, long after many observers have considered the system as having crashed. Any information we can gain on designing content, instructional methods, and delivery of educational services to urban classrooms that will attract and motivate African American males to everyday attendance and to academic achievement and future gainful employment will add to the possibility of creating an upward spiral of success to counteract the current climate of resignation to failure that exists among the majority of our urban African American male children at the middle and secondary school level.

Several different explanations have been advanced for this persistent achievement lag. The problem of poverty, while often present, does not account for the differential (Banks, 1993). Other social factors may also contribute, but are not directly addressable by educators. Cultural issues may be important, especially as they relate to whether education in school is viewed as meaningful. A black learning style has been postulated, and several

researchers have found that black children differ significantly from Caucasian children in their learning preferences, in ways that put them at a disadvantage when instruction is delivered in the customary fashion (Hale, 1989). While brain research continues to shed light on this important area, some patterns have emerged. African American children have been found to be more field dependent learners. African American children have been shown to be better social, relational learners, and often to be better at connecting the kinesthetic and cognitive domain to strengthen cognitive associations (White, S. J.,1992). The African American learner often has a stronger than expected affective component in the learning process. These patterns of learning style could often be exploited to increase learning performance, but all too often lead to misunderstanding and to negative reinforcement of necessary coping behaviors, and eventually discouraged learners (Jackson-Allen; Christenberry, 1994). This problem of discouragement, leads to students who give up at the smallest difficulty. The problem of giving up instead of continuing to work to succeed, turns out to be the common thread in those students who fail to thrive in public schools. The most common characteristic of the students of all groups who continue to achieve is persistent striving toward achievement goals. This persistence, even in the face of difficult tasks to be achieved, is characteristic of students with a high degree of self-efficacy.

Self efficacy, simply stated, is the degree to which an individual feels capable of succeeding at a future task. Self efficacy has been shown to have a powerful effect on persistence toward reaching an academic goal, and ultimately, on academic

achievement.(Brown et al, 1989). According to Bandura (1981), an individual's judgement regarding his or her ability to accomplish a goal is a much better predictor of future performance than the quality of any past performance. Bandura conceptualized self efficacy as a judgement about one's likelihood of success at a specific task using well defined sources of information. Self esteem in contrast, another term often confused with self efficacy, is a culturally derived feeling about one's overall value that is usually less affected by performance in specific instances. The most important component in a student developing self-efficacy in the context of academic endeavors is for the instructional material to be broken into small enough chunks for the student to be consistently successful in mastering each chunk (Brophy, 1981). Each success leads to an increase in the learner's self efficacy. If a learner's self efficacy can be driven high enough, the learner will persist in his efforts until he finds the right strategy to achieve the current objective, even if this objective is perceived as being very difficult (Howard, 1990). This idea of building up a learner's self efficacy, or confidence, to strengthen the learner's efforts has been developed into a curriculum, The Efficacy Curriculum, and is designed to eliminate the problem of the discouraged learner.

The concept of self-efficacy originally comes from clinical psychology; (Bandura, 1977), and states that when self efficacy is present, coping behaviors are more likely to be initiated, and persistently pursued. When these behaviors are ultimately successful; i.e., mastery of the particular situation takes place, the degree of self efficacy is further increased, leading to an even higher degree of persistence. As self efficacy increases, the

learner takes more and more responsibility for his own learning, and achieves at higher levels. Therefore, if we can show that a method of instruction can achieve a measurable increase in the level of self efficacy in a group of African American male students, we might expect that these students would be increasingly able to persist at academic tasks. If these students continued in this persistence they would be expected to continue to gain in self-efficacy and eventually show measurable gains in academic measures as well, increasing their chances of breaking the negative achievement cycle.

The Problem Statement

African American males have lagged far behind other groups in all conceivable measures of academic achievement, and may be suffering as a group, from a high degree of discouragement and a low degree of self-efficacy in regards to academic pursuits. In addition, while the literature has suggested that students with a high level of academic self-efficacy can be expected to persist strongly in academic endeavors, and that this persistence generally pays off later in increasing academic achievement, little research has been initiated that has studied this variable in this particular group.

The Purpose of the Study

The purpose of the study is to determine the level of difference in self-efficacy as measured by the Students Self-Efficacy Inventory (Hillman, 1986), for African-American male students, between when they enter the ninth grade and after 20 weeks of Efficacy

Curriculum instruction.

Null Hypothesis

There will be no statistically significant difference between the degree of self efficacy exhibited by the participants when they begin ninth grade and that measured after exposure to the Efficacy Curriculum.

Research Hypothesis

A review of the literature shows that students with high levels of self-efficacy persist longer in trying to reach their academic goals, and have higher academic achievement levels. Studies have also shown that students in schools that have adopted the Efficacy Curriculum have performed at higher than expected levels on standardized tests; therefore the research hypothesis for this study is that the participants in the study will exhibit a statistically significant greater degree of self efficacy as measured by the Students Self-Efficacy Inventory after being exposed to instruction using the Efficacy Curriculum training than before the instruction.

This study is a first attempt to evaluate the utility of the self-efficacy variable as a leading indicator of academic achievement, and also provides an additional test of the Student Self-Efficacy instrument. It is also in effect, a formative evaluation of the level of successful implementation of the Efficacy Curriculum at a specific site. While no generalization is possible, the results may suggest further investigation. The study also

offers the possibility of useful data regarding an infrequently studied population segment. Larger, better controlled studies are needed.

Limitations of the Study

This study's participants were the full population of African American males that were present at both the pre-test and the post-test and registered in the Engineering and Manufacturing Family at a mid-western urban high school. The selection process for the students' presence in the family was variously represented to be from self selected, to random, and may have included examples of both. The sample was probably not random as a result, and its random character was further degraded by the high level of mortality. These factors limit the applicability of these findings to any general populations, but are suggestive for the participant population at least.

Assumptions of the Study

The main assumption of this study is that the self-efficacy variable is one that a student can learn to raise through curriculum content and teaching practices, and that an increase in the value of this variable as measured by the instrument utilized is persistent enough to affect the student's behavior in academic tasks, and meaningful as a measure that strongly correlates with future academic achievement. An additional important assumption is that the instrument will yield a valid measurement of something that corresponds to the levels of self-efficacy in the study's respondents. Finally, the implicit assumption in all studies of human behavior is that the respondent population is answering the questions on

the instrument carefully and honestly.

Methodology

This study is a pre-experiment using all available subjects in one ninth grade family. A family is a group of students who spend 3 instructional periods together every day. The three periods spent together are spent with a group of teachers, including a math teacher, a science teacher, and a technology education teacher who cooperate to integrate their curricula. The family was divided into three sections, corresponding to the three teachers' homerooms. In this case, the three teachers created two blocks of time within the three periods and each group of students saw two of the three teachers per day and rotated so that the time was equal for the three subjects for each section, and each meeting was of extended duration. The families were created to increase the continuity of the ninth grader's experience, and create a group of teachers who knew the students more closely than would have been the case if each ninth grader were separately scheduled, and to allow the creation of integrated projects within the families. The teachers had a common preparation period together each day to facilitate this process. The Efficacy Curriculum was being delivered to varying degrees throughout the ninth grade families.

This study was an examination of the self-efficacy variable's value before the Efficacy Curriculum was presented, and again after the curriculum had been presented. All of the students, both male and female, took the instrument at the times it was administered, and the data was collected on all of the African American males who were present at both testing sessions.

Definition of Terms

<u>African American male</u>   A male student who codes African American on student

registration card

<u>Technology education</u>   Secondary level courses that concern themselves with

understanding technology: what it is, how it is developed, how it impacts humanity.

<u>Post-secondary education</u>   Any organized schooling taken after attainment of high school

diploma.

<u>Self-efficacy</u> :   One's own beliefs about one's chances of accomplishing a future task.

<u>Efficacy principles</u>   A set of beliefs about the social construction of intelligence. Uses the

concept of self-efficacy (' confidence) as driving force for accomplishing development.

<u>Mastery learning</u>   Using an approach to learning that allows the student as long as

necessary to successfully meet a performance requirement - student cannot fail; simply

hasn't finished.

<u>Student Self-Efficacy Instrument</u> (SSEI)   This is the instrument that will be used to

measure the value of the self efficacy variable for the purposes of this study. It will

usually be referred to as the SSEI

CHAPTER 2

REVIEW OF LITERATURE

This chapter begins with a discussion of the extent of the problem of low academic

achievement in African American males, one that may make them an endangered species. A

discussion of the prevailing notions about the source of the problem follows. The remainder of

the chapter considers the various educational approaches that have been suggested, and then

the thinking that eventually led to the current researcher's choice of the self-efficacy variable

to use as an early indicator of future academic achievement.

Most studies of black academic achievement and economic success have compared

African Americans to other ethnic groups on such variables as grades and standardized test

scores (Pollard, 1989). Pollard suggested that researchers should shift their focus to the

identification of variables that might be directly affected to improve minority students'

achievement. The need to find such variables is particularly urgent in the case of African

American males, termed "an endangered species" by Parham and McDavis (1987).

If endangered species is too strong a term, "at-risk" is absolutely appropriate.

Parham and McDavis (1987) reported that the unemployment rate of African American males

varied from 28-30% for men to as high as 48% for youths. These figures have improved

greatly in our current boom economy, but still lag far behind other groups for rate of

employment and level of earnings (U. S. Bureau of Labor Statistics, 1997). Parham and

McDavis also reported that 42% of the inmate population and 42% of all homicide victims are

African American (1987).

Ghee (1990), also supported the appropriateness of an at-risk label for African American males, reporting that 44% of all murder victims and 48% of murder arrests in 1986 were African Americans. Ghee asserted that both the typical victim and assailant in these murders were African American males between the ages of 18 and 24 and of low educational and socioeconomic status. He added that the African American male who lives in a large city and doesn't attend college will encounter the criminal justice system by age 25. Finally, the most likely cause of death in this group is as the victim of a homicide.

Social statistics are not the only basis for classifying African-American males as "at-risk"; educational statistics also suggest the need for concern regarding their future expectations. Kunjufu (1987) reported that while 17% of all public school students are African-American children, 41% of all special education placements are African-Americans. He also wrote that 85% of the African-American children in special education are males. From their review, Parham and McDavis (1987, p.25) concluded that: (1) African-American males tend to lag behind their majority peers in such key areas as academic achievements and development of positive self-concepts; (2) African-American children are suspended from school three times as often as their majority peers, and their suspensions are for longer periods; (3) African-American male students receive corporal punishment at rates that are higher than those for their peers; and (4) African-American males are tracked into slower classes at disproportionate rates, and their rates of college eligibility and attendance are among the lowest for any group.

While the low achievement of African American children, and males in particular, is not in dispute, the underlying causes of this problem are utterly controversial, and the purveyors of the various schools of thought on this issue are directly competing for monetary and ideological support with which they plan to make the necessary adjustments to correct the system. The views of the overwhelming majority of the public fall into one of the following three basic lines of thought: the socioeconomic model, the sociopathological model, and the genetic model. The adherents to these models break down along predictable political lines (Singham, 1995).

At the liberal end of the spectrum is the interpretation that the gap is the result of economic disparities that have existed since the beginning of the current culture in this country. The clearest evidence for this view is demonstrated by the strong correlation between educational achievement and economic status. In the view of this model, when economic disparities between the black and white communities disappear, so will the educational achievement disparities. This, Singham calls the socioeconomic model.

Those at the conservative end of the ideological continuum are unconvinced that economic disparities account for the educational underachievement in the black community. They point to other groups that are equally disadvantaged economically, yet are excelling at academic pursuits. The conservative camp believes that the legal barriers at least, to black advancement have been removed, and if one accepts this premise, the existing barriers to educational parity must lie in social pathologies within African American culture. Thus, this model is termed the sociopathological model. Adherents to this point of view are fond of

extolling the virtues of the work ethic and traditional family and spiritual values. They view racial disparities as essentially personal matters, to be dealt with on a personal level. Indeed, up until recently, the most visibly successful approach to closing the racial, academic disparity has appeared to have been on a one by one basis by exemplary individuals who persevere beyond most people's level of endurance. These individuals were considered to be the pioneers, and to be admired and emulated as role models, at least this was the view during the early years of the civil rights movement, and for many years afterwards. However, the extraordinary perseverance necessary to succeed at this approach seems in retrospect, to have been very costly to the individuals and their close associates, and has not led to improvements for the group as a whole. Even during the civil rights movement, part of the price paid by the groundbreakers was the need to continually hold themselves up to the scrutiny of the white establishment, and to prove themselves worthy in the view of whites. This was often done by "acting white" (at least in the work environment), by adopting white values and behavior. This was a situation that was tolerated by the black community, with the notable exception of individuals like Malcolm X, who was extremely critical of such behavior (Singham, 1998). This need to "act white" became part of the black perception of the problem of being successful in a white world. In a study in 1988, Signithia Fordham discovered a marked difference between the attitudes towards academic and career success of the generation of blacks who grew up during the civil rights era, and those of their children (Fordham, 1988). She found that today's young African Americans regard the strategy of one at a time to be fatally flawed, and that the only alternative was to stick together as a group and maintain their

black identity. Fordham also found that many young African Americans were in deep conflict between the parental aspirations and the attitudes expressed by their peers. This conflict often was manifested in what Fordham termed a strategy of "racelessness", practiced by those who were torn between the expectations of their parents and peers. This strategy consisted of a middle road approach, where the students kept their grades at a level that didn't get too much attention from either side, but strictly limiting the amount of effort they expended at school, thereby maintaining acceptability to both parents and peers. The sociopathological model may have some usefulness, but the identification of pathology depends on who's doing the identifying. Cultural perceptions do appear to play a part in this problem.

The third model, termed by Singham the genetic model, is based on the view that the problem is a simple fact of long term natural selection leading to an intelligence gap that is not fundamentally susceptible to any substantial change. This viewpoint leads to the conclusion that the achievement gap should be accepted, and attention focused on how to minimize the adverse social consequences (Murray and Herrnstein, 1994). The genetic model, while still attractive to a small minority, is clearly unsupported by any evidence and has been eliminated from serious consideration. What approaches are within the educator's domain and might benefit the larger African American community, and particularly its male members?

While statistics overwhelmingly depict African-American males as very unlikely to succeed either academically or economically, some members of this group are quite successful. This fact has led to a search for alterable variables that might distinguish between low- and high-achieving poor minority students of both genders. Pollard's research (1989)

indicated that self-perceptions of ability, parental influences, and active problem-solving strategies were significant factors that distinguished between the levels of academic achievement between the two groups. These findings suggest that instructional strategies or curricula that centered on problem solving strategies, or on increasing students self-efficacy might have a positive effect on academic achievement.

Many researchers have suggested that specific instructional strategies hold the best promise of raising the achievement levels of African-American males. Most of these suggestions have centered around teaching to different learning styles, on the assumption that high achievement is most likely when the teaching style employed is most congruent with the student's learning style (Jackson-Allen; Christenberry, 1993). Learning style is a broad, general term defined in many ways. According to Gregore, (Della-Dora et al, 1979) a learning style is the personally-preferred way of dealing with information and experience for learning that crosses content areas. This definition is broad enough to encompass the operational definitions of other researchers, who all agree that learning style affects one's view of the world and one's resultant behavior and learning, but who differ in the instruments used to measure students' learning styles. Research findings on this topic have been inconsistent. Hale (1986) and Shade (1992) argue for attention to cultural and stylistic differences from teachers of African-American youth. Hale describes a Black learning style that is a more relational, person-oriented style than that of white children. This learning style is also referred to as field dependent. She argues that the Black learning style is a disadvantage in most school settings, and needs to be accommodated in the learning environment. Melear

and Richardson (1994) used the Myers-Briggs Type Indicator to measure learning style frequencies in several groups, including African-American students of three different age groups and of white high school students. Their findings supported Hale's description of a Black learning style, and suggested that many African-American students whose learning styles fit her description may have dropped out by 11th grade.

While it is clear that the distribution of learning styles differs between African-American students and white students, and that the African-American learning style would appear to be a poor match for traditional instructional practices, it is not as clear that high African-American achievers differ from low achievers in their learning style. In one study, (Jackson-Allen; Christenberry, 1993), the only learning style factors that appeared to be predictors of achievement levels were the need to get up and move about, and motivation towards academic achievement. In another study, Rech and Stevens (1994) found that attitude toward math, social economic status, and gender were all stronger predictors of mathematics achievement than learning style. Learning style differences were still found to be significantly associated with differences in achievement levels.

In summary, instructional methods that appear to be more consistent with the field dependent learning style such as cooperative learning, mastery learning, allowing more freedom of movement, and using a "hands-on" approach wherever possible, would be more effective with African-American students and also other students with this learning style. It should be mentioned that the current study took place in a technology education classroom. This was the classroom where the Efficacy Curriculum was most explicitly presented, and the

setting in this type of classroom ameliorates the above concerns regarding learning style to a great extent. The students were able to talk freely for parts of every class meeting, and could get up and move about. Most of the activities had a "hands-on" component as well. A variation of mastery learning was the rule, with chances to re-do work for a better grade until the student had achieved success. This was mandatory for skills deemed essential, such as safety. Technology education is also noted for the "contextual" nature of the concepts presented, meaning that the sequence is from the concrete example to the larger pattern that is represented by the example. However, while all instruction ought to be presented in multiple forms to speak to various learning styles, learning style is not the alterable variable that distinguishes between high and low achievers. This is not the variable around which to design instruction that will raise low achievers to being high achievers.

A variable that has been found to distinguish low achievers from high achievers in technical college students who were not identified as to race, is self-efficacy (Brown, 1989). This construct comes from clinical psychology (Bandura, 1977). Bandura stated that when self efficacy is present, coping behaviors are more likely to be initiated, and persistently pursued. When these behaviors are ultimately successful, i.e., mastery of the particular situation takes place, the degree of self efficacy is further increased, leading to an even higher degree of persistence. Bandura described self-efficacy as specific as to task domain, and always existing on a continuum as to strength, or how long it persist during unsuccessful attempts. Bandura (1981) went on to describe self-efficacy as a judgement about future performance based on specific sources of information, an important point to remember when designing instruction.

He described four important types of experience that provided the information leading to self-efficacy judgement: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. The role of these types of experiences will be discussed at more length with the discussion of the Efficacy Curriculum. Brown, Lent and Larkin (1989) found that the presence of high levels of self efficacy strongly predicted later academic success and persistence. While he didn't use the term "self-efficacy", Pollard (1989) found that self-perceptions of ability were strongly associated with academic achievement. On a slightly different note, Susan Graybill (1997) in a review of literature cited numerous authors that stated that the most important factor in African-American students' success was the teacher's expectations of a given student's probability of success. Jere Brophy described the successful teacher of inner-city children as having a sense of her own efficacy at teaching the inner-city child,

> "These teachers accept the responsibility for teaching their students. They
>
> believe that the students are capable of learning and that they are capable of
>
> teaching them successfully." (Brophy, 1982, p 527)

Brophy goes on to describe many of the characteristics of effective teaching that align very well with The Efficacy Curriculum, the chosen approach for the current study.

One more point that needs to be addressed is that raised by Singham in his description of the costs that fall upon the single, extraordinarily persistent, African American learner, and the research cited in the same article regarding other strategies that should also be integrated into a comprehensive set of instructional strategies expected to produce improved

performance. Two major issues were raised in research cited by Singham. He brought out the problem, pointed out by John Ogbu, of the disconnection between effort expended and reward secured. History proved over and over that credentials could never overcome ethnicity, and this perception remains a problem right up until the present. The other research cited was done in 1974 by Uri Theisman, where he found that if routines were developed that put black students working together outside of class, large gains could be obtained by the whole group (Theisman, 1974). These elements, along with others that have been discussed, have been integrated into a curriculum known as the Efficacy Curriculum, and will be discussed further in the remainder of the chapter.

In several school systems, a curriculum known as Efficacy Curriculum has been adopted with very positive results (Olson, 1993). In the Sacramento, California school district the Efficacy Curriculum was implemented in pilot schools during the early and mid 1990s and evaluated in a study in 1997. The results of the California Basic Skills Tests were analyzed in both the pilot schools, that had implemented the curriculum and control schools within the district. The test results showed higher achievement for all student groups in mathematics in the efficacy schools. The differences were even more dramatic and included all sections of the test among boys of all races, and African Americans of both genders (Hagerty, 1997). This curriculum was developed by Jeff Howard, and is characterized by the spiral process of confidence, or thinking you can, leading to effective effort, or working hard, which leads to development, or getting smarter, which leads to higher levels of confidence (Howard, 1990). Again, Howard never uses the term self-efficacy, but uses the term confidence in a

similar fashion. Efficacy is defined as,

>"the capacity to mobilize available resources to solve problems and promote development." (The Efficacy Institute Inc., 1996, Day One-1)

A distinction seems to be made between confidence and efficacy. In the Efficacy paradigm, self-efficacy corresponds to confidence. Academic achievement is referred to as getting smarter, or development. According to the Efficacy paradigm, two of the most important factors controlling development are the expectations of important others, and initial levels of self confidence (The Efficacy Institute Inc., 1996). The other major shift in the Efficacy paradigm is the assertion that intelligence and character are not innate abilities, because this perception limits the possibility for development.

The instructional method that leads to an increase in student confidence, or self-efficacy, is termed direct instruction. The most important features of direct instruction are: (1) the clear demonstration of discrete, learning objectives in small enough increments to have daily successes; (2) daily, positive feedback and monitoring of student progress. Another important concept is that mistakes and imperfect performances are the richest form of feedback available. (Cooper, J. D., 1996). Another notable characteristic of the efficacy curriculum is the early creation of a vocabulary that is used to describe the processes of learning or development, and the social context within which this development takes place. Substantial time is spent on teaching students to support each others' efforts to become developed. The development process is broken down into three parts: focus, commitment, and strategy. The increase in self-efficacy experienced by students within this curriculum leads to increasing their focus and commitment, and to learning to be patient and to use available

feedback to inform their search for the best strategies to accomplish the next goal. The most strongly connected result of increased self-efficacy is increased persistence. This increased persistence is not easily extinguished, and generally leads to goal achievement.

Another important concept of the Efficacy Curriculum is called attribution theory. This is an analysis of the attributions a person makes as to the cause of his or her successes and failures. Students and other people with low values for the self-efficacy variable generally attribute their successes and failures to be out of their own control. They tend to blame happenstance and other outside factors when things go wrong. Or they simply come to believe that they are not capable of accomplishing much, or that the goal is simply "too hard".

Brophy (1998) calls such students "Failure Syndrome Students", and describes them as easily frustrated and characterizes them as giving up at early signs of difficulty. He recommends efficacy training, attribution retraining, and strategy training. Efficacy training is described as a planned series of experiences within an achievement context that provide modeling , instruction, and feedback, and also repeated successful goal attainment at each step. Attribution training focuses on changing students' tendency to blame their own lack of ability instead of a remediable cause, such as insufficient effort, or use of an inappropriate strategy. Strategy training uses modeling and instruction to teach problem solving strategies and related self talk that students need to handle tasks successfully. These ideas parallel the tenets of the Efficacy Curriculum. The idea of attribution theory is the one used in the instrument that this study will be employing to measure the value of the variable, academic self-efficacy.

Hillman (1986) was interested in looking at how self-efficacy affects an educational system and developed instruments for measuring this variable in students, teachers, and principals in the same schools, to see how the variables interacted. Hillman observed that there were inconsistencies in the data collected in various earlier studies, and postulated that the instruments used to measure self-efficacy needed to be modified in order to see if the inconsistencies disappeared. Hillman stated that self-efficacy was generally measured at that time using Rotter's concept of locus of control (Stipek and Weiser, 1981). Hillman stated,

" Locus of control could be either internal, where the individual believed the outcome of a situation to be contingent on his or her behavior, or external, where no contingency between outcome and behavior existed. In the research a person was said to have a strong sense of self-efficacy only when he or she reflected an internal locus of control." (Hillman, 1986, p 6)

Attribution theory has included stability of cause as a dimension, categorizing causes as either fixed (e.g., intelligence) or variable (e.g., effort), and distinguishing between the two cases in self-efficacy measurement. Other dimensions that are expected to be important are context, strength , level, and negative outcomes versus positive outcomes (Bandura, 1981). Context refers to the idea that self-efficacy is specific to the context of the endeavor. Strength refers to quantification of the intensity of the individual's belief in his or her own capability. Level refers to the difficulty of the task. Hillman posited that each of these dimensions needed to be reflected in the instrumentation for measuring self-efficacy and included them in the instrument she developed, The Student Self-Efficacy Instrument (SSEI), which was used for

the current study.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study was to compare the levels of self-efficacy in African American male high school students when they arrived as freshmen to the measured values of the same variable in these students after they experienced the presentation of a curriculum designed to instruct students how to increase their perceptions of ability to be successful at academic and other pursuits.

Research design

This study was a pre-experiment or interrupted time series. In this type of study, instead of having two separate groups, and having a control group, to which the independent variable is not present, and an experimental group in which the independent variable is at a known value, and then comparing the values of the dependent variable in the two groups; the two groups are the same group measured before the treatment and after the treatment. This type of procedure is not considered a true experiment, where the members of the groups are randomly assigned and the experimenter is in control of sampling and administration of the treatment. In this case, the curriculum was to be administered to all ninth graders, but the implementation of the curriculum was not prescribed in detail. In no case was it to be a stand-alone curriculum, however but was to be infused into the content areas being taught.

Therefore, to control for the level of implementation of the curriculum, and to preserve the limited number of respondents, this design was chosen. The Student Self Efficacy Inventory (SSEI) was administered to the group, which included all the students present that day from the three classes that made up the freshman Engineering and Manufacturing family at an urban, Midwestern high school. (The E&M family is a group of 75 - 90 students that all have three common teachers, math, science, and technology education, and see these three teachers during a block of three periods every day.) The SSEI was administered again after 20 weeks of instruction and the results were compared (Hillman, S. J., 1986).

Sample Selection

The instrument was administered to all the students in the three classes, the entire family group, with the intention of randomly selecting a sample group of 25 African American male subject instruments. Because of subject mortality, the final N = 20. This was the total number of properly completed instruments by African American males.

Instrumentation

The Student Self-Efficacy Instrument was developed by E. J. Hillman (1986), with a view toward being a comprehensive, multi-dimensional self-efficacy instrument for students at grade levels from four to twelve reading at a fourth grade level or better. This instrument was developed from Crandall's Intellectual Achievement Responsibility Questionnaire, but revised to reflect the additional dimensions of strength, and stability of cause, which were expected to

interact with the locus of control variable as discussed in the review of literature. The four possible attributions (internal fixed, internal variable, external fixed, external variable) were used as possibilities in eight basic questions, yielding 32 situations. In addition each situation was given both a positive outcome and a negative outcome, thus yielding 64 total questions. The dimension of strength was considered by using a Lickert-type scale with the following strength values in points:

not sure	=	1 point
a little sure	=	2 points
medium sure	=	3 points
pretty sure	=	4 points
very sure	=	5 points

This weighting system allows scoring in eight individual subscales. Finally all individual scores were summed for each selected response within a subscale.

After the Student Self-Efficacy Instrument was designed, it underwent three major revisions in the process of determining readability level, content validity and the reliability of the different scales.

Content validity was evaluated using a panel of six experts analyzing each item to determine if the dimensions were represented as intended. The level of agreement ranged from 97% on fixed versus variable for external items to 98% on internality versus externality.

Reliability was analyzed by calculating Cronbach's alpha for items within each subscale. By this method the reliability was higher (average alpha = .88) when the dimensions were collapsed into four: positive internal, negative internal, positive external, and negative

external. The average alpha was .58 when all dimensions were considered separately, and the variation was from a low of .34 to a high of .80.

Procedures Followed

The students were instructed during the 15 weeks using three devices to increase their self efficacy. Every class period began with the students using a log form to write specific objectives for the coming hour, using the daily lesson and their personal progress toward completion of the unit objectives. The class period also included 5 minutes at the end of the period to recap the day's accomplishments, and use them as feedback for planning the following day's objectives. The instructor conveyed at all times his belief that all the students were capable of accomplishing their goals, through the use of positive statements and regard. In addition, the students completed a number of activities from the Efficacy Curriculum, and worked in cooperative groups to complete the activities. The curriculum emphasized the importance of effort, the need for mutual support, cooperation, and encouragement among the groups.

Data Analysis

The questions on the instrument were grouped by attribution. The only questions selected for the summative analysis were the internal - variable questions, those that concerned successes and failures that were governed by the degree of effort expended by the respondent. The positive and negative categories were combined for the overall self-efficacy

measurement. The other dimensions will be considered in the discussion section. The responses were scored as to strength, assigning points according to the scale above. A respondent's degree of self efficacy was assumed to be proportional to the total obtained by combining the scores for all variable internal questions. The change in the value of the variable, self-efficacy was determined by comparing its variance under the two conditions, pre, and post Efficacy Curriculum. The student t for the correlated groups was calculated, and the test for statistical significance was at the 95% confidence level. These data are presented and discussed in Chapter 4.

CHAPTER 4

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Findings

The purpose of this study was to determine to what degree a group of African

American male high school students' level of self efficacy may increase after experiencing a

semester of instruction that was partially focused on teaching the concept of efficacy and on

activities that included short term goal setting and daily reflection on the students' progress

toward goal attainment. The students' self-efficacy was assessed at the beginning of the school

year, and again 20 weeks later after exposure to the Efficacy Curriculum. The instrument used

to measure the instructional effect consisted of a series of scenario questions regarding

successful and unsuccessful academic endeavors, with a possible explanation for each success

and failure drawn from four possibilities:

1) Personal effort; also termed internal - variable

2) Personal talent or lack thereof; internal - fixed

3) Luck or other happenstance; external - variable

4) More stable external forces such as very difficult or easy tasks or the

level of competence of one's teacher; external - fixed

This scheme adds the stability of cause to the internal / external dichotomy of locus of control

instruments.

Self efficacy is a judgement about one's ability to deal with a defined task, and stems from the individual's degree of control of the situation. Therefore the higher the strength scores for the internal - variable questions, both positive and negative, the higher the degree of self-efficacy was inferred to be for that student. In table 1, some of the tabulated values from the SSEI appear. The respondents, numbering 1 -20 are labeled on the left in a column. The values resulting from the responses on the SSEI to the questions reflecting the internal variable attribution are displayed in the two following columns. The second column contains the pre-instructional totals for each respondent on these questions, the third column contains the values for the same questions after 20 weeks of instruction. If the self-efficacy variable were to increase in value, as a result of the exposure to efficacy instruction, the values in the third column would be expected to be of higher value than the values in the second column. For this increase in value to be considered significant, the degree of change has to meet statistical criteria. The statistical significance of the change is tested by doing a calculation of a function known as student t.

This important quantity, t, is a calculated number that is used to detect statistically significant change between sets of values that are distributed in an unknown, random manner. The relevant t value for the pairing of values that represent self-efficacy before and after the efficacy instruction is found at the bottom of the second column of the pair. When t is known, and the size of the group is also known, it is possible to establish whether the observed difference between the two sets of values is significant to a level of confidence that is assigned, usually at 95% or at 99%. The factors that affect the magnitude of the value of t that

is considered significant are the number of values in each set, and whether the hypothesis is directional or not. If a particular direction of change is predicted, the value for t that is significant is slightly lower than if neither direction is expected to a greater extent. For 20 respondents, to reject the null hypothesis at a confidence level of 95%, t is expected to be equal to or greater than 1.73. This means that a t that is lower than 1.73 for any two sets of twenty values would imply that any observed change between the sets of paired values would be explainable by simple random variation, meaning that the null hypothesis would have to be accepted. In the current study, the calculated t value was found to be 1.943, implying that the respondents' self-efficacy improvement was significant at a confidence level of 95%, suggesting that the 20 weeks of efficacy instruction must truly have had a positive effect on the self-efficacy of the students. These findings strongly suggest that, at least for this group of students, self-efficacy can be taught.

Table 1

Difference Pre and Post in Self-Efficacy as Measured by SSEI

Student	Internal-Variable 1	Internal-Variable 2
1	28	35
2	34	45
3	19	29
4	25	34
5	26	38
6	40	46
7	34	41
8	45	46
9	30	35
10	32	26
11	40	40
12	23	27
13	20	42
14	18	19
15	33	24
16	40	37
17	23	36
18	33	34
19	42	23
20	35	40
mean	31.000	34.850
stdev	7.861	7.728
SE	1.804	1.773
SE.est		1.982
t		1.943
R		0.386

There is one question which needs answering to accept the finding as stated. The finding is unequivocal on the fact that the student's self-efficacy increased in value. The question that is not answered is what is the cause? Two possibilities exist other than the instruction. As in any pre-experiment, the question arises as to whether this variable could have been expected to rise in any case, given the age or situation of the respondents, since no control group exists. Or, could there have been some other cause that was acting on all the students, separate from the instruction? This second possibility is not plausible because the only common experience for every member of this group was membership in the family classes. If this had been a true experiment, the control group would have been in classes with other teachers, so the findings could be challenged on the many dissimilarities between the experiences of the groups, and also on the lack of match between participants, control versus experimental. Here the match between groups is perfect except for the element of time. The possibility of increase of the variable due to maturation is impossible to evaluate from this study. These students experienced an increase in self-efficacy at the exact same time that they were experiencing instruction designed to increase that variable. It would seem to be a small leap of logic to attribute the cause to be the instruction. The other questions of interest would be why was the gain not even larger, or more consistent? And will this gain lead to higher academic achievement in the future?

Conclusions

Because the instrument was designed to follow more dimensions than just the internal variable attribution, and that attribution can be divided into positive and negative situations, it would appear that the data could be further analyzed to gain more insight into the meaning of the changes measured by the instrument. At the beginning of the current study, the instrument values that corresponded with the self-efficacy variable were clearly defined as the answers concerning questions relating the degree of academic success to the degree of personal effort. The current researcher had defined the type of change that was expected as a result of the efficacy instruction. The values expected to change were for the internal-variable questions, as stated earlier. One would expect this change to be consistent amongst the respondents, with small variations. This type of expected, easy to predict and understand, change is known as "alpha" change. This type of change is well defined in research using mental measures. Two other types of change found in studies of human behavior are generally recognized and well defined in concept. These types of change are called "beta" and "gamma", and often researchers can define what they expect to see for these types of change. Beta change is defined as a re-conceptualization of the scale used on the measurement instrument. This is not unusual, in that as one knows more about a subject one's concept of what it means to be knowledgeable on that subject changes. The third type of change is called gamma change. This type of change is defined as re-conceptualization of the variable under study. This type of change is equally common as one's understanding of the meaning of a concept will generally change as that person learns more (Golembiewski R.T.et al, 1976). In this study the alpha

change expected was that the students would become more aware that their successes and failures at school were both dependent on the level of effort they expended. The Efficacy Curriculum content is very consistent with this conceptualization of self-efficacy, in that personal effort is the most important element in building a high level of self-efficacy. Effort is the one variable totally under an individual's control, and always available. Beta change in the context of this study would show up as a change in the students' understanding of what it meant to be sure about why they performed academically as they did. If beta change played any part in this study it would presumably show up as working against the alpha change. Gamma change on the other hand was a built-in part of the Efficacy curriculum. Efficacy promotes the understanding of intelligence, or being smart, as a level of development, rather than an innate, fixed capacity. This thinking is promoted through the language and vocabulary of Efficacy. The word intelligence is not used, and the concept of development is coded as getting smart. These ideas align well with the notion of self-efficacy as defined to be the degree of effort one judges to be responsible for daily results. However, for example, the statement on question 37 on the SSEI, "You got all D's on your report. This could be because you are not smart enough to get higher grades than that in these subjects" or the positive version: "A teacher passes you on to the next grade. This could have happened because you are smart," may be somewhat re-conceptualized through Efficacy training. If the word smart is coded as developed as it is in Efficacy Curriculum, and not being smart enough to do something is coded as not having reached the point of being ready to do it, as could be construed using the efficacy paradigm, then these two questions would have a different

meaning than before exposure to the curriculum, and therefore attributions of the internal

fixed type may also be considered as indicating self efficacy.

If comparisons are made using the current data between the before and after scores by

the respondents in the combination of internal fixed and internal variable that is attributing

success and failure in academic situations to the level of either effort or of being smart and

combining the totals in these categories, the change observed yields an even higher value for t,

and consequently a confidence level of 99% that this combination of attributions increased

more than the original conceptualization of self-efficacy which was expected to be best

described by the observed change in the internal variable attribution. In fact, these findings

parallel those of the developer of the instrument (Hillman S., 1986), who found the instrument

to be more reliable if the internal variable and internal fixed dimensions were collapsed into

internal positive and internal negative. If this is done with the current data, the measurable

difference found by the instrument is shown in table 2.

Table 2

Difference in Self-Efficacy   Correcting for Gamma Change

Student	Total	Internal 1	Total	Internal 2
1		63		84
2		86		97
3		49		76
4		64		72
5		58		84
6		82		101
7		75		95
8		99		92
9		70		81
10		72		74
11		84		86
12		59		63
13		62		92
14		68		69
15		73		64
16		81		77
17		62		87
18		80		83
19		105		77
20		76		90
mean		73.4		82.2
stdev		13.507		10.424
SE		3.099		2.391
SE.est				3.264
t				2.696
R				0.315

So if the re-conceptualization of the concept of self-efficacy, or gamma change expected as a result of the instruction in the Efficacy Curriculum is factored into the data obtained by the current study, the findings are obtained that the observed difference in this re-conceptualized version of the variable is significant at a confidence level of 99%. This fact serves to further substantiate the instruction as the causal factor in the change. Self-efficacy was found to be a variable whose value could be increased through instruction, at least for the observed population.

Recommendations

There are two excellent reasons for suggesting that similar studies to the current study be initiated and followed over a longer time frame. The first reason is that the relationship of the self-efficacy variable and academic achievement could be better understood in African American males, an important connection, not made in the current study. The second reason comes from examining the data in more detail.

If one carefully examines the data obtained through the current study, another pattern begins to emerge. If the values for the negative internal attributions, either fixed or variable are compared separately, the difference pre and post test observed yield t values that imply significance to 95% in both. The highest observed difference however, would be obtained by combining the negative internal attributions before and after and comparing. Here the t is over 3, substantially higher than necessary to conclude significance at a confidence level of 99%. How might one conceptualize what these data represent? Remembering that in comparing the

combined internal negative attributions the situations represented would be those of academic failures, and combining the internal variable and fixed attributions would factor in the gamma change predicted by the instructional content, these data look like what might be called taking personal responsibility for academic failure. If this were conceptualized as a variable, related to but distinct from self-efficacy, it would appear that this new variable was increased to an even greater extent than the self-efficacy variable. The student t obtained would be 3.3, far higher than obtained for either conceptualization of self-efficacy, and far higher than necessary to conclude significant difference at a confidence level of 99%. This analysis of the data is shown in table 3.

In conclusion, while it would not be unreasonable to expect that taking responsibility for one's failures might come before taking credit for one's successes, and that such an increase in personal responsibility might lead to increased self-efficacy in the near future, and academic achievement in the further future, this sort of prediction needs to be tested in further studies.

Table 3

Change in Variable - Responsibility as Measured by SSEI

Student	Total Internal Negative 1	Total Internal Negative 2
1	30	49
2	48	46
3	30	46
4	31	39
5	24	39
6	43	50
7	40	54
8	53	53
9	39	47
10	49	45
11	45	45
12	41	43
13	34	53
14	46	49
15	42	37
16	40	47
17	33	47
18	42	47
19	59	49
20	44	50
mean	40.650	46.750
stdev	8.320	4.493
SE	1.909	1.031
SE.est		1.847
t		3.303
R		0.329

Bibliography

Bailey, Thomas; Waldinger, Roger, The Continuing Significance of Race: Racial conflict and Society Politics and Society, 09-01-1991, p. 291

Bandura, A., (1977), Self-Efficacy: Toward a Unifying Theory of Behavioral Change. Review Psychological 84 (2) 191-215

Bandura, A. (1981). Self-Referent Thought: A Developmental Analysis of Self-Efficacy. In J. H. Flavell and L. Ross (Eds.) Social Cognitive Development. Cambridge University Press, Cambridge, Massachusetts

Banks, J. (1993). What does it mean to integrate race, ethnicity, class, and gender in theory and research? Paper presented at the Annual Meeting of the American Educational Research Association, April 12, 1993. Atlanta, Georgia.

Bloom, B. (1986). Mastery Learning. Evaluation Comment, 1(2). Los Angeles, UCLA, Center for the Study of Evaluation of Instructional Programs.

Brophy, J. (1982). Successful teaching strategies for the inner-city child. Phi Delta Kappan, (63) 527-530

Brophy, J. (1998) Failure Syndrome Students. Clearinghouse on Elementary and Early Childhood education . University of Illinois at Urbana-Champaign, Champaign, Illinois

Brown, S.; Lent, R.; Larkin, K., (1989), Self-efficacy as a Moderator of Scholastic Aptitude - Academic Performance Relationships, Journal of Vocational Behavior 35(64-75)

Cooper, J. D. (1996). Curriculum Training Workshop 96.1, The Efficacy Institute

Inc., Lexington, MA.

The Efficacy Institute Inc., (1996) <u>The Efficacy Seminar for Educators 96.1</u>, Lexington, MA: Author.

Dunn, R., Dunn, K., & Price, G. E. (1989). Learning Style Inventory (LSI) Lawrence, KS: Price Systems, Inc.

Fordham, S., (1988). Racelessness as a Factor in Black Students' School Success, <u>Harvard Educational Review</u>, February, 1988, 54-84

Ghee, K. L. (1990). Enhancing educational achievement through cultural awareness in young black males. <u>Western Journal of Black Studies, (14)</u> 77-89

Golembiewski RT, Billingsley K, Yeager S. (1976). Measuring change persistency in human affairs: Types of change generated by OD designs. Journal of Applied Behavioral Science, 12, 133-157.

Hagerty, Rebecka A. Impact of the Efficacy Process on Students in Sacramento City USD Pilot Schools. Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, March 24-28, 1997).

Hale, J. (1986). <u>Black Children: Their roots, culture, and learning styles.</u> Baltimore, The Johns Hopkins Press

Hillman, S. (1986). Student Self Efficacy Instrument, ERIC Document Reproduction Service; Springfield, (ED 271 505; 54 pages).

Howard, J. (1990). Getting smart: The social construction of intelligence. Lexington,

MA: The Efficacy Institute

Jackson-Allen, J. & Christenberry, N. (1994). Learning Style Preferences of Low and High-Achieving Young African-American Males. A paper presented at the Annual Meeting of Mid-South Educational Research Association, Nashville, TN

Melear, C.; Richardson, S. (1994). Learning Styles of African-American Children Which Correspond to the MBTI, Proceedings of the International Symposium Orchestrating Educational Change in the >90's B The role of Psychological Type p11-22, Gainesville, FL.

Olson, L. (1993). Howard's Third Movement, Education Week, December 8, 1993

Parham, T. A., & McDavis, R. J. (1987). Black men, an endangered species: Who's really pulling the trigger? Journal of Counseling and Development, (66) 24-27

Parnell, D.,(1985). The neglected majority. Washington DC: Community College Press.

Pollard, D. S. (1989). Against the odds: A profile of academic achievers from the urban underclass. Journal of Negro Education, (58) 298-308

Pucel, D., (1992). Technology Education: Its Changing Role Within General Education. American Vocational Education Association Convention Report.

Rech, J., & Stevens, D.(1996) Variables Related to Mathematics Achievement among Black Students. Journal of Educational Research 89 (6) 346-50

Shade, B. (1982). Afro-American cognitive style: A variable in school success. Review of Educational Research, (52), 2:219-244 .

Singham, M. (1995). Race and Intelligence, What are the Issues?, <u>Phi Delta Kappan</u>, December, 1995.

Singham, M. (1998) The Canary in the Mine, <u>Phi Delta Kappan</u> , 80 (1) 8-15

Wilcox, J. (1991), The Perkins Act at a glance. Vocational Education Journal, 66(2), 16-17

White, S. E. (1992) Factors That Contribute to Learning Difference among African-American and Caucasian Students.

APPENDIX

Student Self-Efficacy Instrument

1. You read a story and can not remember much of it. This could have happened because the story was not any good. How sure are you that this would be the reason?
   a) very sure
   b) pretty sure
   c) medium sure
   d) a little sure
   e) not sure

2. You read a story and can not remember much of it. This could have happened because you did not read it carefully. How sure are you that this would be the reason?
   (a) very sure
   (b) pretty sure
   (c) medium sure
   (d) a little sure
   (e) not sure

3. Suppose your parents say you are doing well in school. This could happen because you are trying really hard to do well. How sure are you that this would be the reason?
   (a) very sure
   (b) pretty sure
   (c) medium sure
   (d) a little sure
   (e) not sure

4. Suppose your parents say you are doing well in school. This could happen because they are in a good mood. How sure are you that this would be the reason?
   (a) very sure
   (b) pretty sure
   (c) medium sure
   (d) a little sure
   (e) not sure

5. Suppose you do better than usual in a subject in school. This could happen because you tried harder. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

6. Suppose you do better than usual in a subject in school. This could happen because you were lucky. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

7. A teacher passes you on to the net grade. This could have happened because she was a good teacher. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

8. A teacher passes you on to the net grade. This could have happened because of the work that you did. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

9. You do well on a test at school. This could have happened because you studied for it. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

10. You do well on a test at school. This could have happened because you were lucky that day. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

11. You are having trouble understanding something in school. This could have happened because the material is just too hard for you. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

12. You are having trouble understanding something in school. This could have happened because you did not listen carefully. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

13. You learn something quickly in school. . This could have happened because you paid close attention. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

14. You learn something quickly in school. . This could have happened because the teacher explains things clearly. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

15. You received a poor grade in a subject. This could have happened because you were not lucky enough to have a teacher who liked you. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

16. You received a poor grade in a subject. This could have happened because you had not studied hard enough. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

17. Suppose you study to become a teacher, scientist, or doctor and you fail. This could happen because you did not work hard enough. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

18. Suppose you study to become a teacher, scientist, or doctor and you fail. This could happen because you needed some help, and other people were unable to help you. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

19. A teacher says to you, "Your work is fine." This could happen because teachers always say something like this to encourage pupils. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

20. A teacher says to you, "Your work is fine." This could happen because you did a good job. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

21. You do not do well on a test at school. This could have happened because you were not lucky that day. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

22. You do not do well on a test at school. This could have happened because you did not study for it. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

23. A teacher did not pass you on to the net grade. This could have happened because she was not a good teacher. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

24. A teacher did not pass you on to the net grade. This could have happened because you did not try hard enough. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

25. You forgot something you heard in class. This could have happened because you were not lucky that day. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

26. You forgot something you heard in class. This could have happened because you did not try very hard to remember. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

27. You were not sure about the answer to a question your teacher asked you Your answer turned out to be right. This could have happened because you were lucky. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

28. You were not sure about the answer to a question your teacher asked you Your answer turned out to be right. This could have happened because you gave the best answer you could think of. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

29. You read a story and remembered most of it. This could have happened because you read the story carefully. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

30. You read a story and remembered most of it. This could have happened because the story was well written. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

31. A teacher says to you, "Try to do better." This could happen because she always picks on you. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

32. A teacher says to you, "Try to do better." This could happen because your work was not as good as it could be. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

33. You find it hard to do your homework. This could happen because you are not smart. How sure are you that this would be the reason?

  (a) very sure

  (b) pretty sure

  (c) medium sure

  (d) a little sure

  (e) not sure

34. You find it hard to do your homework. This could happen because the teacher is not good at explaining how to do homework. How sure are you that this would be the reason?

  (a) very sure

  (b) pretty sure

  (c) medium sure

  (d) a little sure

  (e) not sure

35. People think you are bright. This could happen because people like to think nice things about others. How sure are you that this would be the reason?

  (a) very sure

  (b) pretty sure

  (c) medium sure

  (d) a little sure

  (e) not sure

36. People think you are bright. This could happen because you really are smart. How sure are you that this would be the reason?

  (a) very sure

  (b) pretty sure

  (c) medium sure

  (d) a little sure

  (e) not sure

37. You got all D's on your report card. This could have happened because you are not smart enough to get higher grades than that in these subjects. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

38. You got all D's on your report card. This could have happened because your teachers don't like you. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

39. A teacher passes you on to the net grade This could have happened because she is always nice. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

40. A teacher passes you on to the net grade This could have happened because you are smart. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

41. You do well on a test at school. This could happen because it was an easy test. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

42. You do well on a test at school. This could happen because you are smart. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

43. You have trouble understanding something in school. This could happen because tour teacher does not explain things clearly. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

44. You have trouble understanding something in school. This could happen because you do not understand things quickly. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

45. You read a story and can not remember much of it. This could have happened because the story was not interesting. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

46. You read a story and can not remember much of it. This could have happened because you do not have a good memory. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

47. Your parents say you are doing well in school. This could happen because they are feeling good that day. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

48. Your parents say you are doing well in school. This could happen because you are smart. How sure are you that this would be the reason?

   (a) very sure

   (b) pretty sure

   (c) medium sure

   (d) a little sure

   (e) not sure

49. You learn something quickly in school. This could happen because you are smart.
How sure are you that this would be the reason?

(a) very sure

(b) pretty sure

(c) medium sure

(d) a little sure

(e) not sure

50. You learn something quickly in school. This could happen because your teacher is a
good teacher. How sure are you that this would be the reason?

(a) very sure

(b) pretty sure

(c) medium sure

(d) a little sure

(e) not sure

51. You received a poor grade in a subject. This could have happened because were not
lucky enough to do well. How sure are you that this would be the reason?

(a) very sure

(b) pretty sure

(c) medium sure

(d) a little sure

(e) not sure

52. You received a poor grade in a subject. This could have happened because you are
not good in that subject. How sure are you that this would be the reason?

(a) very sure

(b) pretty sure

(c) medium sure

(d) a little sure

(e) not sure

53. You got all A's and B's on your report card. This could have happened because you are smart. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

54. You got all A's and B's on your report card. This could have happened because you were lucky. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

55. You did not do well on a test in school. This could have happened because you were not able to do well. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

56. You did not do well on a test in school. This could have happened because it was not one of your lucky days. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

57. A teacher did not pass you into the net grade. This could have happened because he was not able to help when you needed it. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

58. A teacher did not pass you into the net grade. This could have happened because you were not smart enough. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

59. You gave the wrong answer to a question the teacher asked you. This could have happened because you were not lucky. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

60. You gave the wrong answer to a question the teacher asked you. This could have happened because you are dumb. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

61. You read a story and remembered most of it. This could have happened because you have a good memory. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

62. You read a story and remembered most of it. This could have happened because the story was interesting. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

63. A teacher says to you, "You are a very good student." This could happen because he is always nice. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure

64. A teacher says to you, "You are a very good student." This could happen because you are smart. How sure are you that this would be the reason?

    (a) very sure

    (b) pretty sure

    (c) medium sure

    (d) a little sure

    (e) not sure