Effective Teaching Strategies for Raising Academic Achievement of Low-income Adolescents

by

Sarah Bracken

A Project Submitted to the Faculty of

The Evergreen State College

In Partial Fulfillment of the Requirements

for the degree

Master in Teaching

2007

This Project for the Master in Teaching Degree

by

Sarah Bracken

has been approved for

The Evergreen State College

by

Sonja Wiedenhaupt, Ph. D., Member of the Faculty

_____

Acknowledgements

First of all, I must recognize my advisor, Sonja, for her tireless reading, poignant critique, and consistent support of this paper. Somehow she was always around when I asked for a meeting, opening her mind to my ramblings and doing that active listening thing that helps me to sort out my thoughts.

I am also ever-indebted to my partner, Michael, for his keen understanding of statistics, his encouragement, and above all, his patience. We navigated many a stressful moment together, his sure hand ready at the helm to calm any fears or doubts that threatened to hurl me overboard.

My parents deserve a shout out, too, for paving the way and for believing in me like only parents can. You were my first teachers; I proceed with your lessons in kindness and commitment as the foundation of my practice.

I would like to thank Britt Nederhood, my mentor, my friend, and an inspiration to educators everywhere.

Last, but certainly not least, to all those incredible young people out there who inspire me every day: My dreams of teaching stem from my experiences with you. Thank you from the bottom of my heart.

ABSTRACT

This paper examines effective teaching strategies for raising academic achievement of low-income adolescents. An examination of the historical context of the guiding question reveals that United States public schools purportedly function to maintain social hierarchy while simultaneously facilitating upward mobility – a paradox that does not go unnoticed by researchers who study effective strategies for raising achievement of all people's children. A critical review of some of their literature brings to light the fact that researchers are divided about where to target educational efforts. Some, believing in the current system of meritocracy, ultimately felt the responsibility for success lay on the student, and advocated systems of rewards and punishments to motivate students to compete against their peers. These researchers also strongly emphasized the necessity of equality of opportunity for all students. Revisionists, on the other hand, suggested that the school system and traditional pedagogy should undergo a dramatic shift, offering extra help to disadvantaged youth to compensate for their lack of means or privilege. This shift would tap into the intrinsic motivation of low-income adolescents through strategies that promote positive teacher-student relationships and higher self-esteem. It would also provide equitable opportunity for low-income students to experience the same kinds of academic success as their more affluent peers by supplementing their education with interventions geared toward raising achievement levels. Conclusions from the studies reviewed were inconsistent, but generally supported the understanding that higher teacher expectations, rigorous curriculum, student-centered learning, and consideration of class cultural differences positively affected academic achievement.

Table of Contents

Chapter 1 - Introduction

Introduction

Chapter 1 provides an introduction to the research presented in this paper. The paper examines effective teaching strategies for raising academic achievement of low-income adolescents. In order to navigate this critical review of the literature, a rationale for the guiding question will be offered and an overview of the current research and importance of this question to the community will be discussed. This brief overview will be followed by definitions of key terms and by a discussion of the limitations of the research and of the scope of this paper.

Rationale

Presently, there is a discernible achievement gap between students from households in the lowest income bracket and their peers from the middle and upper classes (National Center for Education Statistics, 2004, 2005; Huston et. al., 1994; Payne, 1996; Rist, 1970, 2000; Spring, 2005, 2006). Schools with high-poverty populations report lower reading and math skills than do schools with fewer students coming from low-income households. Low-income students are six times more likely to leave high school before earning a high school diploma or equivalent accreditation than other adolescents (Jimerson et. al, 2000). Low-income seniors that do earn a diploma are less likely than their peers to head to college upon completion of high school (Breakthrough Collaborative, n.d.; National Center for Education Statistics, 2005; Ensminger & Slusarcick, 1992; Silver, n.d.), and those that do enroll in college do so with 25 percentage points less than high-income students (Breathrough Collaborative, n.d.). I am

concerned that a student's poverty level is often found to be the number one predictor of future academic and socioeconomic success (Ensminger & Slusarcick, 1992; Munoz, 2001; Payne, 1996; Spring, 2006), and that currently in this country about 20% of the nation's youth are living in poverty. When students are set up to fail before they even enter school, when this failure is affecting so many of our young minds, something in our social and schooling systems has to change.

The achievement gap has tangible negative effects on students living in poverty. Research suggests that there is a correlation between level of educational attainment and level of health, self-esteem, and future income, and that students who drop out of high school are not adapted to the work force, drain state and federal resources, and are more likely to be criminals (Breakthrough Collaborative, n.d.; Jimerson et. al., 2000; National Center for Education Statistics, 2004, 2005). Research also indicates that youth are likely to travel the same academic path as their parents before them (National Center for Education Statistics, 2005; Jimerson et. al., 2000; Payne, 1996). While 82.1% of students whose parents earned a bachelor's degree or higher are enrolled in college the October after completing high school, only 53.9% of students whose parents earned a high school diploma or equivalent go to college directly out of high school. The number drops even more, to 43.3%, for students whose parents did not finish high school (National Center for Education Statistics, 2005).

Payne (1996) pointed to alarming statistics regarding income status for individuals based on their education attainment. In 2001, her findings indicated that U.S. median annual earnings for males and females without a high school diploma are $13, 438 and $8, 238 per year, respectively. These figures are markedly different from the

annual income for males and females with a high school diploma ($27, 240; $14, 695) and for males and females with a college diploma ($47, 325; $28, 598). Income nearly doubles with each stage of educational attainment. Considering the sobering statistics on the number of low-income students failing to graduate and/or go to college coupled with the dreary predictions for their children's future educational attainment, one begins to see how these patterns demonstrate the manner in which low levels of educational attainment of low-income citizens perpetuate cycles of poverty.

There is a current in this country that quietly leaves different kinds of expectations on the banks of our nations' schools. These expectations too often reflect a misguided ideology that says some students have what it takes to achieve, and some students do not. Teachers report their own lowered expectations for their students who are living in poverty (Bennett, 1976; Breakthrough Collaborative, n.d.; Harvey & Slatin, 1975; Rist, 1970; Rosenthal & Jacobson, 1992; Long & Long, 1974; Williams, 1976). Students from low-income families are disproportionately represented in the lowest ability groups and tracks in middle and high school, resulting in less opportunity for rigorous courses, less academic progress and fewer post-high school choices (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996). Various studies conclude that the lower levels of attainment of low-income youth stuck in the vocational and basic education tracks result in teachers' low expectations of these students being confirmed (Harvey & Slatin, 1975; McLoyd, 1998; Munoz, 2001; Rist, 1970, 2000; Silver, n.d.). Research findings that support self-fulfilling prophecy theories reveal that students internalize the low expectations held by the adults and systems of

authority that dictate, to some degree, the students' future level of success (Rist, 1970; Rosenthal & Jacobson, 1992).

These findings are about patterns and broad relationships between academic achievement and poverty. Individual students coming from low-income backgrounds succeed everyday, demonstrating a resiliency that should be studied and commended. Regardless of the numbers of students who prove them wrong, however, middle and upper class adults continue view poor children as less willing or less able to achieve, and children living in poverty continue to internalize these expectations and to act out the prophecies of their teachers. It is the responsibility of educators, therefore, to make a concerted effort to combat the effects of these internalized feelings of failure and low academic expectations. Teachers must discover effective strategies to encourage resilience and academic achievement in their low-income students if those students are to have an equal opportunity for education and future success. Cycles of poverty are perpetuated when low-income adolescents do not live up to their academic potential. While legislatures and administrators fight a war on poverty outside of the school house, this paper attempts to offer ways that teachers can bring the battle into the classroom.

Current Research

Research on closing the achievement gap between low-income students and their middle- and high-income peers shows agreement and divide around this issue. Most studies agree that the gap exists within and between schools. Students from low-income families do not perform as well on standardized tests, are more likely to drop out of high school, and are less likely to attend and to graduate from a four-year higher education

institution (National Center for Education Statistics, 2004, 2005; Payne, 1996; Silver, n.d.; Spring, 2006). Similarly, schools with high populations of low-income students do not achieve at the same rates that schools with more affluent populations do (Breakthrough Collaborative, n.d.; National Center for Education Statistics, 2004). The research is divided, however, on the causes and the remedies of the situation.

The meritocratic and the revisionist views take center stage in this debate (Williams, 1976). Those proponents of meritocracy argue that a low-income student's motivation and willingness to learn will be at the backbone of her academic achievement. The meritocratic view takes the position that everyone in the United States has an equal opportunity to achieve, and that schools, when properly structured to reward and discipline low-income students for their academic success, fulfill their responsibility under the 14th amendment to offer equal education opportunity to all youth. It is then up to the student to take advantage of this opportunity (Hallinan, 1994; Hallinan & Kubitschek, 1999; Jennings, 2000; Murray & Hernstein, 1994, Williams, 1976); from a meritocratic perspective, effective teaching strategies that externally motivate low-income students through a system of rewards and punishments will raise their academic achievement and eventually close the achievement gap.

Standing in opposition to the meritocratic view, revisionists acknowledge theoretical equal education opportunity, but argue that the reality of the U.S. education system is quite different (Heck, Price, & Thomas, 2004; Oakes, 1982; Rist, 1970; Rehberg & Rosenthal, 1975; Williams, 1976). Supporters of the revisionist view claim that teacher expectations reflect larger societal expectations for low-income students, expectations that are lower than for students from middle- and upper-class families.

Schools maintain social class hierarchy by separating students into ability groups and curriculum tracks differentiated disproportionately along class lines. Research on this side of the debate indicates that a student's self-concept and intrinsic motivation are the key to his academic success. Revisionist supporters point to teaching strategies that involve more rigorous curriculum at all levels, higher expectations for all students, more caring teacher-student relationships, and increased student involvement in class procedures and activities as a means of closing the achievement gap (Abraham, 1989; Gamoran, 1987; Gamoran, 1997; Oakes, 1982, Rist, 1970; Rosenthal & Jacobson, 1992).

Despite theoretical differences behind the causes of and remedies for the achievement gap between students in poverty and their more financially-stable peers, I believe that closing the gap is an important issue for educators on either side of the debate. The fourteenth amendment guarantees equal education opportunities to all students in United States public schools, but statistics reveal that something is not working, and that low-income students are not privy to this constitutional right. Teachers in our nation's schools have a part in rectifying the injustice of this situation. The literature reviewed in this paper reflects the debate among educators and social scientists as to what exactly teachers can do to close the achievement gap to raise academic achievement in their low-income students. For the good of these children and the good of society, it is a worthwhile question to investigate, and one that needs further attention if our nation is to help all of its students to succeed.

Definitions of Key Terms

Throughout this paper, several key terms will stand out in the discussion, past and present, around how best to facilitate learning and achievement in low-income adolescents. First of all, the term *adolescent* refers to youth ages twelve to twenty-five. For the purposes of this paper, the discussion will focus on students in middle school/junior high and high school, approximately sixth through twelfth grade. Adolescence is regarded by developmental theorists as a time of identity formation – a time when young people seek to find a unique place in the larger society (Harter, 1990). In the United States, adolescence is a time when students are contemplating in what capacity they will join the adult world, the working world, the larger world of money and bills and careers. Research suggests that the transition from early adolescence to late adolescence marks a different kind of reliance on a student's network of support. Teachers and friends have more of an impact on secondary school than they did in elementary school (Rosenfeld, Richman, & Bowen, 1998; Rosenfeld & Richman, 1999). Teachers, therefore, must be aware of the level of influence that they might have on an adolescent's decisions as they contemplate their lives beyond high school.

The term *low-income* refers to a student's household income. Most studies call students who are part of the free and reduced lunch plan low-income because states have certain household income cutoffs for students to receive this lunch benefit. Each state policy is a little bit different, but in general the idea is that a student is low-income if she or he cannot afford to pay the full price, if anything at all, for a cafeteria lunch. Many researchers look at socioeconomic status (SES) as a poverty indicator. This status takes into account parents' income as well as their education and their professions, their type of

residence and often the region – urban, suburban or rural – of residence. Huston, McLoyd, and Coll (1994) point out that the distinction between the two is important to note because of the way poverty and SES may affect a child's development differently. Their meta-analysis of the current research on child development suggests that "poverty and income status have effects on children's environmental circumstances and development independent of SES indicators (e.g. parent education)." (p. 277). In other words, a child growing up in poverty with two college-educated parents will have a different experience than a child growing up in the same neighborhood with a single parent who did not graduate from high school. Also, income indicators may not reveal different survival strategies in rural versus urban communities. For these reasons, as well as many others, there is a debate about whether to look at a child's household income alone or as a piece of their overall socioeconomic status when considering effective teaching strategies for raising academic achievement. In this study, the term low-income refers to the household income status, included in both poverty and SES estimations, but I will note when free/reduced lunch or SES was the measure used to determine students' poverty status.

Academic achievement can be described in myriad ways such as Grade Point Average (GPA), class rank, standardized test score, IQ level, college attendance, or even a teacher's appraisal of how well a student is performing. The research reviewed in Chapter 3 relies heavily on standardized test scores from national and state-wide exams. For the purposes of this paper, I have chosen to focus on three aspects of academic achievement – school grades, standardized test scores, and high school completion because they reflect three different kinds of achievement. Grades are an indicator of a

teacher's evaluation of a student. Standardized tests indicate the student's achievement in relation to her or his peers that are taking the same test. High school graduation reflects a student's determination and resilience in the face of poverty-induced stressors, but also reflects the first two kinds of achievement because the high school diploma is predicated on GPA and standardized test score. At times the research reviewed in Chapter 3 mentions other forms of academic achievement that are not irrelevant to the guiding question of this paper, and will be mentioned as they fit into the overall goal of the critical analysis.

In relation to academic achievement, *effective teaching strategies* are those pedagogical frameworks or classroom exercises that have a positive affect on student learning. In the research reviewed in Chapter 3, this dependent variable is primarily measured by standardized test scores. Researchers indicate the shortcomings of relying on these types of tests as the sole demonstrator of student learning, and the author of this paper extends the definition of effective teaching strategies as those strategies that encourage motivation and engagement in school activities, especially as this motivation pertains to completion of high school.

Limitations of the Research

The research covers topics ranging from the effects of curriculum differentiation on social class hierarchy to expectancy theory studies that address lowered expectations for low-income students to characteristics of resilient students to characteristics of high-achieving, low-income classrooms and schools. A major limitation of this literature is the scarcity of research that connects specific strategies in secondary classrooms to empirical

changes in adolescent academic achievement. There is an abundance of longitudinal research on preschool and early elementary intervention programs for low-income children, but much fewer studies that discuss teaching strategies or programs that target students at the middle or high school levels. Those studies that do note effective strategies for closing the achievement gap focus more globally on the schools that are high-poverty and high-achieving, revealing common patterns and characteristics of these schools compared to their less successful counterparts.

Another limitation of the current research is its focus on urban schools. While the big cities in the United States house a majority of our poor students, it is difficult to generalize strategies for low-income youth in rural communities, or for poor students on the fringe of suburbia who attend school with more affluent peers, from the data collected on urban populations. The differences between urban and rural poverty are not negligible (Huston, McLoyd, & Coll, 1994), and teachers looking to teach in rural communities must pay special heed to their own students' needs when considering the research reviewed in Chapter 3.

Limitations of this Paper

This paper is limited by its attention to all low-income students throughout every subject in middle and high school. It is impossible to say that this student who grew up in poverty is the same as that student. Due to the disproportionate number of low-income students who also come from racial and ethnic minorities (National Center for Education Statistics, 2004, 2005; Huston, McLoyd, & Coll, 1994; Payne, 1996; Rist, 1970; Rist, 2000; Spring, 2005; Spring, 2006), many studies reviewed in this paper focused on one

racial/ethnic subset of the low-income student population. I recognize that the diversity of U.S. public schools precludes a discussion that would address each student's unique needs, and submit a paper that is broad in its quest to find strategies that might raise academic achievement of low-income adolescents in a more general sense. Further investigation is necessary to consider the different strategies that are better suited to African-American male students, Anglo-American transgender youth, or Southeast Asian-American female adolescents.

I also chose to consider strategies across content areas in the middle and high school levels. This is a limitation for the paper because different strategies may work in different subjects and twelve-year olds will respond differently to classroom exercises than their older brothers and sisters. Much of the research indicated that interpersonal relationships and expectations are important strategies to consider, and these can span across subject matter and stage of development. Studies also indicated, however, that students' dependence on their teachers for support changes as they get older, and that curriculum in math means something different for a student's overall academic experience than it does in social studies (Dewey, 1938; Gamoran & Nystrand, 1991; Gamoran, 1997; Rosenfeld, Richman, & Bowen, 1998; Rosenfeld & Richman, 1999). Considering different strategies for different subjects and ages within the adolescent age bracket, therefore, would yield a richer picture for educators.

Statement of Purpose

This paper is a critical review of the literature on effective teaching strategies for raising academic achievement of low-income adolescents. I intend to examine both

meritocratic and revisionist views on this issue in an attempt to gain a more balanced perspective of how teachers in U.S. public schools can offer equal education opportunities to all people's children.

Conclusion

This chapter introduced the guiding question for this critical literature review, "What are effective teaching strategies for raising academic achievement of low-income adolescents?". The achievement gap that presently exists between poor students and their more affluent peers is an indicator that our current education system is perpetuating class divisions through inequitable education opportunities for our nation's youth. An investigation into this issue is an important step for a society that promises equal education opportunity for all people's children, especially when level of academic achievement and educational attainment determine a person's eventual place and security within this society.

Definitions were offered to decrease ambiguity of key terms that will appear throughout the paper, and limitations of both the research and the scope of this paper were discussed. Chapter 2 will focus on the historical, social, and political context for the issue of education opportunity for low-income adolescents, bringing to light the debate between educators and policy makers who argue over whether or not our education system should be equal or equitable. One side believes in competition – that a person merits success through hard work and that social hierarchy is inevitable; the other believes in compensation – that some people need a boost to compensate for an unjustly dealt hand, and that this boost could challenge present notions of who can succeed and

who cannot. The history discussed in Chapter 2 will offer some ideas behind this debate and the relevance of the arguments to the guiding question of this paper.

Chapter 2 – History

Introduction

Investigating effective teaching strategies for raising academic achievement of low-income adolescents is an important facet of the war on poverty and of creating equitable education opportunity for all people's children. In the last chapter, I introduced this issue with an overview of the debate surrounding how best to raise academic achievement of poor students. I also explained how this paper does not differentiate between low-income adolescents of different races, genders, creeds, abilities, and sexual orientations in its discussion, but rather tries to find common strategies that might work across these differences in our diverse student population.

In this next chapter, I provide a historical context in which this issue is embedded. It describes the history of education outside the home and pays particular attention to the history of schooling in the United States. I also discuss the cultural ideology that some humans are more capable of achievement than others, and describe the rise of meritocracy in the United States. The chapter concludes with information regarding federally-administered programs in the last quarter-century, and discusses the current state of funding and the achievement gap in American public schools.

Education vs. Schooling

Education as it is currently defined and examined is not the same kind of education that humans have always received. While anthropologists indicate that human groups have always passed information that is important to the group onto their children, this practice has not always taken place in a classroom. Prior to the first formal schools,

education tended to be integrated into everyday life, with children following parents and other adults around in order to learn the tricks of the village, the trades of the community. In this sense, *education* and *schooling* are different. The former takes place as a natural part of everyday life, with lessons ongoing, cropping up as they fit naturally into the child's development and growth as a member of the community so as to teach the child about her culture *while* she is contributing to it. The latter is, in a way, separated from everyday life for the purpose of indoctrinating the mainstream culture into young people *before* they are expected to contribute to it (Rogoff, 1990). While the presence of schooling did not extinguish the existence of education, it did change the way that many humans in geologically younger cultures view the means by which young people acquire information about their culture and their role in their communities.

This differentiation has special implications for the paper at hand. When humans view the main purpose of schools to be the training of the workforce, the leaders, the priests, or the mothers of a society, the responsibility for training the children well falls heavily on teachers and administrators. If a society wishes certain citizens to have certain job traits, they might look to schools to provide different curriculum to their students for this purpose. If a community believes that its workers are becoming too unruly or too lazy, the schools may be held responsible for the ills of society and asked to change their tactics accordingly. In cultures with social class differences, schools are asked to produce different kinds of workers. Who is groomed for elite, leadership positions and who is trained to be the street sweeper? Do all children have equal access to these different kinds of education, or are some set up to be more successful than others? What

role do schools and, more specifically, do teachers play in student ambitions and academic achievement?

When education is taken out of the hands of all of a community's members, and put into the hands of a few educators, there is the potential to rely too much on what takes place inside of the classroom to guide future citizens, ignoring major societal factors, such as poverty, that are influencing students' potential from the outside. This first section of Chapter 2 looks at how and why formal schools cropped up in civilizations around the globe. The following sections will examine the impacts of formal schooling on the academic achievement of low-income students throughout the history of the United States.

The First Schools

Cole (2005) explained that trends in anthropological findings show "formal schooling arises as part of the divisions of labor in societies when they reach a certain scale in terms of number of people". The first formal schools developed in the Bronze Age around 3500 BCE along the banks of the Euphrates River (Cole, 2005; S. Walton, personal communication, January 11, 2006). With a surplus of food and a fancy new irrigation system, a social class system began to reflect the different jobs of the Sumerian community. Some men were in charge of religion, some presided over the business of agricultural technology, and others were manual laborers in the fields. Women were responsible for the children. With so much food and such an efficient system, it is hypothesized that certain leaders in Sumer had time to come up with a method of recording information. Cuneiform, the first known form of writing, developed as a way

to keep records of the seasons, the rainfall, the crop yields, births and deaths, etc. of the community. The priests were the first scribes. The issue soon arose as to who would keep the records when the priests died? Formal schools were a result of the decision to teach young men about the priesthood and the new written language so that important records would continue to be kept within the culture (Cole, 2005; S. Walton, personal communication, January 11, 2006.)

These schools were open only to boys and only to the elite (Matthews, 2004; S. Walton, personal communication, January 11, 2006). The sole purpose of instruction was to prepare the young men to be religious leaders and scribes; "socio-economic value flowed from this knowledge" of land, of stars, of the overall culture, and of its members (Cole, 2005). The exclusiveness of the job, coupled with the societal and economic benefits of having written records, gave the scribes prestige and power. The first cycles of poverty can also be looked at as cycles of wealth. Scribes' sons went to school and became the next generation of priests and administrators for the civilization. Farmers' sons continued to work in the farms. Women continued to have babies. The division of classes deepened and became more pronounced.

Egypt and China were the next civilizations to adopt the practice of formal schooling. While the Egyptian schools resembled those found in Sumer – institutions for passing on the written language and social rules to the next governing class – Chinese schools followed a different path. China had a strict and inclusive method of maintaining its governing bodies and its military bodies (Ministry of Culture, P.R.China, 2003). The Imperial Examination, or *keju,* was constructed to reflect the knowledge and skills of these prestigious organizations, and young people from elite families had to pass a series

of grueling exams beginning with *keju* in order to obtain a position with the government or the military. By around 500 C.E. in the Sui Dynasty, the administrative half of *keju* was opened to poor children. If they could pass it, they could go on to the series of exams that would lead them to an official position under the emperor (Walton, personal communication, February 2006; Ministry of Culture, P.R. of China, 2003).

This system differed markedly from the formal schools in Sumer and in Egypt. The Chinese believed that intelligence could be found in the lower classes, and that this intelligence would be valuable to the government (S. Walton, personal communication, January 11, 2006; Ministry of Culture, P.R. of China, 2003). Throughout Western history, debate around the purpose and exclusivity of schools would continue to echo the differences between the first schools. Does society benefit more from an education system that trains all of its members for employment in different capacities or from a system that focuses its energy on those already destined for major contributions – the male elite?

U.S. Public Schools: Reinforcing Class Hierarchy

Europe in the Middle Ages embraced the religious aspect of schooling. Schools functioned to teach wealthy young men how to read and to interpret sacred texts. In the sixteenth century, the Protestant Reformation brought a new dimension to this religious aspect by introducing the idea of morality lessons to the schools (Cole, 2005). Martin Luther supported the idea that the Bible should be accessible to all children. If children could read the Bible, Protestants argued, they would have a better chance at eternal salvation. Along the same lines, schools could be a place to teach young people about

good and evil, about God, and about how to live a good and godly life. While schools remained primarily exclusive to wealthy boys, a substantial part of the population was beginning to see education as important for the salvation of all. When European families began to colonize North America, they brought with them the social attitudes, debates, and systems of formal schooling.

Under the Old Deluder Satan Law of 1647, communities of fifty or more households in the Massachusetts colony had to establish a public school as a way to teach all children how to read so that they could read the Bible (S. Walton, personal communication, Jan. 11, 2006; Spring, 2005). Religion and government were inextricably linked in the new colonies, and "in the seventeenth and eighteenth centuries, education in colonial New England was used to maintain the authority of government and religion" (Spring, 2005, p. 9). While all students were learning to read the Bible, however, not all students were attending the same kinds of schools. The first schooling system in the pre-Revolutionary colonies continued to separate students along social class lines. Class distinctions were evident in the different kinds of schools available to the different social classes. Grammar schools were set up to teach sons of the wealthy Anglo-American elite and the upper-middle class to read and write in Latin and Greek and to prepare them for university and leadership positions. Reading-and-writing schools served the Anglo-American poorer classes who eventually sent their children into apprenticeships as opposed to universities. It was believed, therefore, that poor children did not need such rigorous or lavish education as was provided by grammar schools, and the reading-and-writing schools focused instead on teaching young children to read, to understand the Bible and civil orders, and to live a moral life through authoritarian

instruction and severe discipline standards. In this way, social class hierarchies were preserved and expectations for different achievement upheld according to household income. Young white men with means were expected to become leaders in the community and so were educated accordingly. Young white men without means were expected to be labourers like their fathers, and were given only the minimum 'education' to keep them abreast of God and government.

Reflected in the grammar and reading-and-writing schools of the sixteenth and seventeenth centuries are three of the four functions of formal schools: 1) to teach technological skills/cultural tools of society; 2) to establish greater social control; and 3) to confirm & reinforce class status. The fourth function, to provide opportunities for social renewal/upward mobility, has been an issue up for debate since the Chinese decided to let poor males have a chance at the *keju*. Likewise, the early New England colonies were reticent to have schools function for upward mobility of the lower classes. Through strict religious and basic skills instruction for the lower classes, those in control were able to maintain social order and cling to their belief that poorer people were not fit to govern or to hold positions of power (Spring, 2005).

The process of segregating students into schools for the wealthy and schools for the poor is not altogether absent from today's schooling system. As will be discussed in Chapter 3, most schools in the United States implement some form of ability-grouping or curriculum tracking for their students. The populations of these groups reflect social class divisions within the overall student populations, with low-income students disproportionately represented in the lowest-ability groups and vocational/basic education tracks (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, &

Thomas, 2004; Huston, McLoyd, & Coll, 1994; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996). While the process of formal tracking has lost popularity since the 1970s, putting students into ability groups, especially for English, math and science, has not (Hallinan, 1994). The percentage of students who go on to higher education and professions with middle- and upper-class incomes from the higher-ability groups is significantly different than the percentage of students who are as successful in the lower-ability groups (Gamoran, 1987; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995, 2004; Oakes, 1982, 1994).

When considering the historical, social, and political context of raising academic achievement for low-income adolescents, it is important to look at the history of segregating these students out of college-preparatory/Academic tracks that put other students on the path to college attendance and future professional success. The United States' educational system was founded on the belief that positions of leadership and high status were reserved for the already wealthy. However schooling expanded after the American Revolution to include the function of upward mobility, it did not lose the function of confirming and reinforcing class status. An important question to consider is whether or not these two functions of formal schooling can exist simultaneously.

After the American Revolution it became clear that not everyone was content with the segregated schooling system, nor were all content with the curriculum provided in the elite grammar schools (Spring, 2005). The Revolution brought about a passion for intellectual freedom, and academies were established to offer an alternative to the classical education of the grammar schools. At first these academies were more inclusive than the elite grammar schools, and students who attended academies learned more

practical skills and ways to think about the material world. Spring (2005) writes that the academies served two purposes: they "provided a useful education, and at the same time they transmitted the culture required for entrance into the middle class. In other words, they were institutions that could provide social mobility for the average citizen" (p.34). A driving force behind the academy movement was a desire to separate religion from education. Advocates of the academies wanted students to be free to dissent, not taught to obey without question. This alternative to traditional education would become the model for the modern-day high school, preparing students for the working world with practical knowledge and know-how.

By the end of the nineteenth century, however, academies had become exclusive and served only the wealthy and upper-middle classes (Spring, 2005). Lower class families often could not afford to send their children to the academies, and these adolescents frequently joined their parents in the workforce instead of continuing their education. Even though the academies made a progressive shift to teach more 'practical' skills, they, too, eventually mirrored the inequity of the grammar and reading-and-writing school system. The new academy system reflected the larger social realities of class hierarchy by limiting access to equal education, offering more opportunities to the well-to-do than to the average citizen. It is important to consider the implications of this new function of the secondary school – to prepare young people for work through the acquisition of practical skills and cultural tools. High schools today are open to students of all socioeconomic levels, but do they continue to prepare students for certain kinds of work according to family status as the academies of the nineteenth century did?

The academy movement gained popularity in the post-Revolution environment of intellectual freedom. In the late eighteenth century, in line with Republican ideals now popular from this Revolutionary energy, Thomas Jefferson proposed that society would benefit from finding the best minds in the country to serve as the nation's leaders (Spring, 2005). The natural aristocracy, he proposed, would be a product of careful selection from reading-and-writing school to grammar school to college. His "Bill for the More General Diffusion of Knowledge" called for reading-and-writing school teachers to select the most intelligent boy from the school, whose parents could not afford to send him to grammar school, and that the taxpayers would pay for his continued education. Then, each year, twenty of the brightest students from each grammar school would be selected to attend, on the taxpayers' dime, three years at the College of William and Mary (Spring, 2005, pp. 52-53). Jefferson believed that the young nation's success was riding on the talent of its up and coming leaders. He defined a good leader as a white citizen who questioned authority, knew his history, and loved freedom.

At the opposite end of this educational stance, another group of policy makers continued to view education as a means of social and religious control. By the early nineteenth century, many Americans believed that schools could make society better by shaping young people to conform to virtuous and hardworking standards. A common school system for the purpose of creating moral citizens out of poor and unruly children was thought to be the best way to achieve the good society. Once again, the nineteenth century education system reflected social class distinctions. Poor white students attended charity schools while middle- and upper-class white students attended public and private schools. Charity schools based their instruction on the Lancasterian system – a rigid,

authoritarian, and inexpensive way to control and "shape" masses of poor children in the same place at the same time. Desks faced forward, students were disciplined severely for off-task behavior, and students learned through rote memorization of religious principles, patriotic ideals, and math tables.

This system may sound harsh, but researchers today find that schools with high poverty populations exhibit some of the same characteristics as the early charity schools. Students in high-poverty schools experience stricter, more authoritarian discipline, more worksheets and rote learning, and less intellectual freedom than students in more affluent schools (Oakes, 1982; Solomon & Battistich, 1996; Spring, 2006). Studies reviewed in Chapter 3 point to the differences in pedagogical philosophy between educators who see low-income students as needing more discipline and less challenging, more restrictive curriculum and those who see low-income students as just as able to achieve as their middle- and upper-income peers given the opportunity to learn critical thinking skills and to enter the college-preparatory tracks. In both the nineteenth and the twenty-first century we witness class segregation for the purpose of differential instruction to serve society's workforce needs by tracking low-income students for low-level jobs and more well-off students into leadership positions.

One of the reasons that lower and middle-class white students were finally put together in the common school, or what we refer to now as the public school system, was to reduce tension between the classes (Spring, 2005). Schools continued to be viewed in the mid-nineteenth century as a panacea for the social and economic ills of society, and now they were to be funded by state and local governments and open to all white children. Horace Mann, often called the father of the common school movement,

believed that the "expansion of class consciousness would 'disarm the poor of their hostility towards the rich'" (as quoted in Spring, 2005, p. 82). Whether or not common schools served this function is up for debate. Either way, the common school movement was supported by workingmen's unions throughout the states. Workingmen saw free, public education as an opportunity for their sons to receive an education opportunity previously reserved for their bosses. To many Americans, "knowledge was power" (Spring, p. 85) as the social class structure in schooling and in society demonstrated. Union support of the common schools, though for different reasons than those advocated by Mann, was an important factor in the eventual adoption of the current public education system.

In the 1830s and 40s, public education was a means of offering education to all white U.S. citizens. In 1868, the Fourteenth Amendment was ratified, promising equal education opportunity for all students, white and of color, though at first this meant in segregated institutions. A discussion of racial segregation and the history of the fourteenth amendment are beyond the scope of this paper, but it is important to note the ratification of the amendment because of its later ramifications for low-income students and the war on poverty.

Meritocracy: Are you Willing?

Equal opportunity education is at the core of the modern public school. In the United States, the idea is that everyone has a chance, regardless of race, socioeconomic status, gender, creed, sexual orientation, or ability status. Free schools and an accountability system that requires all teachers to try their hardest to teach all people's

children ideally give everyone an equal chance at success. But, as evidenced by the goals of reading-and-writing schools versus the goals of the grammar schools, success can mean something different for different individuals. Is one student successful because she completed high school where another is successful because she became a doctor? The definition of success is a major facet of the discussion in raising academic achievement of low-income adolescents – can everyone be equally successful? Will a free market economy support all students excelling at the same rate to the same position in society? Maybe some children do not have the innate ability or the drive to be doctors. Should not society be satisfied if these children graduate from high school? Should society give them extra help to be doctors even if they are not meant to succeed at this level? What is the responsibility of educators if, in fact, students have a range of abilities, and some are more likely to succeed than others?

In the late nineteenth century, policy makers turned to educational experts to make sure that children in the nation's schools were given an equal opportunity to excel (Spring, 2005). The comprehensive high school offered different kinds of curriculum that could match the needs and ability levels of all students. New-fangled tests were designed to accurately place students in the appropriate classes. Behind all of this was the belief in the concept of meritocracy where "each individual's social and occupational position is determined by individual merit, not political or economic influence" (p. 288). For the time being, it seemed that many educators and policy makers really wanted poor children to "compete on equal terms with children from rich families" (p. 287).

Meritocracy has important implications for every American citizen, but for the purposes of this paper, it is important to consider how it affects low-income adolescents.

Early citizens of the United States founded their culture on the belief that all white, male, property-owning humans are created equal. The founding fathers envisioned a Republic in which people could work hard and follow their dreams. But not all humans in this country were white or male. Many humans did not own property. The implication of the original statement in the Declaration is that not all humans are created equal. Laws such as the Fourteenth Amendment, however, challenge that notion by suggesting that, regardless of the station into which you are born, an equal education opportunity and some serious determination are the key to reaching your goals. Just as education was seen as the panacea for social ills in the eighteenth century, so the public schools became the panacea for individual ills in the nineteenth and twentieth centuries.

Tracking Humans: Are you Able?

By 1912, a national report noted that young people in the United States were not as competitive in the job market as their foreign counterparts. Congress sided with education experts who advocated for curriculum differentiation and decided that not all students needed the traditional education that benefited the "abstract-minded and imaginative" students (Spring, 2005, p. 257). Instead, in a decision that was eerily reminiscent of the grammar and reading-and-writing school system, policy makers and educators agreed that equal education opportunity for the majority of U.S. students could be vocational in nature, and that this would benefit the national economy by training the workforce for specific professions. The Smith-Hughes Act of 1917 had a major impact on curriculum trends in U.S. public schools by implying that not all students have the ability or willpower to succeed at the same pace to the same place in society. A

discussion of tracking is relevant to the guiding question of this paper because of the disproportionate number of low-income students who are excluded from the "abstract-minded and imaginative" category and subsequently placed in the basic or vocational education tracks.

As is evidenced today by ability groups and curriculum tracks, schools are designed to put certain students along the path to college and others along the path to labor. Hallinan (1994) writes that tracking, or ability-grouping, is a "practice whose aim is to facilitate instruction and to increase learning…tracking permits teachers to tailor instruction to the ability level of their students" (p.79). Similarly, the document that was a major force behind the Smith-Hughes Act, the 1914 report of the Commission on National Aid to Vocational Education, claimed that "vocational education is justified from a purely educational point of view because it meets the individual needs of students; provides equal opportunity for all to prepare for their lifework; develops a better teaching process – learning by doing; and introduces the idea of utility into education" (Spring, 2005, p. 257).

Public high schools eventually adopted three tracks – academic/college-preparatory, general/basic, and vocational. Students did not have a choice about which track they would follow. Their abilities were gauged in the primary years and then again in the middle level grades before being placed into a high school track. Each track served a different purpose. The upper track functioned to transition students from high school to a four-year college and then on to the white-collar world. The general education track prepared students for the lower-middle-income jobs such as retail and secretarial positions. The vocational track gave students skills to take on a position in a blue-collar,

manual labor profession. While many schools in the United States made a move to combine general education and vocational education, there was a resurgence of vocational education in the seventies when some legislatures saw young people's apathy and anger toward the government and the Vietnam War as a symptom of unemployment or discontent in the workforce. Stability and satisfaction for these youth, policy makers argued, would come from skills training and consistent paychecks.

Today, course levels such as advanced, honors, regular, or basic courses have generally replaced track categories (Hallinan, 1994). There is some evidence of vocational education, especially in high schools with high numbers of students living in poverty. Within schools, research and national statistics indicate that low-income students are disproportionately represented in the lowest ability groups, be they general/basic or vocational tracks, or regular or basic courses (Breakthrough Collaborative, n.d.; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck et al, 2004; McLoyd, 1998; Munoz, 2001; National Center for Education Statistics, 1995; Oakes, 1982, 1994; Silver, n.d.). Literature reviewed in Chapter 3 will delve into more detail about the outcomes of the current pattern of ability tracking on low-income students, and will offer suggestions for ways that teachers might combat the detrimental effects.

While school tests were putting students in particular curriculum tracks, IQ tests were measuring people's intelligence. An examination of the history of tracking humans in schools, and questions about how low-income and minority students so disproportionately end up in the lower tracks, leads to an important parallel drawn between assumptions about student abilities and assumptions about human abilities in general. In 1994, Murray and Herrnstein published a controversial book entitled *The Bell*

Curve which claimed to provide scientific evidence for the reasons that society was divided into classes and, more specifically, why those classes were so often divided along racial and ethnic lines. The answer, according to the authors, was innate intelligence. Drawing on, what Swanson (1995) deemed, "sketchy statistics" in numerous scientific tests and charts, Murray and Herrnstein (1994) claimed that white people were smarter than people of color. They also demonstrated that the reason why some people are poor and some people are rich is because poor people are not as smart as rich people.

From one standpoint, this theory contradicted the meritocratic ideology of "pulling oneself up by one's bootstraps" because it suggested that some people would never be able to pull themselves up. For the most part, however, *The Bell Curve* fully supported the meritocracy ideals on which America had come to depend. Rich people no longer had to feel badly about being rich. It was not a matter of unequal opportunity after all; the reason the poor person was living in poverty was not for want of opportunities, rather, she or he was poor because, given the same opportunity as everyone else, she or he simply could not compete as well because of a genetic difference – deficiency – in intelligence.

The reason to include *The Bell Curve* in this study has to do with the history behind it. These findings were hardly new ideas; in 1994 they were simply published and 'supported' by statistics based on IQ tests. As discussed in previous sections of this chapter, humans in many civilizations had believed that positions of power should be reserved for the wealthy citizens of society because upper class citizens were more suited, more *able* to perform the duties of a leader. Anglo-American settlers in the United States referred to people of color as less-than human, as unintelligent, and as unable to exercise

self control (Spring, 2005, 2006). The aristocracy in Europe and in the United States viewed people in the lower class as animals, as unintelligent, and as steeped in vice. In the late nineteenth and early twentieth century, it was popular for psychologists such as the inventor of the IQ test, Alfred Binet, to assume intelligence differences even before tests were administered (Spring, 2005). Henry Herbert Goddard went so far as to say that IQ test scores were also an indicator of a person's ability to control themselves and their emotions, linking personality traits and behaviors to intelligence scores. As late as the twentieth century, Edward Thorndike, a prominent educational theorist said that "the abler persons in the world in the long run are more clean, decent, just, and kind" (Karier, 1967) referencing hygiene and self-control as indicators of intelligence and ability.

These stereotypes have had major consequences for students in our public schools. Many teachers base their grades on noncognitive as well as on cognitive traits of their students believing, like Goddard and Thorndike, that behavior and intelligence are linked (Abraham, 1989; Farkas, Grobe, Scheehan, & Shuan, 1990). Teacher expectations, especially from teachers from middle- and upper-class backgrounds, reflect the philosophy, however misguided, that low-income children are less capable of academic success than their middle and upper class peers (Abraham, 1989; Bennett, 1976; Breakthrough Collaborative, n.d.; Harvey & Slatin, 1975; Long & Long, 1974; Oakes, 1982, 1994; Solomon & Battistich, 1996; Rist, 1970; Williams, 1976). When considering teaching strategies for raising academic achievement in low-income adolescents, it is important to recognize that our cultural history has provided and, in the case of *The Bell Curve*, empirically supported stereotypes surrounding the working class and the culture of poverty.

If a teacher believes in the meritocratic principles of this nation, then he would look at a student who is not as successful as her peers and most likely blame the student instead of the system. Given every opportunity for success, that student was simply unwilling or unable to reach the same level of excellence as the other students around her. Excellence is sometimes based on one standard for everyone and sometimes based on an individual's potential. Danger arises when that child's potential is pre-determined by their gender, race or social class. When teachers steeped in meritocratic ideology take note of the correlation between socioeconomic status and academic achievement, it is possible that they continue to blame the students, or class of students, instead of the larger system that systematically keeps poor youth at a disadvantage. The revisionist argues, therefore, that the locus of change must begin with the teacher's (and society's) assumptions and actions if the student who was born into a life of poverty is to be given an equitable chance to live up to her potential.

Title I: Funding to Close the Achievement Gap

Despite the undercurrent of U.S. culture that deems some humans naturally superior to others, many Americans choose to view the American dream as truly attainable by all. In 1961, with poverty looming large and affecting more Americans than could be ignored, President Kennedy proposed large-scale federal aid to improve education, particularly for poor and minority youth (Jennings, 2000; Spring, 2005, 2006). Many Americans at the time did not support federal funding for public schools, especially assistance that would support African-American students, reflecting a deeper social divide during the Civil Rights era. When President Johnson took office after Kennedy's

assassination, he continued to push legislation that would grant federal money to state public schools. In 1964, Johnson's commission on education recommended tying federal funding to specific categories of need. With the War on Poverty already underway, Johnson's administration tied federal spending on education needs of disadvantaged youth to this crusade.

The Elementary and Secondary Education Act, passed in 1965, included Title I, a program to aid poor and minority youth through the purchase of books, supplemental education centers, and the development of state departments of education. Jennings (2000) called Title I the "principal embodiment of the national commitment to help educate economically and educationally disadvantaged children" (p.516). Title I's history is pertinent to this paper because it chronicles the struggle between those educators who believe that students from poor families need extra help to compensate for their financial instability and different home environments, and those who believe that low-income students can succeed just as well if they try harder, or if their teachers try harder.

The early implementation of Title I reflected this debate. While Congress believed that additional financial resources would make a tangible difference in the education of poor and disadvantaged students, they did not specify how exactly those federal funds should be spent (Jennings, 2000; Spring, 2006). Educators across the country could not agree on whether to use the money for general aid in the neediest schools or whether to spend it on specific special education programs for targeted youth. A report that came out in 1969 titled, "Title I of ESEA: Is it Helping Poor Children?" found that funds were too often being spent on general school purposes, not going to

students who, under Title I, qualified for special assistance, and that this misuse of Title I funding was not helping those that needed it most (Jennings, 2000). The U.S. Office of Education tightened the reins on administration of Title I and required Title I funding to be used in addition to, not instead of, state and local funding. School districts had to keep track of how they spent their Title I dollars, but the system was anything but strictly followed.

I include this discussion of the allocation of Title I funds because it is important to note how educators and policy makers fought over how to spend money given specifically for the benefit of disadvantaged youth. The debate between meritocratic and revisionist thinkers surfaces again; some felt the money should be spent on individual students in need of extra help, while others wanted to put the money into the entire school, believing that individual student needs would be addressed if the building were cleaner or safer, if there were more books for all students regardless of economic background, or if another teacher was hired. Give a boost to those specific students who are born into oppressive circumstances or dump funding into a school system that largely ignores those hardships and believes that hard work and innate ability will persevere over classism, racism, sexism, and ableism?

In reaction to further reports that exposed misuse of Title I funds, local administrators made the move to use the federal assistance money to fund special programs outside of the regular classroom. With an accountability system more firmly in place, Title I survived another decade before President Reagan revisited the concept of federally funded programs for targeted students. In 1981, Reagan proposed extreme cutbacks in federal spending for education and other social services. While many of his

proposals did not succeed, he was successful in decreasing funds for Title I services. It took another decade before the federal assistance would spring back to the same level as it had been at the program's inception.

Reagan was also behind harsh criticisms of the nation's public schools (Jennings, 2000; Spring, 2005). After the release of *A Nation at Risk* in 1983, the president and other business leaders throughout the country pointed their fingers at the schools for failing to raise the academic achievement of the nation's children. By 1988, when Title I was up for reauthorization, a provision was added that would hold schools receiving Title I funding accountable. In order to continue to receive federal assistance for poor and disadvantaged youth, students in these schools had to achieve at a specified level. Another provision, linked to earlier debates, gave schools more free reign with the funding, allowing them to use the federal money more generally to improve the overall school environment, instead of having to focus the Title I funds on specific services for low-income, minority, and special education students. In 1989, President Bush and the state governors met to decide on national goals for America's students.

America 2000 was Bush's plan to raise academic achievement in US public schools (Jennings, 2000; Spring, 2005, 2006). National tests and national standards were at the forefront of the proposed reform. The Clinton Administration picked up where Bush left off and in 1993 named Goals 2000 as the education initiative of the administration. In 1993, Clinton renewed the provision of Title I that required students in schools receiving Title I funds to achieve at specific levels, and required those schools to publicize their standardized test scores. The 1993 proposal specifically challenged the notion that Title I funding requirements were actually holding low-income students back.

By requiring all students to meet standards of learning, not just poor students, schools would be encouraged to target their low-income students with the federal assistance program funds (Jennings, 2000) to meet high school, district, and national expectations.

Now schools who wanted federal assistance needed to have academic standards, to decide what level of knowledge was considered sufficient, and to implement regular student assessment. Behind the proposals of the 1993-94 reauthorization hearings for Title I was the belief held by Clinton and other members of his cabinet that schools that used pull-out programs for low-income and disadvantaged students were holding lower standards for these youth by teaching only basic skills in the special classes. Clinton's administration proposed to Congress that a more stringent system of accountability would require schools to hold higher standards for all their students.

According to the National Assessment of Title I report in April 1999, schools were seeing some progress in raising academic achievement for poor and disadvantaged youth. It concluded, "Trends in the nation's highest poverty schools, as well as progress of the lowest-achieving students, show positive gains in reading and math performance since the reauthorization of Title I" (as quoted in Jennings, 2000, p. 522).

The Current State of U.S. Public Schools: Leaving Children Behind

The following question will be raised in the literature of Chapter 3: Are our schools holding the same standards for low-income students as they are for more affluent students? The current administration created the No Child Left Behind (NCLB) Act in 2001 in response to signs that the accountability system called for by the Clinton administration was not working. According to the Bush administration, it was not strict

enough. NCLB calls for more attention to standards, more high-stakes tests, and more emphasis on moral instruction (Spring, 2005). By 2002-2003, states were required to submit "annual report cards containing student achievement scores and test scores by school district" (p. 462). School choice was introduced as a way to let parents who were not satisfied with the progress of their school district send their children somewhere else. Middle and upper-class parents have more means to relocate or to send their children to private and parochial schools. High-poverty schools that fail to raise academic achievement scores of their students so that a certain percentage of students pass the standardized test score risk losing more than their Title I funding – they risk losing their more affluent tax base.

The effect of the publicized report cards, of school choice, and of the more stringent requirements to receive federal assistance through Title I leaves many school districts poorer than ever. As per pupil expenditure drops, so, too does the quality of the learning environment and of the teachers (Office of the Superintendent of Public Instruction, 2005). The impact of NCLB on individual low-income adolescents is important to consider as well. Many states have adopted high-stakes testing policies that require sophomores in public schools to pass standardized tests if they want to receive a diploma. For students who do not pass the first time, dropping out to get a job seems like a viable option (Sillars, personal communication, March, 2006).

The National Center for Education Statistics (2005) clearly shows that low-income students do not achieve on standardized tests at the same levels as their middle- and higher-income peers. With high-stakes testing as a matter of course, one has to wonder what the impact of NCLB is on low-income student's chances of going to college

or beyond, of fulfilling their American dreams. In recounting the history of education for poor youth across this country, from the Elementary and Secondary Education Act, to America 2000 and Goals 2000, to the current administration and the federal No Child Left Behind Act (2001), it is important to note the myriad ways each administration hoped to raise academic achievement of low-income adolescents, but seemingly failed to do so. It is also important to note that not every poor child in America fails, even according to the national standards. On the contrary, many low-income students in all regions of the United States exceed national averages, overcoming extreme stress and lowered expectations. These students go on to universities and graduate schools and enjoy successes and joys alongside their more affluent childhood peers. Research indicates that there are some personal characteristics that reside within these resilient youth and propel them forward into a bright and accomplished future (Floyd, 1996; Luthar, 1991). But more and more studies are showing that teachers also have the potential to tap into that resiliency, to encourage low-income adolescents to succeed in school and beyond. The literature in Chapter 3 points to factors outside of increased federal spending on programs such as Title I or No Child Left Behind (2001) that have the potential to increase academic achievement for all people's children.

Conclusion

Chapter 2 offered a history of the political and social context in which this paper's guiding question is embedded. To gain a fuller picture of the importance of considering effective teaching strategies for raising academic achievement of low-income adolescents, it is necessary to observe patterns of social class division present within the

first schools of ancient civilizations to the current tracking policies in US high schools today. The function of schooling that maintains and reinforces class status ultimately results in lowered expectations for poor students. The Fourteenth Amendment and the concept of meritocracy play a role in the lack of concerted attention given to the detrimental affects of poverty in our nation's schools. In the final sections of this chapter, I explained the history of Title I of the Elementary and Secondary Education Act (1965), a program designed specifically to raise academic achievement of low-income and disadvantaged students through federal monetary assistance, and gave a brief description of the impact of current legislation and the federal No Child Left Behind Act (2001) on the potential of all students to succeed.

Chapter 3 offers a critical review of the literature on effective teaching strategies for raising academic achievement of low-income adolescents. It begs the question: Are policies such as curriculum tracking benefiting disadvantaged students living in poverty or are they merely playing into a system that ignores and perhaps even perpetuates the cycles of poverty? What is the impact of Title I and other legislation that asks students without financial stability to succeed despite this insecurity and the lowered expectations that come with being poor? What else must be done if these programs are not working? The chapter is divided into two main sections: *The Trouble with Tracking: The Detrimental Effect of Lowered Expectations* and *Visions of Success*.

Chapter 3 – Critical Review of the Literature

Introduction

This chapter is a critical review of the literature in which I examine effective teaching strategies for raising academic achievement of low-income adolescents. The previous chapter addressed the historical and socio-political context in which we find the need to address the academic challenges of students living in poverty. Underlying the following studies is a subtle division between meritocratic educators in favor of equality and revisionist educators who advocate for equity. The former view schooling as a process through which all students *can* achieve, regardless of background or expectation, if offered as equal an opportunity as everyone else. The latter argue that we must change the system to offer equitable, and not necessarily equal, opportunities in order that students who come from different positions of advantage have the chance to succeed alongside their more privileged peers.

The chapter is broken into two sections. The first section focuses on the policy of curriculum differentiation in U.S. middle and high schools and on the effects of different expectations on students from different socioeconomic backgrounds. This section details studies that observe the relationship between lowered teaching and schooling expectations of low-income students and the students' academic achievement and educational attainment. Effective teaching strategies are often inferred from the results of these studies from a somewhat deficit model – if lower track placement or more frequent discipline are linked with lower grades or a poorer attitude, then schools should dismantle the tracking system and teachers should change their classroom management policies .

The second section presents research on more specific strategies that facilitate academic achievement for low-income students. In this section, studies draw on patterns observed in high-performing, high-poverty schools or success stories of gifted teachers. More positive light is shed on the prospect of increasing learning and graduation rates for all people's children. Overall, the critical review presented in this chapter is intended to provide a range of perspectives on the issues of achievement and poverty, and to examine a range of studies in order to ultimately suggest effective teaching strategies for educators wishing to raise academic achievement of their low-income middle and high school students.

The Trouble with Tracking: The Detrimental Effect of Low Expectations

This section reviews studies that focus on expectations. Two kinds of expectations surface from the research – teacher expectations and schooling expectations. A teacher's expectations for her students are based on any number of factors from a student's academic history to his behavior in class, and on more subtle factors such as the student's race and socioeconomic background. As was discussed in Chapter 2, the United States was founded on white, Christian, property-owner superiority. Understanding that many teachers have, unconsciously or not, lowered their expectations for certain groups of students is an important starting point for considering effective strategies for raising academic achievement of those groups because studies show that students too often internalize these expectations.

To frame the literature, it is necessary to mention an important study conducted almost four decades ago. In 1968, Rosenthal and Jacobson published *Pygmalion in the*

Classroom in which they described their soon-to-be classic study on the effects of teacher expectations on student performance. Their study began at the beginning of the school year when researchers administered an IQ-like test they labeled The Harvard Test of Inflected Acquisition to eighteen classrooms (three per grade) at Oak Elementary School. Each child took the test and researchers told the teachers that the test was designed to predict intellectual "blooming". The researchers randomly chose 20% of the students from each classroom to be in the experimental group, informing their teachers that test results predicted that these children would "show surprising gains in intellectual competence during the next eight months of school" (Rosenthal, 1998, Section 2). In reality, these late-blooming students were chosen at random and their potential brilliance did not relate in any way to the IQ test results. Nevertheless, throughout the year the researchers observed different kinds of teacher expectations for the late bloomers than for the so-called regular students. By the end of the year, those students in the experimental group who had been randomly labeled more able than their peers did, in fact, show significantly greater gain than the control group on the same test at the end of the school year.

The results of the Pygmalion study suggested that teacher expectations influence student achievement; Rosenthal and Jacobson (1968) observed that teachers who expect students to succeed are more likely to challenge these students, hold them to higher standards, and offer them positive feedback for desired academic and behavior outcomes. In response, students who are treated like high achievers respond by participating more in class, exhibiting the desired behaviors that are then praised and reinforced by the teacher who expected to see them all along. The students who are considered low achievers,

conversely, receive less teacher time and positive feedback from the teacher and become more withdrawn and less likely to initiate contact with the teacher for fear of the negative responses that she or he might dole out; these students' classroom scores and behavior deteriorate, fulfilling the teacher's initial prophecy that the child's ineptitude would result in lower achievement.

Researchers have questioned the validity and reliability of Rosenthal and Jacobson's famous 1968 study and have conducted their own research to test the Pygmalion effect in different kinds of school and work settings. Educational psychologists and sociologists are also interested in what kinds of expectations are held for students of different races, ethnicities, genders, and socioeconomic levels. The following studies draw on the research of Rosenthal and Jacobson. Those that focus on social class differences observed a common theme – teachers hold lower expectations for low-income students, or students whom teachers perceive to be low-income, than they do for more affluent youth.

The problem is complicated by curriculum differentiation in U.S. middle and high schools.

> When curriculum differentiation involves creating distinct instructional programs for students, these programs are called tracks. A typical structure includes Academic, General, and Vocational tracks. When curriculum differentiation involves variation across instructional units in the difficulty of course content, quantity of material, and rate of instruction, the units are called ability groups. A common ability group structure includes Advanced, Honors, Regular, and Basic groups or some similar structure (Hallinan & Kubitschek, 1999, p. 41).

Low-income students are disproportionately tracked and grouped in the lowest-ability classes (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996). Hallinan (1994, Hallinan & Kubitschek, 1999) and Oakes (1982, 1994), two prominent thinkers on the issue of academic tracking and ability grouping, disagree on the potential of curriculum differentiation, but agree that the process as it is currently practiced is inequitable for the lower-ability groups. Other researchers point to self-fulfilling prophecies of teachers who expect low-income students to have lower abilities than their middle- and high-income peers and are then justified when the poor students in their schools are put in the lowest ability groups.

The literature presented in this section highlights issues related to teacher and schooling expectations of low-income students and offers suggestions for effective ways that teachers might confront their personal biases and combat the negative effects of lowered expectations. Recommendations fall on two sides of a debate between proponents of meritocracy and revisionist thinkers. Those who support meritocracy and believe in its efficacy suggest keeping the system as a whole the same, maintaining the theory that says all have an equal chance to compete if all face the same scenario and opportunities in school. Revisionists suggest a shift in pedagogy and schooling to be more equitable, supplementing the education of our low-income adolescents with a little bit extra – professional development for teachers who hold unconscious stereotypes about their poor students, a guaranteed spot for the ninth grade homeless boy in that honors class, or the dismantling of the curriculum tracks all together – to level the playing field on which they must compete with their more affluent peers.

Supporting Rosenthal and Jacobson's (1968) original findings, Rist (1970) concluded that teachers treat students who they expect to succeed differently than students who they expect not to succeed. He was interested in examining this pattern of differential expectations, and also whether or not a teacher's expectations resulted in a change in students' behavior and ensuing academic career. Rist's qualitative and quantitative analysis of this differential treatment on the black students in an elementary school revealed how these kindergarteners and first graders internalized the teacher's expectations and how the teacher's expectations led to a self-fulfilling prophecy regarding the children's achievement levels.

Rist's (1970) ethnography took place over two and a half years in an urban ghetto school. Rist observed a kindergarten class of black students for ninety minute observations twice a week. He followed eighteen of them into their first grade year, making informal observations throughout, and then ten of those eighteen into their second grade year, once again implementing the biweekly, ninety minute observation sessions for the first semester. Prior to the observed cohort's first days of kindergarten, Rist described interviews conducted with the kindergarten teacher, Mrs. Caplow, and about her perceptions of her 1967 class. Before school even began Mrs. Caplow had information about the students' backgrounds such as neighborhood of residence, family size, parents' profession, and welfare status, as well as having personal experience with some of their siblings. Mrs. Caplow did not have, however, any information about the academic potential. By the eighth day of school, still without any formal testing, Mrs. Caplow separated her students into three groups who sat at three different tables. She

referred to her students at Table 1 as her "fast learners" and throughout the first year of the study mentioned that she gave them the most attention because the other students did not seem to know what was going on in the class.

Rist (1970) observed that Mrs. Caplow did in fact spend more teaching time with the students at Table 1, put these students in leader positions, referred to them as class role models, and exhibited less control/punitive behaviors toward them. She had a more caring physical relationship with her "fast learners" than with the students at Tables 2 and 3, and wrote important lesson information such as mathematics problems on the side of the board that was in front of Table 1, even though the board stretched in front of all three tables.

Disturbingly, all of the students from Table 1 and none of the students from Tables 2 or 3 were placed at Table A (the equivalent of Table 1) in first grade. This pattern held fast in second grade when all of the original kindergarten "fast learners" were grouped in the top "Tigers" group, and their "slower" peers were grouped in the Cardinals or Clowns groups. The first and second grade teachers indicated that they based their groupings on students' prior achievement, especially reading level. Rist (1970) contended that the limited amount of teaching time resulting from Ms. Caplow's lowered expectations for her students at Tables 2 and 3 had a direct impact on how much time and materials they had for practicing their math and reading. He further noted that the disciplinary strategies (more authoritarian for the lower-ability groups) potentially made students at Tables 2, 3, B, C, Cardinals and Clowns less interested in learning and more likely to put their energy and interest into non-school activities, leading to further control behaviors and punishments from the teachers. This cycle, coupled with low

reading and math levels, keep these students in the low tracks each year. Students in the lower tracks in high school are less likely to graduate (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996). In this way, Ms. Caplow's initial expectations, based not on academic ability but on socioeconomic status, are realized when that group of kindergarteners from her 1967 class do not go to college or drop out of high school later on.

It is hard to generalize the results of this longitudinal study to more general groups of low-income adolescents because Rist (1970) focused on one cohort of black elementary students in the late sixties. Similarly, Rist acted alone for the most part, increasing the risk of observer bias and decreasing the potentiality for replication of the study. Given the teachers' personal comments about each of the three groups of students across kindergarten, first and second grade, however, Rist does not seem to be too far off in his estimation of their differential expectations. Considering the relationship between these teachers' expectations, the socioeconomic background of the students, the teachers' differential treatment, and the students academic path in their first years of schooling, the findings of Rist's study have frightening implications for teachers of low-income students. Rist advocated for a de-tracking policy and for teachers to be aware of their preconceived conceptions of what a successful student looks, sounds, and acts like. This study's conclusions point to the need for teachers to develop systems to track their own behavior so that they are providing equal teaching time and equitable praise and discipline across all student groups.

Solomon and Battistich (1996) were also interested in whether or not educators held lower expectations for low-income students and, more importantly, whether or not these expectations were reflected in a teaching practice grounded in behaviorist principles. Both researchers advocated for a more constructivist approach to teaching, arguing along similar lines as Rist (1970) and others (Dewey, 1938; Furth, 1970; Kohl, 1994; Rogoff, 1990; Zull, 2002) that more authoritarian, teacher-centered classrooms are less conducive to learning than democratic, student-centered classrooms. When Solomon and Battistich (1996) quantitatively examined how teachers' beliefs and attitudes about students and schooling differed in low-, medium-, and high-poverty schools, they found large differences between teachers in high-poverty schools and those in the other two groups. Teachers of low-income students should note the different kinds of discipline strategies, expectations, and standards that the teachers had for students from different socioeconomic backgrounds. The researchers found that teacher practices relate directly to their beliefs and attitudes about their students. If they perceived their students to be low achieving, than their pedagogy reflected a more behaviorist approach, relying on authoritarian discipline procedures and extrinsic motivation.

For this study, Solomon and Battistich (1996) administered surveys to 476 regular education elementary school classroom teachers, 90% female and 78% white in 24 (12 in a voluntary intervention program, 12 control) urban and suburban schools in six school districts throughout the United States. School poverty levels were based on percentage of students on a subsidized lunch program. Schools were grouped according to US Department of Education low-, medium-, and high-poverty groupings. Low poverty schools had 0-19% students on subsidized lunch program, (N = 7), medium-poverty

schools had 20-74% students receiving free or reduced lunch (N = 13), and high-poverty schools had 75-100% students on subsidized lunch programs (N = 4). The questionnaire given to participating teachers (all teachers in every school) in spring had an 89% return rate. Researchers grouped teacher responses into three major categories: a) teachers' educational attitudes and beliefs, b) teachers' feelings about teaching, including feelings of self-efficacy as a teacher, and c) teachers' perceptions of school climate.

Four covariates were measured to differentiate between different types of school and teacher characteristics: poverty status, teacher ethnicity (white vs. non-white), level of teacher education, number of years teaching, and student reading and writing standardized test scores (achievement scores only available for some students, and only for students in third grade and above). Three Multivariate Analyses of Covariance were used to measure teacher responses on the surveys across the variables, with only the second of these analyses controlling for the covariates for achievement of upper grade student participants. The researchers found that teachers in high-poverty schools tended to be more skeptical about students' ability and potential ($p < .001$), to 'put less stock' in constructivist approaches ($p < .01$), and to be less trusting of students ($p < .001$). Students in high-poverty classes had more extrinsic control imposed by teachers ($p < .001$) and less opportunity for autonomous behavior ($p < .01$), cooperative learning ($p < .001$), participating in class planning ($p < .001$), class meetings ($p < .01$), and had fewer displays showing their work ($p < .001$). Teachers in high-poverty classrooms also put less stress on intrinsic motivation ($p < .001$), were less likely to involve students in discussion and metacognition ($p < .001$), and were less likely to have actively engaged

students ($p < .001$). Based on their belief that a constructivist approach – a more student-centered, less authoritarian, more experiential-based classroom – is more conducive to academic achievement than a pedagogy based on behaviorist principles, Solomon and Battistich (1996) concluded that the reflection of negative stereotypes and lowered expectations in low-income students' classrooms was negatively affecting their academic potential.

The regional variety coupled with the large sample size makes this study fairly generalizable for White, female, elementary school teachers. A study conducted with a more diverse teaching sample would increase the validity of the results; however, the majority of teachers in the United States are Anglo-American females, so the study is applicable to a large number of schools in which this trend holds true. Another aspect of the study that results in stronger internal validity is the control of achievement factors. The authors wanted to make sure that their results were not due to actual grades or standardized test scores of students in different classes. For purposes of this paper, it is worthwhile to note that teacher attitudes and beliefs about the lowest-income students' ability and potential did not change when achievement scores were controlled, but that other aspects of the study, such as teachers' use of external control, was different depending on students' academic achievement levels. In other words, students' test scores were a stronger predictor of teacher attitude than income status, but not of teacher behavior.

The congruency between the findings and the researchers' conclusion is supported when situated within a constructivist approach to teaching. Were a behaviourist to examine these findings, however, she might take issue with the evaluation of specific

teaching attitudes and behaviors, such as student-centered pedagogy or increased external control, as positive or negative. Solomon and Battistich's (1996) conclusions are congruent with other studies that indicate that teachers hold lower expectations for students from low-income backgrounds than they do for students in the middle and upper classes and that these lowered expectations are reflected in their practice (Bennett, 1976; Breakthrough Collaborative, n.d.; Harvey & Slatin, 1975; Rist, 1970; Rosenthal & Jacobson, 1992; Long & Long, 1974; Williams, 1976). These findings are also consistent with Rist's (1970) suggestions that more authoritarian classrooms are less conducive to student interest and learning.

While Solomon and Battistich presented disturbing information about teachers' attitudes and behavior toward low-income students, the researchers did not actually study the long-term academic effects of negative teacher beliefs and practice on their students. The question of whether or not teacher expectations actually influence student performance surfaces through research on educational psychology. Alvidrez and Weinstein (1999) addressed this issue in their quantitative study on early teacher perceptions and later student academic achievement. Their results showed that teachers' over and underestimations of student potential at age 4 were moderately correlated to student GPA in high school - the higher the predicted academic success in preschool, the higher the student GPA in high school. Students whose preschool teacher had underestimated their academic potential were more negatively affected by the misattributions of potential achievement than their peers whose teacher overestimated their potential for success were positively affected by misperceptions in the opposite direction.

Alvidrez & Weinstein (1999) based their findings on data collected in the Block and Block longitudinal study that began in 1968 and lasted for twenty years, following a cohort of 120 preschoolers through their mid-twenties. The sample for this particular study utilized the teacher perceptions and IQ scores at age four for 110 of the original sample, and included data on school grades, IQ scores, and SAT test-taking and scores at ages 11 and 18 as well. The 110 preschoolers were evenly split by gender and were heterogeneous in socioeconomic status and ethnicity. Teacher rating of intelligence (TRI) at age 4 ranged from 1 to 9 and was based on the item *appears to have high intellectual ability* from the 100-item California Child Q-Set (Block & Block, 1980). The accuracy of teacher ratings was measured using a multiple regression equation with IQ as the predictor variable and TRI as the criterion variable. The resulting teacher rating discrepancy score (TRDS) showed how much teachers overestimated or underestimated their students' potential and ranged from 2.3 (overestimation) to -2.5 (underestimation).

The researchers (Alvidrez & Weinstein, 1999) divided the preschool group into three subsets based on whether or not the teachers had overestimated (n=37), underestimated (n=36), or correctly identified the students' academic ability. A simultaneous regression analysis with rating of intelligence as the criterion variable and IQ score at age 4, gender, SES, ethnicity, and school attended as predictor variables showed that IQ score at age four (ß = .57) and socioeconomic status (ß = .32) were significant predictors of teacher ratings ($p < .01$). After controlling for IQ, the results indicated that the higher the child's SES, the higher the teacher's perception of her or his ability. Relative to IQ score, "teachers overestimated the ability of children from higher

socioeconomic backgrounds and underestimated the ability of children from lower socioeconomic circumstances" (p. 736).

A hierarchical multiple regression analysis with high school GPA as the criterion variable, child IQ, SES, and ethnicity entered as the control variables, and teacher rating discrepancy score entered next showed that, after controlling for IQ and SES (ethnicity was not a significant predictor) both linear and squared TRD scores were significant predictors of high school GPA. Together they accounted for 14% of GPA variance. Here the results directly relate to the issue of raising academic achievement for low-income adolescents; the more positive the discrepancy score, the higher the GPA of the high schooler. The relationship between teacher ratings and future academic achievement was strongest for those students whose teachers had underestimated their potential. In other words, underestimation of academic ability at age four was a strong predictor of underachievement at age 18 – a not-so-startling correlation when considered along with Rist's 1968 study that showed the different kinds of teaching and tracking that students receive and follow based on their teachers' expectations.

Alvidrez and Weinstein's (1999) findings indicated that teachers' expectations relate to students' socioeconomic status and that these initial expectations can positively or negatively affect students' later academic achievement. One strength of this study is found in its hierarchical analysis, revealing predictor affects of teacher expectations independent of the predictor affects of IQ and socioeconomic status. Another strength that helps to make the results generalizable to other classrooms which house low-income students is that the sample was mixed gender, mixed ethnicity, mixed ability, and mixed socioeconomic status. If the sample size had been larger, the findings might be more

reliable. Another limitation of the study is the reliance on IQ tests to measure intelligence. There are many kinds of intelligences such as interpersonal, intrapersonal, musical, or tactile that are not measured by the IQ tests. Teachers can see the potential of their students in these areas, along with the students' social skills and classroom behavior, as well as their score on a test which may account for the discrepancy rating.

If their expectations do play a strong role in student academic achievement, teachers may actually be better predictors of student future success than the IQ score, and the teacher rating discrepancy score may be more accurate than Alvidrez and Weinstein (1999) suggest. The moderate correlation ($ß = .32$, $p < .01$) between teacher ratings and student socioeconomic status when IQ was controlled, however, indicates that factors outside of intelligence or academic ability are playing a role in the formation of teacher expectations, and that these expectations, as indicated by Rist's (1970) findings, may influence how teachers structure ability groups in their classrooms and replicate larger societal class divisions.

Brophy and Good (1970) set out to expand Rosenthal and Jacobson's (1968) *Pygmalion* findings by uncovering some of the mediators between teachers expectations and students' academic achievement. They observed four teachers in four first-grade classrooms in a rural Texas school district serving primarily low-income students. Their findings showed how teacher expectations reveal themselves through the quality of interaction and the differential types of feedback that teachers give those students whom they perceive to be high achievers or low achievers. The researchers concluded that teacher expectations influence student performance and that teachers must be aware of

their own discriminatory practices and of the different ways that they respond to and interact with students.

The subjects in this study were chosen after the researchers asked each of the four teachers to "rank the children in their class in the order of their achievement" (Brophy & Good, 1970, p. 366). This question was purposefully left open to elicit descriptive, subjective responses. The researchers then chose the three highest ranked students in each class to be the "highs" and the three lowest ranked students to be the "lows". Over two full mornings and two full afternoons, two researchers observed each class from the back of the room, noting those interactions between teachers and individual students, ignoring interactions (except for open-ended questioning) between the teacher and the whole class. Observations were coded for source of feedback initiation and different types of verbal and nonverbal interactions. Interrater reliability was controlled through pilot observations, and each observer took turns observing only the highs or only the lows.

Some results were recorded in terms of number of times the highs or lows exhibited a certain type of behavior (such as hand raising) or in terms of a percentage of times a situation occurred within a given type of interaction such as percent of negative feedback given after an incorrect response. The results indicated a significant difference for many of the observations between teacher behavior toward the highs and toward the lows. The highs sought out the teacher and initiated interactions with her more than the lows, especially for work-related interactions such as showing the teacher class work or asking her questions about the lesson ($p < .05$). They observed more teacher-afforded behavioral criticisms for the lows than for the highs ($p < .01$). Also, Brophy & Good

(1970) noted that teacher expectancy consistently predicted rates of teacher praise ($p < .001$) and criticism ($p < .001$); the higher the expectations, the more frequent the praise and less frequent the criticism. Finally, and most tangible for the issue of raising academic achievement of low-income youth, teachers were more likely to demand and reinforce quality performance in the highs than in the lows. For example, teachers praised highs more often for correct answers ($p < .05$), did not criticize them as much for incorrect answers ($p < .01$), gave highs more chances to correct a wrong answer with clues or rephrasing of the question ($p < .01$), and were less likely to follow a response from one of the highs without any feedback whatsoever ($p < .001$).

The small sample size complicates the generalizability of this study. However, the researchers (Brophy & Good, 1970) point to significant variations between teachers, their classroom techniques, and their frequency of differential kinds of expectations and feedback, yet consistent patterns emerge across each classroom that lend validity to the findings. As the students were first graders, another factor that complicates the generalizability of the study is that the results are based on students much younger than adolescents. It is important, therefore, to consider this study in light of Rist's (1970) findings that show continuing affects of early teacher expectations in the primary grades and Alvidrez and Weinstein's (1999) findings that show how teacher perceptions in preschool may have bearing on students' high school grade point average. Overall, the results of Brophy & Good's (1970) study offer tangible ways for teachers to begin bringing equity into the classroom. By becoming more aware of their own discriminatory expectations and then monitoring their patterns of feedback and opportunities for

learning, Brophy & Good (1970) suggested that teachers might raise academic achievement for all students.

Unlike the afore critiqued studies, Williams' (1976) quantitative analysis of the influence of teacher expectations on student academic achievement indicated that expectations do not affect *learning* as it appears on standardized assessments although they do affect teacher assigned school grades. He concludes, therefore, that schools do operate on a meritocratic system, and that the achievement gap as measured by standardized achievement scores which reflect student learning, is a result of lower cognitive function of students in lower socioeconomic groups, not a result of lowered teacher expectations. All students, then, have the same access to learning opportunities, but some have what it takes and some do not (or do not try as hard). Williams does insist that teachers need to be aware of how their cognitive and normative expectations of their students influence their perception of student performance within the classroom, and to be more equitable in their assignment of student grades that will end up influencing students' access to higher education.

His findings came from data on 10, 530 students (5, 458 males and 5, 072 females) living in Toronto in the Carnegie Human Resources Data Bank, a five-year study of all high school students in Ontario, Canada. Interested in how much teacher expectations accounted for the socioeconomic achievement gap, Williams used a model to estimate the affect of teacher normative and cognitive expectations of their students on student academic achievement. Over two years, the teachers and students of the study were given questionnaires and tests. Academic achievement was measured by two standardized tests (the CTGI, a test of general information; and the CATE, an English

language achievement test). Normative expectations were based on teacher appraisal of students' classroom behavior: reliability, cooperation, and industry, while cognitive expectations were based on teacher ratings on a five-point scale of their perceptions of a student's likelihood of completing the fifth year of high school (the university entrance year). Teachers' cognitive ratings were aggregated for each student and teachers were asked to rate students in different school tracks on the same basis. Background variables relating to student socioeconomic status, gender, and ethnicity were also included in the model via information in the Data Bank, however, a limitation of this study was the parental income was unavailable and socioeconomic status was based on parent educational attainment and profession.

The path regressions of estimated variables showed that teachers' normative expectations have positive relationships with teachers' cognitive expectations, .62 for males and .41 for females ($p < .05$); "Better behaved students are seen as brighter students" (Williams, 1976, p. 232). The data also indicated that teacher prophecies are self-fulfilling in the sense that teacher grades reflected both kinds of expectations. For males, the effects of normative expectations (.27) and of cognitive expectations (.23) were exceeded only by the effect of student past performance (.36). For females the effects were similarly noticeable for normative expectations (.27). The results for teacher expectancy effects on standardized tests scores are quite different, however, challenging the literature that suggests teacher expectations affect student learning. Williams contended that standardized tests are an accurate assessment of student learning, and that the coefficients between teacher normative expectations and teacher cognitive

expectations and student test scores are small enough to be considered not influential in achievement.

Three major limitations of this study are its reliance on standardized test scores as a means of assessing student learning, the aggregated teacher ratings of student classroom behavior and potential, and the lack of parental income information as an indicator of students' poverty status. It is difficult to measure learning by a standardized test considering how many forms learning and comprehension take (Dewey, 1938; Miller, 1993; Rogoff, 1990; Zull, 2000) in and outside of the classroom. Relying solely on this measure takes away from the possibility that other forms of learning are being affected by teacher expectations. In the case of this particular study, however, the researcher is pointing to the fact that a testing instrument that is not controlled by the teacher is outside of the influence of teacher expectations. This factor distinguishes Williams' use of standardized tests from other studies that rely on standardized test scores to measure learning without looking at teacher grades, even though both kinds of scores affect a student's academic achievement. In Williams' study, the standardized test may say something about the relationship between teacher expectations and a student's ability in relation to others to answer questions on a random test, but it does not necessarily speak to whether or not a student is *learning* anything compared to her peers. This paper's focus is on increasing the academic achievement, or learning, of low-income students and therefore the reliance on standardized tests as a measure of learning is a limitation of this study.

The second limitation has to do with the overall ratings given to entire tracks of students. By using aggregated teacher ratings, the researcher foregoes the individual data

that might explain different effects, positive and negative, of expectations on different kinds of learning. In asking teachers to come to an agreement about a student's behavior or potential, one is also risking self-censorship if teachers do not want to appear to be more or less critical than they may be when other teachers are not present. Finally, the researcher himself indicated the limiting factor of the SES measure in this study. Without household income information, it is difficult to assess the relationship between teacher expectations and student poverty levels.

Two strengths of the study are its large sample size and its assessment of two kinds of expectations and two kinds of academic achievement. The moderate to strong relationship between teachers' normative and cognitive expectations offer a clue to teachers about their assumptions of student academic potential based on classroom behavior. Supporting Payne's (1996) assertion that there are different codes and rules, some hidden, others more overt, between economic classes, Williams (1976) observed that middle class students often exhibit more socially appropriate behavior in classrooms while low-income students may be less familiar with classroom norms and codes of conduct. The findings of this study indicate that this discrepancy may account for some of teachers' lowered cognitive expectations for low-income students and, in turn, affect the assigned grades for low-income students. Teachers can begin to shift their expectations by acknowledging this inherent bias and working to counter their stereotypes.

Farkas, Grobe, Sheehan, and Shuan (1990) found similar relationships between teachers' perceptions of students' academic potential and classroom behavior. They focused on cultural resources of students, both cognitive and noncognitive, to determine

the effects of a student's basic skills, and her teacher's perception of her work habits, disruptiveness, and appearance on her school grades. Their findings pointed to the fact that both "functionalists", what I have termed those in support of a meritocratic perspective of achievement, and revisionists are correct: teachers are not biased toward students based on socioeconomic status or ethnicity but they do reward students for "citizenship" over and above cognitive (test score) performance with higher grades. In other words, teachers give all students a fair chance, so a student's ability and work ethic should determine his or her success. However, teachers give higher grades to students who can exhibit proper classroom behavior, and may therefore unknowingly reward students from middle and upper class backgrounds thereby perpetuating social class hierarchy. The most striking finding of this study and the one that relates most to the issue at hand is that students who are perceived as more organized, who teachers think do more homework, and who appear to put in more effort and participate more in class received higher grades than students whose teachers reported perceptions of poorer work habits, even when course mastery is controlled for ($p < .05$).

The study used student and teacher background data, Iowa Basic Skills Test scores, district-wide curriculum-referenced test scores, and teacher questionnaires for 486 seventh and eighth graders in social studies classrooms in a southwest urban school district (Farkas, Grobe, Sheehan, & Shuan, 1990). The questionnaires were conducted over the phone; the rest of the data was compiled from the records of the district. Students were racially and ethnically diverse and about half qualified for free and reduced lunch. Their analysis first examined course grades in relation to basic skills, teacher judgments of work habits, disruptiveness, and appearance. Then they plugged

teacher and student characteristics and interactions into the equation, and finally added the coursework mastery – the independent variable that actually said something about student achievement in the school subject – to the regression.

The findings challenge Rist (1970), Alvidrez and Weinstein (1999), and Solomon and Battistich (1996) who found that teachers' perceptions of student behavior and cognitive potential are more negative for low-income students than for their middle and upper-class peers (Farkas, Grobe, Sheehan, & Shuan, 1990). They support Williams' (1976) findings, however, in that teachers' perceptions are related to student noncognitive behaviors in and out of the classroom. By examining students' scores on a basic skills and a curriculum-based standardized test instead of on an IQ test, the researchers strengthen the generalizability of their results to students' learning of specific subject material. Another strength of the study for the paper at hand is its focus on middle school students in social studies classes who represent a variety of economic and ethnic backgrounds. Teachers of low-income adolescents will invariable find themselves standing in front of a diverse classroom of teenagers. The teacher questionnaires, however, administered over the phone and by the researcher, are subject to lower reliability because of the subjectivity in tone of voice, the desire to speak highly of students, and the potential for researcher bias. On the one hand, the teacher may not want to come across as overly judgmental; on the other hand, the researcher may probe for specific kinds of responses to match a preconceived theory.

Overall, the results of this study indicated that teachers' expectations are related to student behavior in the classroom (Farkas, Grobe, Sheehan, & Shuan, 1990). The authors suggested that teachers, as gatekeepers, must consider the "interrelatedness of

structure and culture" (p. 141) to determine how much their classroom is set up to reward one group's cultural resources over another's. For teachers of low-income students, raising academic achievement may mean reconfiguring the classroom structure to better utilize the cultural resources of poor students, or more explicitly teaching students from poverty backgrounds the cultural norms of the middle class.

Teacher expectations are expressed in different ways. Krampen (1987) quantitatively investigated the differential effects of three kinds of written teacher comments – social-comparison, subject-matter, and intraindividual – on high and low-performing students' mathematics grades, their attitudes toward school, and their motivation for cognitive tasks. He found that social-comparison comments had the most negative affect on students' math scores, motivation, and attitude toward school. More specifically, "socially-oriented teacher comments resulted in very low expectancies of improvement for low-performing students and in high expectancies for students with satisfactory performance. Thus, this type of comment further accentuated existing differences between performance groups" (140). Intraindividual and subject-matter comments, on the other hand, led to improved grades, and individually-oriented comments were significantly more effective ($p < .05$) than subject-matter-oriented comments. None of the comments had a long-term effect on student math scores or their cognitive-motivation, but the effects of differential teacher comments did appear to continue to affect students' attitude toward school even a semester after the comments had stopped. Krampen's findings suggest that teachers who give students feedback on the subject matter and on their personal progress are more likely to raise academic

achievement in their classroom then teachers who compare their students to each other as a way to encourage achievement.

To obtain these results Krampen (1987) put 385 6th-10th graders in thirteen German math classes and their thirteen teachers (none of whom usually wrote comments on student exams) into one of four experimental groups to receive teacher comments on their exams: Group 1 = socially-oriented comments (you are better/worse than her/them); Group 2 = subject matter-oriented comments (you can do the formula correctly, but you got the answer wrong); Group 3 = individually-oriented comments (your score this time is better than your last one); Group 4 = no comment (control). Teachers were given training and manual for specific comments, and experimenters randomly checked 6-10 exams for each teacher every exam confirming a "high fidelity of treatment implementation" (86% of all checked comments were totally right, and 14% were only somewhat wrong). Teachers wrote comments on every exam, and only wrote comments on exams for the first semester. Students were tested at the beginning and end of the experimental semester, and then again at the end of the second semester to monitor lasting effects of the treatment. Results from the pretest revealed the same or more difference within each experimental group as between the four.

The author draws conclusions that are congruent with his goal (Krampen, 1987). His sample covers a large range of ages, and within group differences matched or exceeded between group differences to control for confounding variables within the groups. In other words, students were as or more different from each other in their own experimental group than they were from students in other groups. Another strength of this quantitative study is its duration. Unlike some studies that observe expectancy

effects over four or five random classes, this study followed its subjects for a semester and follows up with them four months later, after experimental conditions were removed. For educators who teach low-income students throughout a semester or even a year, not for a few isolated class periods, this approach adds particular strength to the study's findings.

It is difficult to generalize the results of this study to a low-income population, however, because Krampen does not provide information pertaining to the students' individual backgrounds. It is also important to consider what kind of non-verbal cues and non-test comments the students are receiving from their teachers. As Rosenthal and Jacobson (1968), Rist (1970), and others pointed out, many types of expectations are communicated through means other than test or paper comments. For example, the number of times a student is called on or the amount of wait time the student is afforded for a response could change the results of this study that could counter or support the effects of the test comments. The robustness of the overall findings, that social-comparison feedback hurts low-performers the most and that intraindividual and subject-matter comments are the most conducive to academic achievement, encourages teachers of low-income students, often considered low achievers or tracked in the low-ability groups (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996) to consider ways to construct their comments and feedback to raise academic achievement in their students rather than to impede their progress.

In U.S. public schools, low-performing students are grouped within classes, as in Krampen's (1987) or Rist's (1970) studies, and are also tracked between classes.

Abraham (1989) set out to test Hargreaves' and Lacey's differentiation-polarisation theory that "academic differentiation by the school creates a polarization of subcultures within the pupil population, between those dominated by pro-school values and those dominated by anti-school values" (47). Lacey emphasized that the processes of differentiation and polarization perpetuated social class differentiation. Like Farkas, Grobe, Sheehan, & Shuan (1990), Abraham (1989) was also interested in the relationship between students' noncognitive behavior and teachers' cognitive expectations of them. He specifically wanted to observe how teachers differentiate between students "by a ranking system in which 'academic performance' and 'behavior' converge" (53). His year-long ethnographic study found that students grouped in higher-ability tracks have more pro-school values than their peers in the lower-ability groups, and that teachers tend to rate their students' behavior more negatively the lower the student is in the school tracking system. An interesting finding is that this latter observation is present within and between tracks, meaning that teachers rate students in the bottom of a particular class as worse behaved than their higher-performing peers, and that the average rating for students' behavior in the lowest-ability classes is lower than for students in the higher-ability classes.

Abraham (1989) observed the 'setted comprehensive' (a British term for a comprehensive high school that tracks by each school subject, not across the bar) for one year. Three hundred students in their fourth year were grouped into three ability levels based on a composite score drawn from the five levels of English, math, and French classes in which they were enrolled; the highest-ability English, math, and French classes received a 'score' of 1, and the lowest-ability classes had a score of 5. Students were

grouped within the school in such a way that the majority of students in the top English class were also in the top or second-highest French and math classes. Similar groupings occurred at the lower end of the setted system. Students were therefore grouped by their composite scores and 145 students (males = 56, females = 89) in the high-, middle-, and low-ability groups were observed for purposes of this study. After accounting for absenteeism, 127 mainly white students from diverse socioeconomic backgrounds completed questionnaires about their attitudes toward schooling and post-high school plans. Abraham (1989) also observed school friendship groups to give an alternative perspective on students' value-orientation. To obtain information about students' actual performance and classroom motivation and behavior, he noted the rate of each students' missed assignments, any formal disciplinary action taken against the student, and their course grades. Finally, and central to the hypothesis that teachers' perceptions of student behavior and cognitive ability are reflected in the students 'rank' within the school system, Abraham (1989) administered surveys to each of the teachers and asked them to rank their students on a scale of one to ten on 'academic performance' and on a scale of one to five on 'behavior'.

A major limitation of this study is the teachers' subjective interpretation of the behavior scale (Abraham, 1989). A student that one teacher might have ranked as a five, another teacher might have considered a three. Observing actual reported 'bad behavior' helped to decrease the potentially misleading information gained from these studies; students whose teachers rated them low on the behavior scale, also had more trips to the principal's office. Another way that Abraham (1989) covered his bases was by calculating students' motivation and school values through personal observations,

homework assignments, and questionnaires. Using three measures helped to lend validity to his findings that supported Hargreaves' and Lacey's differentiation-polarisation hypothesis.

Abraham's (1989) findings indicate that students with pro-school values tend to view academic achievement as a step toward future higher education and career success. They wanted teachers to be fun, but serious and desirous of helping them achieve academically. Students in the lower sets, who tended to have more anti-school values, wanted teachers who were not serious, but rather, who joked around and did not punish them so much. The fact that his study pointed to a positive relationship between teacher perceptions of classroom behavior and their expectations for cognitive ability lends some insight into the differentiation-polarisation hypothesis. Teachers in the lower-ability classes view their students to be less well behaved and this perception may lead them to believe they have less academic potential which perpetuates the continued separation of high and low-ability groups. These results suggest to teachers of low-income adolescents that shifting teaching strategies to challenge students with more rigorous curriculum and to support them in higher education goals may help to change their attitude about school or their track placement or both.

Supporting research by Solomon and Battistich (1996), these assumptions and expectations of 'low-achievers' are reflected in teachers' classroom practice where discipline is high but academics are not taken as seriously. Abraham (1989) noted that the systematic tracking of low-income students into low-ability groups perpetuate social class differences because low-income students find themselves in classroom environments that are less conducive to learning than college-prep tracks. Aside from

recommending a detracking policy, Abraham's research asks teachers of low-income and low-ability students to check their assumptions at the door, to implement a more caring but structured classroom environment, and to hold high expectations for all of their students by considering class-cultural differences in behavior norms.

Two studies by Brattesani, Weinstein, and Marshall (1984) examined the student mediation model of teacher expectation effects which "proposes that students acquire information about their abilities by observing the differential teacher treatment accorded high and low achievers" (p. 236). They concluded that in classrooms in which students perceive high-differential treatment from the teacher, teacher expectations and attitude were strong predictors of student expectations and achievement.

The first study measured students' perceptions of teacher expectations using teacher and student questionnaires for 101 third, fourth, and fifth graders in seven classrooms in an urban, ethnically diverse school district. In February, teachers in these classrooms ranked all of their students on expected year-end achievement in reading. The range of expectations was present in each classroom so the ranks were standardized and subjects were rated relative to their peers. In late February and March, students were randomly assigned a 'high- or low-achiever form' and filled out the Teacher Treatment Inventory (TTI) to indicate the frequency of certain teacher behaviors toward the hypothetical high- or low-achieving student indicated on the form. Finally, students filled out the Teacher Treatment Inventory Self-Rating (TTI Self-Rating), indicating how often certain teacher-student interactions occurred for them personally. Questionnaire instructions and items were orally administered to students to minimize effects of

different reading abilities. Grades were determined by standardized reading test scores, and collected from the prior year and at the end of the year of study.

Classrooms were classified as high- or low-differential treatment environments based on the scale ratings on the Teacher Treatment Inventory. In the low-differential treatment classrooms, student perceptions were not significantly correlated to prior achievement or teacher expectations. In other words, their perceptions of teacher treatment on both the hypothetical and self-rating scales were not significantly related to actual teacher expectations or student prior achievement. In high-differential treatment classrooms, however, students treated as high achievers had significantly different perceptions of teacher treatment than students treated as low achievers ($p < .05$). Students with high prior reading achievement or higher teacher expectations perceived high teacher expectations, greater opportunity and teacher choice. Students with low prior reading scores or low teacher expectations perceived more negative feedback and teacher direction from teachers. The study supported previous findings that showed the strong relationship between student perceptions of teacher expectations, prior student performance, and actual teacher expectations in classrooms where teachers highly differentiate between ability groups.

The small sample size of classrooms ($N = 7$) of this study makes its results difficult to generalize the aggregated data beyond the specific district in which the study was conducted (Brattesani, Weinstein, and Marshall, 1984). Also, the conclusions drawn about a study of elementary school students may not be readily applied to high school students. Also, it is challenging to take student perceptions of teacher treatment at face value. Students may have difficulty separating a teacher's treatment from her grade

assignment. However, administering two surveys to determine student perception of teacher treatment, toward hypothetical high- and low-achievers and toward themselves, strengthened the findings regarding high- and low-differential treatment classrooms. The significant correlation between student perceptions and teacher expectations in high-differential treatment classrooms also validated the student responses on the Teacher Treatment Inventories.

The findings in this study suggest that teachers in diverse classrooms be aware of their classroom groupings and differential treatment toward students whom they perceive to be lower achievers. If teachers differentiate too much between students, Brattesani, Weinstein, and Marshall (1984) argued that students can tell, and that this could affect their achievement and motivation in the classroom. Students considered high achievers tended to feel their teachers held high expectations for them, gave them positive feedback, created opportunities for student choice, and allowed more student autonomy in classroom activities. Teachers should consider ways to bring these behaviors into their classroom interactions with students of all ability levels.

In their second study, Brattesani, Weinstein, and Marshall (1984) hypothesized that teacher expectation effects would be more pronounced in high-differential treatment classrooms, and that these expectations would have a more significant impact on student expectations and year-end reading achievement than on students in low-differential treatment classrooms. The researchers administered the same teacher and student questionnaires to 234 fourth, fifth, and sixth graders in a diverse, urban school district with the difference being that teachers also described their expectations of students' overall school work on top of their year-end reading achievement. These ratings were

highly correlated (r = .95 in high-differential treatment classrooms and r = .93 in low-differential treatment classrooms) and indicated that teachers' specific expectations are related to their global expectations for their students. That means that teachers' predictions for student success in their specific classrooms is similar to their predictions for students' overall school success. In this study students also indicated their personal expectations for year-end reading achievement and for overall schoolwork performance relative to their classmates using a modified self concept of attainment scale. Again, questionnaire items were read aloud and grades were determined by Comprehensive Test of Basic Skills Reading Achievement Test scores from the previous and current year-end tests.

In this study, differential-treatment status was determined as in Study 1. To distinguish high and low achievers, researchers used students' previous reading scores and their teacher expectations of achievement. The correlation between these two determinants were slightly different in high- and low-differential treatment classrooms (r = .77 and r = .69 respectively), indicating an effect of teacher expectations beyond prior achievement on year-end reading achievement. Another difference between this study and the previous study described was that the researchers chose the student to be the unit of analysis in order to examine individual differences within classrooms. Regression analyses performed for the overall classroom found individual analyses largely representative of the findings for each classroom, thus supporting the findings from Bratesani, Weinstein, and Marshall's first study that used aggregated student data.

Hierarchical regression analyses of the data found that teacher expectations predict student outcomes beyond the predictive effects of prior achievement. In both

types of differential treatment classrooms, teacher expectations accounted for 2% to 7% of the variance in student expectations and achievement ($p < .001$). When comparing the high- and low-differential treatment classrooms, however, the analyses indicated that prior achievement and teacher expectations affected student year-end performance in significantly different ways ($p < .05$). Prior achievement tended to be a better predictor of year-end achievement in low- than in high-differential treatment classrooms (68% versus 57% of the variance, $p < .001$), but teacher expectations tended to be better predictors in the high- than in low-differential-treatment classrooms (14% versus 3% of the variance, $p < .001$). Regarding student expectations of personal performance, student learning in classrooms where students perceived more work- and rule-oriented teacher practice for low-achievers compared to higher expectations, opportunity, and choice for high-achievers (Mean reading gain on placement test for High Achievers = 1.59; for Low Achievers = 1.40) were more influenced by teacher expectations than their peers in low-differential-treatment classrooms (High Achievers = .38, Low Achievers = no change, $p < .05$). In other words, students in low-differential treatment classrooms benefit from a teacher that holds similar expectations for each of her students, regardless of prior performance.

A final result of the study that is relevant to the issue of raising achievement for low-income students, due to their disproportionate representation in low-ability groups, is that teacher expectations accounted for 9% to 14% of the variance of student achievement in high-differential-treatment classrooms compared to 1% to 5% of the variance of student performance in low-differential-treatment classrooms. Similarly, student expectations for personal performance reflected previous research findings that

students internalize teacher expectations, especially in classrooms that students perceive to be high in differential teacher treatment for students of differing abilities (see, for example, Rist, 1970).

Brattesani, Weinstein, and Marshall's (1984) second study offered insight into teacher expectation effects on student performance outcomes in high- and low-differential-treatment classrooms. The older sample helps to make these results more generalizable to adolescents than the sample in the first study. Again, student perceptions of teacher treatment toward themselves have a positive relationship with their perceptions of treatment toward hypothetical students, their prior achievement, and with actual teacher expectations, supporting a student mediation model of teacher expectation effects. This means that students tend to accurately interpret teacher expectations based on the differential teacher treatment of high and low achievers.

In both studies, researchers controlled for different reading levels by reading the questionnaire items out loud. On the one hand, this method is a strength because it avoids the problems of low-comprehension rates between subjects. On the other hand, this method is a limiting factor because of the, perhaps unintentional, affects of researcher bias through tone of voice or questioning pace. Were a researcher to notice a pattern for student responses in a particular class that were, for example, describing their teacher as highly differentiating in her expectations and behavior, that researcher may inadvertently stress or rush through certain questions so that students in that class might answer in a way that was consistent with the pattern.

When considering the two studies together, the researchers Brattesani, Weinstein, and Marshall (1984) concluded that students can perceive differential treatment from

teachers and that these perceptions have a significant positive relationship with student performance and expectations in high-differential treatment classrooms. It is not clear from the article whether or not the students sampled in this study were in similar types of classes. They all came from the same school district, but different kinds of curriculum and class structure might impact the results. For example, some students might be in remedial reading classes, others in honors classes, others in physical education classes. Is it more reasonable that teacher expectations might vary considerable depending on the type of class?

In light of this limitation, teachers of low-income students can consider the findings of this study with caution. In classrooms with students of differing abilities, a highly likely scenario, Brattesani, Weinstein, and Marshall (1984) encourage educators to implement teacher practices that communicate positive feedback and consistent high expectations, and to offer choice and opportunity for autonomy in classroom activities for all students, not just for those who appear to be high achievers.

Schooling Expectations

Different expectations are presented to students directly from their teachers but also via the track in which the student is situated as she approaches high school completion. High schools across the United States generally have at least three tracks, or ability groups, for students. College-preparatory tracks give students the classes and credits they need to attend a four-year institution. General education tracks or ability groups offer students curriculum that gives them credits they need to graduate, but not necessarily what they need to attend a post-secondary institution of higher learning.

Some schools have vocational tracks that prepare students to enter two-year programs and some have remedial tracks that help students to catch up if they missed or failed a required class. Regardless of how a school tracks its students into different kinds of classes, most high schools offer different learning environments and opportunities to students based on their perceived ability.

Gamoran (1987) followed the impact of school conditions on academic achievement noting school structures that offer students different experiences and how those experiences affect achievement. He found that curriculum differentiation contributes to association between student socioeconomic status and achievement. When controls for tracking and dropping out are introduced, most of the effect of SES declined to a point where the differing achievement results are insignificant. The findings show that high-SES students achieve because "they have more advantaged schooling experiences" (they are in more rigorous/challenging classes in the academic track) not because they are smarter. High-SES students are less likely to drop out, more likely to be found in the college track, and more likely to take advanced classes. "When these experiences are held constant, SES has little effect on student achievement" (142). In other words, all students in the more rigorous courses, regardless of their social class, have a higher likelihood of graduating and going to college than the students in lower-ability courses. Contrary to Murray and Herstein's (1994) findings, Gamoran (1987) found that poor people to not stay in cycles of poverty because they are less intelligent, but because institutions such as schooling hold them back.

It is also important to note the findings that "perceived" school track is correlated with academic achievement. Gamoran (1984) found that even when school setting, prior

achievement, and other background variables are controlled, students who perceive themselves to be in a college-bound program have higher test scores, especially in math (college prep students scored 3.214 points higher than vocational track students, 40% of the standard deviation of the math test, $p < .05$). Gamoran (1984) also found that achievement differences are greater between students in different tracks than between students in basic/vocational track and dropouts ($p < .05$).

To arrive at these conclusions, Gamoran (1987) used the High School and Beyond Data collected by the National Center for Education Statistics from a national sample of high school students (1980). The national data included survey responses and school transcripts for around 20,000 students from public schools (dropouts included). Gamoran (1987) looked at the 1980 sophomore data and 1982 follow-up data for the same students to determine ways that different tracks influence student academic performance. He used ordinary least square regression equations for six dependent variables – 1982 achievement test scores for math, science, vocabulary, reading, writing, and civics) – against a host of independent variables including student SES, school SES, and track (academic, general, and vocational). Gamoran was interested in how a student's perception of their abilities impacted their achievement so he relied on 'perceived' school track because it is more relevant to the research than what the school records showed.

Strengths of this study are its large sample size, dually-stratified sample, and focus on individual student data. A limitation is its reliance on standardized test scores as the sole determinant of student learning and on student perceptions of their school placement. School grades and class rank are other ways to measure student achievement; a student may not accurately report their abilities. A teacher of low-income students,

however, can generalize these results to high school students because of the emphasis on high-stakes testing under the current No Child Left Behind requirements, and because of the strong correlation between socioeconomic status and track placement.

This study found that low-income students were disproportionately found in low-ability tracks, and that students in these tracks made less academic progress on standardized test scores between their sophomore and senior years in high school (Gamoran, 1987). Teachers of students in the general, vocational, or remedial tracks must consider these findings because equitable learning opportunities require a change in pedagogy that reflects rigorous curriculum generally found only in academic tracks. Gamoran's recommendation for teachers is to open their honors level and academic track classrooms to all students, regardless of previous test scores, and to be aware of socioeconomic class bias that may preclude low-SES students from entering higher-level courses. If students perceive themselves to be on a college-bound track, then, according to Gamoran's findings, they are more likely to be academically successful.

Nearly one decade later, Gamoran, Porter, Smithson, and White (1997) addressed the more tangible changes in school tracking and curriculum differentiation policies in a study that examined the effects of transition math courses that function to bridge the gap between basic and college-preparatory mathematics courses on student achievement in math. Gamoran and his colleagues (1997) found that student achievement in these transitional classes was slightly, but not significantly, greater than in the basic math courses, and also not significantly lower than achievement in the college-prep courses. They concluded that the gains in academic achievement were due to a more rigorous

curriculum, and that these courses were partly successful in their goals of raising mathematical achievement levels for low-achieving, low-income students.

Gamoran, Porter, Smithson, and White (1997) sought to test the hypotheses that academic progress in transition courses would be similar to progress in academic courses but greater than in more basic courses, and that this progress is attributed to more complex cognitive demands and a more rigorous content curriculum. After eliminating students who were not present for at least two of three testing periods, the final sample size was 882 students in seven high schools in California and New York states. Districts adopted different transitional programs, such as Math A, designed to integrate college-prepatory material with national standards and emphasizing understanding and reasoning over memorization; Stretch Regents, a revision of the more traditional Regents Math I-II-III that gives students more time to learn college-prep material; and University of Chicago School Mathematics Project (UCSMP), a six-year program that emphasizes problem-solving and real-world applications.

Student participants were in one of three kinds of math classes: basic (general, pre-algebra), transitional (Math A/B, UCSMP, Stretch Regents), or college-preparatory (algebra, Regents). The researchers created a standardized test oriented toward higher-order thinking and problem-solving skills, on which 75% of the questions were multiple choice and 25% were short-answer, administered by the teachers in the schools three times over the course of the year. Teachers in the study reported the amount of instructional time spent on each of six levels of cognitive demand from basic memorization of facts to solving novel problems. Questionnaires were also given to teachers to ascertain the level and configuration of coverage of each of the items on the

standardized test. The researchers were most interested in the interaction effects of level of coverage and configuration of coverage on student achievement as measured by the standardized test. They noted the challenge of content presented by teachers and the time spent on each topic covered in the test. The indicator measured is the product of level and configuration and was highest in the college-preparatory classes (Means = .047 and .047), followed by the UCSMP (.042), Math A/B (.038), and Stretch Regents (.037), with the lowest coverage in the general and pre-algebra classes (.026 and .028 respectively). Student background variables such as gender, ethnicity, and previous math grades were obtained from student questionnaires, while socioeconomic status was determined by teacher ratings on a scale of 1 to 5.

A three-level hierarchical regression model was used to determine a) individual achievement of student growth over time, b) differences between students within classes, and c) differences between classes. Gamoran, Porter, Smithson, and White (1997) measured achievement by comparing a student's score on the researcher-constructed test at the beginning of the study period and at the end. Results show that students in the lowest (general and pre-algebra) math courses learned significantly less than students in the highest (Regents) math courses over the course of one year of study ($p < .05$). Students in transitional math classes showed achievement gains somewhere in the middle of the progress demonstrated by students in the upper and lower courses. An important finding not related to the initial hypotheses is that academic gains over the course of the school year (on average about 1.7 points out of a possible 26 total points) were predicted by teacher descriptions of what was taught. The more rigorous the curriculum (the greater the depth and breadth of content coverage), the higher achievement gains ($p <$

.05). In other words, teachers who cover material tested for on this particular standardized test oriented toward higher-order thinking and problem-solving skills will increase may positively influence the achievement of their math students.

In response to these findings, Gamoran and his colleagues recommended eliminating general track math classes so that students can have equal access to rigorous curriculum. Should low-achieving, low-income students be given the opportunity to go on to college, they must be put in at least a transitional math program when they enter high school. While this suggestion is somewhat congruent with the findings of this study, they might also be accepted with caution. The results did not show a significant difference between students in the transitional math courses compared to those in the higher- or lower-ability classes. Teachers of low-income, low-achieving students should note the significant differences between the extreme ends of the math classes, but the more important finding to heed may be the predictive value of class curriculum on student achievement. Teachers who reported integrating higher cognitive skills into their math lessons were also the teachers of students who made the most gains on the standardized test over the course of the year. Teaching students how to solve problems and to think critically about math is strongly correlated with academic achievement, regardless of track or ability grouping.

Hallinan and Kubitschek (1999) quantitatively measured the relationship between academic achievement and curriculum differentiation. They particularly focused on the quality, quantity, and pace of instruction in different tracks and ability groups. In support of Gamoran's (1997) findings, the researchers found that assignment to the Academic track or higher ability group accelerated growth in academic achievement whereas

assignment to the Vocational track or lower level ability group slowed achievement down. They used longitudinal surveys from the 1994 National Educational Longitudinal Study (NELS) covering 11,000 eighth graders in public and private schools surveyed in tenth and twelfth grades, and from the Ability Grouping Project, a data set with information on over 4,000 students in two back-to-back eighth grade cohorts from seven high schools in the Midwest whose group placement and grades were recorded four times a year throughout high school. In both data sets, student achievement in English and mathematics was measured by student percentile scores on standardized tests. For this study, the researchers focused on the effect of tenth grade track or ability group placement on tenth-grade achievement.

To measure the unique effect of track or ability group placement on student academic achievement, Hallinan and Kubitschek (1999) used a two-step approach whereby they first regressed achievement on all factors except ability grouping and then regressed the residuals from this model on current track or ability group level. A more conservative approach showed that in both data sets, students who reported being in the general or Vocational groups had a statistically significant negative growth in English and math achievement ($p < .05$). Measuring the effects of different kinds of curriculum differentiation lends validity to the findings and makes them more easily generalizable to teachers within either a tracking or ability grouping system. Also, comparing achievement in relation to other variables *before* finding the correlation with ability group or track made the findings particularly relevant because they explain the minimum effect of ability group or track on achievement after accounting for other factors such as gender, ethnicity, or socioeconomic status. A limitation of the study, however, is that students

reported their own perceptions of placement. However, as in the case of the Gamoran (1987) study, perhaps student perceptions of ability group placement or school track are more valuable than school reports because a student's internalized conception of their abilities can have important consequences for their ability to live up to their personal potential (Rosenthal & Jacobsen, 1968).

Hallinan and Kubitschek (1999) concluded that higher-level ability groups foster growth in achievement while lower-level ability groups inhibit it, but did not recommend that tracking systems or other forms of curriculum differentiation be dismantled. Instead, the authors saw their findings as evidence that teachers in lower-ability groups need to create a positive social and learning climate that increases the quality, quantity, and pace of instruction. For example, teachers who spend more time on reading instruction will see an increase in their students' reading scores. Also, teachers in high-ability courses teach more complex material at a faster rate. Supporting a somewhat meritocratic standpoint, the researchers contended that students do have differing abilities, and that classes fit to serve their differing needs will foster the most academic achievement. The authors contended that if students in lower-ability level classes are rewarded for effort as well as achievement, then they should be able to succeed regardless of personal background.

Oakes (1982) challenged Hallinan and Kubitschek's (1999) assertions in a study that explored the Bowles and Gintis hypothesis. This hypothesis claims that ability groups do more than just accelerate or inhibit academic achievement, they function to perpetuate socioeconomic hierarchies by inuring students in different-level classes to the different kinds of work environments which they are expected to join after high school. Students in academic or college-preparatory tracks are prepared for leadership positions

by learning to work together and to think independently and critically about problems and information. Students in general or vocational tracks become accustomed to an authoritarian, non-cooperative environment, much like the more blue-collar work they will take on after graduation. Oakes' findings supported the Bowles and Gintis hypothesis, indicating that low-level classes are more punitive and authoritarian than higher tracks and that students in low-ability classes are more alienated from each other and more negative toward themselves and their futures than students in upper-level classes are. Students in the lower-ability groups are not more negative toward school than their peers, however, suggesting that youth learn to be satisfied with their placement, in school or in life, and to take individual responsibility for this placement rather than blaming the institution that segregates along, as Oakes and others observed, race and poverty lines (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996).

Discriminant analyses of variables measuring classroom structures and relationships and student attitudes toward themselves and toward school were carried out for 139 secondary English and math classrooms at different curriculum track levels. Of these classes, 75 represented high track or ability-grouped students (40 senior high and 35 junior high) and 64 were for low ability-grouped students. The schools were a subset of a larger stratified sample of classes included in the 1977 Study of Schooling dataset, and were assumed to be representative of the larger U.S. demographics. Teacher, student, and observer perceptions were included through surveys, teacher interviews, and classroom observations to assess student attitudes and classroom interactions throughout

the year. Analyses revealed socioeconomic divisions that mirrored curriculum differentiation such that students from the higher-SES levels are more likely to be found in the higher-ability groups and the reverse is true for lower-SES students.

The significant canonical correlation of .58 indicated a substantial relationship between track level and the discriminant function formed in the analysis of student-teacher relationship and teacher affect ($p < .001$). In other words, there was a noticeable difference between ability groups with regards to teacher behavior toward and interaction with their students. Student perceptions of the quality of their teachers' relationships with them and the proportion of class time spent on discipline and student behavior contributed most to this correlation. Student relationship were also perceived to be significantly different in different tracks ($R = .66$, $p < .001$). Students in lower tracks were more likely to report that students in their classes were not friendly toward them, that they felt left out of classroom activities, that there were more arguments during class time. Students in higher tracks reported less apathy, higher levels of peer esteem, and higher levels of willingness to cooperate with each other. The major finding that differentiated low track from high track learning interactions has to do with passive and active participation. Students in higher-level classes were slightly more likely to actively participate in their lessons than their peers in lower-level classes (Active student activities: $R = .32$; Active teacher activities: $R = .38$). Overall, there was a significant difference between tracks on the overall variables addressing learning interactions ($R = .43$, $p < .05$); Students in lower-ability groups had different kinds of experiences with their teachers and with each other than their peers in the higher-ability groups did. Finally, students' aspirations, academic self-concept, and general self-concept were

significantly different between track levels (R = .87, .63, and .49 respectively; $p < .001$), but their overall attitudes toward their classes and their school were not.

Tackling the Bowles and Gintis hypothesis from three angles – teacher, student, and observer perceptions – as well as focusing on four different aspects of the school experience – teacher-student interactions, student-student interactions, learning interactions, and student attitudes toward school – offered strength to this study because it explored the effects of curriculum differentiation from multiple angles (Oakes, 1982). By taking into account multiple perspectives, the researcher compensated somewhat for the one-sided responses offered by students or teachers alone. Another strength, but also a limitation of this study is its focus on the classroom as unit of analysis. By considering a teacher's treatment of an entire class, Oakes (1982) was then able to make more general recommendations for teachers of lower tracks. However, by ignoring the individual differences within classrooms, she perhaps missed out on crucial information about differential teacher treatment for students based on socioeconomic status, gender, or race/ethnicity. The congruence between Oakes' findings and her conclusions is strong in the sense that she pointed to specific ways that teachers in high-ability groups differ from teachers in low-ability classes, but some of her suggestions, such as increased open-ended questioning techniques, were not based in statistically significant findings. Recognizing that Oakes is a revisionist who advocated for detracking policies, one must consider these suggestions in light of the gap between her study's quantitative evidence and its underlying pedagogical stance.

The findings indicated that differences in teacher-student relationships, student-student relationships, teacher affect, and learning interactions exist between higher and

lower-ability groups, but that students who perceive more negative experiences in lower-ability groups do not perceive these differences as negatively contributing to their overall school experience (Oakes, 1982). Oakes suggested that students are taking personal responsibility for their track placement, buying into a meritocratic philosophy that claims some students are just smarter or more hard-working than others. Oakes, on the other hand, is interested in shaking up the meritocratic system by changing the way teachers interact with their lower-tracked students so that these students are not resolved to be less-than their peers in adulthood. She recommended that teachers in lower-ability classes practice more active listening, focus more on democratic classroom management than on punishment, and be aware of how their statements may hurt the feelings of students – all behaviors reported by subjects in this study. Noting the kinds of learning experiences that distinguished higher-ability classes from lower, Oakes also advocated for more equitable learning opportunities by encouraging cooperative groups, more open-ended questions and more active and critical participation from students. These practices, she suggested, would better prepare students in lower tracks for a variety of jobs after high school, not just for jobs that perpetuate poverty cycles between generations of low-income families.

In response to suggestions such as those advocated by Oakes (1982) or Gamoran (1987), tangible changes have been made in classrooms to tackle the issue of inequitable educational opportunities between ability groups. Weinstein, Soule, Collins, Cone, Mehlhorn, and Simontacchi (1991) qualitatively examined the effects of a teacher-researcher collaboration project geared toward raising expectations for poor and minority students within an urban, ethnicall diverse high school, regardless of track or ability-

group placement. The goal of the project was to raise academic achievement by systematically raising quality of instruction and teacher expectations for students in low-ability groups. The researchers found that project participants' GPA increased, their discipline referrals decreased, their absences increased, but their likelihood of dropping out decreased. The project was implemented during two academic years at a mid-sized urban high school with an ethnically diverse student body. Ten teachers, a vice-principal, prinicipal, counselor, and dean participated in the project. Over the two years, three teachers left the project and one teacher joined in the second year. All incoming ninth graders who were assigned to the lowest track of English classes and were not repeating ninth grade or entering the school mid-way through the year participated in the intervention. The researchers combined the data for the ninth graders from each intervention year (N = 158) and compared their progress with a control group comprised of two ninth grade cohorts (N = 154) enrolled in the years just prior to the project's beginning.

The project essentially became a school within a school program titled PACT (Promoting Achievement through Cooperative Teaching). The participating teachers filled out surveys throughout the year to rate their behavior relating to expectations across eight domains: curriculum, grouping, evaluation, motivation, responsibility for learning, class relations, parent-class relations, and school-class relations. This paper is concerned with student outcomes, specifically around academic achievement. Teachers participating in the project noted that presenting lessons in a different way (such as non-lecture formats), demanding different kinds of skills from the students (tapping into non-traditional abilities such as art or movement), brought out talents that were not evident or

expected prior to beginning the project. ANOVA tests that analyzed the changes in student GPA over time found a significant group effect ($p < .05$). Project students' GPAs (*Mean GPA* on a four-point scale = 1.70 and 1.72 in 8th and 9th grade respectively) did not appear too impressive compared to the non-project students ($M = 1.53$ and 1.51). A significant Group effect ($F = 3.89$, $p < .05$), however, indicated that project participants earned higher GPAs during the intervention year than students at the comparison school. Project students also saw a significant decrease in discipline referrals over the course of the year (8th grade $M = 5.38$, 9th grade $M = 3.64$, $p < .01$), but an increase in absenteeism in English ($Ms = 12.51$ and 15.38, $p < .01$) and history ($Ms = 11.90$ and 17.36, $p < .01$) classes compared to their eighth grade year. Another important finding is that, at the end of the ninth grade year, project students were twice as likely to stay in school as their nonparticipating peers ($p < .01$). Unfortunately, a one-year follow up for the project participants found that their raised GPAs were not sustained compared to non-project students.

A major limitation of this study is its reliance on aggregated data over two years of study. First of all, individual student differences may show important differences between project participants. Perhaps some students experienced more success with this model than others or some classes or departments were more successful than others in the program's implementation. Secondly, teachers participating in the project were likely to have become more accustomed to the project's goals and practices in their second year of teaching with the model. If the approach is a viable means for increasing academic achievement, it is likely that each year after the program's inception student GPA would rise simply due to the fact that teachers become more comfortable with the demands of

the new model of teaching as they get more practice at it. Another limitation that makes the results difficult to generalize to another population is its focus on one school. The ethnically and racially diverse cohort supports internal validity of the study, but does not extend to populations outside of the study, particularly when considering the focus of this paper on low-income youth. One might consider the number of low-income students tracked into low-ability English classes in ninth grade, but that is outside the scope of the collaborative project.

The findings, therefore, are important to consider because of the lack of data supporting positive effects of high teacher expectations, but must be read with caution because of the qualitative interpretations and limited sample. Weinstein, Soule, Collins, Cone, Mehlhorn, and Simontacchi (1991) indicated that their study points teachers in a direction toward higher expectations, but reminded educators that only one teacher with high expectations among a string of mediocre teachers with low expectations will not necessarily sustain increased academic achievement for low-achievers.

As discussed in the previous section, teacher and school expectations, through verbal comments, type of curriculum and assignment, grouping within classes, and grouping between classes have an effect on student achievement. Weinstein and her colleagues (1991) detailed a project whose aim was to raise teacher expectations in low-ability groups as a way to increase academic achievement of students perceived as low-achievers. Raising school expectations of these students by completely de-tracking them is proposed in a qualitative study conducted by Rothenberg, McDermott, and Martin (1998). These researchers found that when teachers introduced more cooperative

learning and open-ended questioning strategies into heterogenous ability classes, student performance, especially performance of low-achieving students, increased.

The researchers focused on one high school, taking on the role of participant and non-participant observers to observe four social studies and four science teachers. Students (around half of the total school population) and teachers volunteered to participate in the project, and some of the student participants were regrouped into untracked classes. The teachers participated in a workshop on cooperative learning methods and taught both tracked and untracked classes. Overall, the observers took notes for each classroom over eight class periods following four university-preparatory, four untracked, two advanced placement, and two lowest-ability classes. The researchers triangulated their data by comparing their field notes with detailed records of conversations and interviews with students and teachers, with teacher lesson plans and school records, and with each other. After the first year, 25%-30% of the students in previously low-tracked classes, now in the detracked classes, passed the standardized higher track exams, tests they were not allowed to take before the project began. These passing rates reflected the same rates of success as the higher-tracked students. Attendance rates of students from formerly low-tracked classes also significantly increased during the first year ($p < .01$)

The biggest limitation of this study is that its subjects participated on a volunteer basis. Perhaps the teachers and students who volunteered were already motivated to succeed beyond their peers prior to the project's implementation. Also, this study was conducted in a single high school and the socioeconomic or racial/ethnic breakdown of the subjects is not clear. As with the previous cited study, however, few papers have

detailed the outcomes of specific shifts in pedagogy aimed at raising teacher or school expectations, and so the findings that point to positive effects of a detracking policy and cooperative learning methods can be accepted to the extent that they are young theories which need further study.

Summary

An important piece of information emerges from these studies: When students get the message that they are going to succeed in a certain way, no matter the opportunities laid before them, it seems likely that they will to some extent internalize these expectations and act to fit them. Whether an individual teacher is sending a message that a student can succeed like all her peers, or a school is sending a more negative message by placing her in a basic math class, that student will live up to the expectations put in front of her. Oakes (1982) specifically pointed out how detrimental these lowered expectations can be for low-income youth who are often in the lowest-ability classes. Rist (1970) observed that low expectations for disadvantaged youth begin in early childhood and can keep these students in low reading and math groups as they continue down their educational path. By the time these students are in middle and high school, they have quite possibly internalized the message that they are only going to go so far in life, that they will probably not be doctors.

Some of the studies reviewed in these sections noted different attitudes and behavior of teachers of low-income or low-ability groups (Brophy & Good, 1970; Hallinan & Kubitschek, 1999; Oakes, 1982; Solomon & Battistich, 1996) and others measured the relationship between these teacher expectations and affect and student

achievement (Alvidrez & Weinstein, 1999; Krampen, 1987). Researchers also noted the relationship between 'perceived' student placement and student achievement (Gamoran, 1987). Finally, researchers advocated for detracking policies and for professional development for teachers to help them be more aware of their lowered expectations (Abraham, 1989; Brattesani, Weinstein, and Marshall,1984; Gamoran, Porter, Smithson, & White, 1997; Rothenberg, McDermott, and Martin, 1998; Weinstein, Soule, Collins, Cone, Mehlhorn, & Simontacci, 1991) and to encourage students of all abilities and backgrounds to succeed to their full potential.

Researchers such as Williams (1976) and Hallinan (1994) contended that some teachers *do* lower their expectations for students, but that many students, when given the chance to succeed, do not measure up to their peers. It is not, then, the fault of the teachers but of the student who does not try hard enough, or have what it takes, when given the same opportunity as everyone else. In the next section of this chapter, other researchers will, to some extent, support the ideas proposed in these first sections, but will also challenge those ideas that are founded in meritocracy. The studies focus on teachers and schools who have succeeded in raising academic achievement of low-income students and often suggest that an equal opportunity is not always equitable.

Visions of Success

The literature in this section is comprised of studies that discussed specific teaching strategies that raise the academic achievement of low-income students. The studies suggest strategies that support many of those suggested by Hallinan and Kubitschek (1999), Oakes (1982, 1994), Gamoran (1987), such as more rigorous

curriculum, and extend the research on this issue to include teaching strategies from raising students' self-concept to enticing low-income students with monetary incentives to implementing school-wide programs aimed at facilitating success for all people's children. The first part of the section describes select strategies, teachers and programs that have positively impacted academic achievement of low-income students. The second part discusses patterns found in high-achieving, high-poverty classrooms and schools across the country.

Specific Strategies, Exceptional Teachers, and Intervention Programs that Work

Interested in what makes a good teacher, Peart and Campbell (1991) interviewed 47 African-American young adults (mean age = 21 years old), 18 men and 29 women characterized as "at-risk" because of poverty and minority status. The researchers identified four general characteristics that distinguished effective from ineffective teachers: interpersonal skills, instructional methods, motivational leadership (or effective discipline), and racial impartiality. Participants were a subset of a larger (N = 105), longitudinal study that followed at-risk children who experienced early-age intervention in schools. The educational attainment for the participants ranged from high school dropout to college graduate. Participants were originally identified as "at-risk" for the longitudinal study because of poverty and minority status.

Participants were interviewed using the "life story" method by the first author who is trained in interview research. The interviews were a qualitative follow-up to the quantitative data collected about the participants in the longitudinal study. Researchers were interested in getting a more personal account of the participants' memories about

important people and events. The interviews were conducted mostly face-to-face; a few took place over the phone. The interviews were audio taped, transcribed, and coded around emergent themes. Participants were asked to reflect on life experiences that made an impact on their lives or that stood out, and information pertaining to school experiences was focused on for this article.

The young adults spoke frequently about caring and genuine relationships being central to their positive feelings about their teachers. But the students also stressed that teachers needed to be structured and to hold high standards for their students, regardless of race or income status. Students referred more to teacher's enthusiasm and passion for their content material than to their teachers' subject knowledge. The overall findings suggested that teachers who hold high expectations and a sincere belief in student capabilities also have more personal and authentic relationships with students.

Despite the small subject sample and ethnic homogeneity of the African-American participants in this qualitative study, educators can heed the patterns that emerge. The common themes among the participants' responses are worth considering for the fact that they were given separately and without coercion from the teachers being evaluated/remembered by the young adults. The authors of the study do not, however, claim that these four themes are *the* four areas for teachers to pay attention to, but do suggest that further, empirical research be conducted to determine the effectiveness of interpersonal skills, instructional methods, motivational leadership (or effective discipline), and racial impartiality on at-risk youth's experience in school. While this study does not explicitly connect the 'good teachers' with the resilience of the participants, I chose to begin this section with Peart and Campbell's (1991) research

because it used student voices to inform educators what types of expectations and behaviors encouraged them to achieve academically.

The high proportion of low-income students that are tracked into the lower-ability groups at all grade levels gives reason for examining studies that look into strategies for working with 'low-achieving' students. Means, Moore, Gagne, and Hauck (1979) looked at the interactive effects of consonant and dissonant teacher expectancy – feedback communication on 43 low-achieving 11th graders in a small rural high school in central Pennsylvania. The students were considered low-achieving because of their enrollment in a special reading program and their past record of low achievement. The students were categorized into six treatment groups depending on what kind of expectations and feedback they received. Neither students nor teacher were aware of the purpose of the experiment (students did not know they were being studied). The class met for 45 minutes each afternoon for 10 days, during which time students read a text and then answered questions about it. The class Teacher's Aide (TA) took on the role of experimenter and gave students specific kinds of expectations – high, low, or neutral – before they started reading, and then positive or negative feedback after their questions were scored. Typical expectancy statements included "I think that you will do very well on this lesson" (high), "What lesson are you doing?" (neutral), and "I think that you will have difficulty doing this" (low). Typical feedback statements included "You did an excellent job on the last lesson" (positive) and "You are not doing a good job on your lessons" (negative).

Students were observed after each test, and at the beginning and end of the experiment. Students received one expectancy and one feedback statement per day. TA

comments were not linked to student test results but to the experimental group to which the student had been assigned; students never actually saw their scores after they turned in the assignments. Comprehension was measured by the number of correct responses on reading assignment questions and motivation was measured by number of reading assignments completed over ten days. All students were debriefed about the nature of the experiment after the ten-day period.

Students in the dissonant expectancy and feedback combination groups performed better than students in the consonant communication groups (*M(dissonant)* = 86.70, *M(consonant)* = 81.14, $p < .01$). This means that students who received low expectancy – positive feedback statements and high expectancy – negative feedback statements got more correct responses on the reading comprehension questions than their peers who received high expectancy – positive feedback statements and low expectancy – negative feedback statements. The consonant groups scored about the same as the two neutral expectancy control groups (*M(neutral)* = 80.18).

There were no reliable differences between the dissonant and consonant groups' effort, or motivation, to complete reading assignments. Researchers posit that because reading comprehension was the factor relating to expectancy and feedback statements, students did not feel the number of units they completed would affect their performance. There was a significant difference between the neutral expectancy control groups. The group that received negative feedback finished significantly less assignments ($M = 11.54$) than the group that received positive feedback ($M = 16.33$, $t = 1.69$, $p < .10$). This finding suggests that negative feedback is more influential than positive feedback on

students' motivation if they have not received any expectancy statements from their teachers.

The researchers discussed the findings in relation to arousal and attribution theory. While the differences in comprehension scores were consistent with an arousal interpretation, that is "uncertainty increases arousal which, up to a certain point, improves attention and performance" (p. 371), the results also pointed to attribution theory, especially when considering the effects of dissonant communication on student performance. Attribution theory claims that individuals "attribute their success or failure at a task to either luck, effort, ability, or task difficulty" (Weiner, 1974 in Means, Moore, Gagne, & Hauck, 1979, p. 371). When students received positive expectations about their pending achievement, but then received negative feedback about their performance, it is likely that they concluded that maybe the task was easy and they didn't work hard enough and therefore needed to work harder in the future to live up to expectations. If they had the opposite experience, maybe students would conclude that the task was hard but that they worked hard and therefore should keep working hard to exceed expectations in the future.

The researchers set out to find out if there were any differences between dissonant and consonant combinations of expectancy and feedback statements on low-achieving students in a natural, high school setting (Means, Moore, Gagne, & Hauck, 1979). Their findings addressed both dependent variables – comprehension and effort – that the research intended to measure. They discussed different ways that they checked themselves to control for confounds. For example, the teacher did not administer the expectations and feedback because she/he may not have been as objective as the TA.

Also, the researchers observed students' comprehension levels on the first assignment, the scores only being relevant to that first set of expectations given to the students. Here they found that when expectations alone are studied, high expectations are indeed a precursor to higher performance. This finding supported the result of significant interaction between expectancy and feedback because the results for the six groups before and after they started to receive feedback were different.

Weaknesses of this study that make it difficult to readily accept the author's conclusions have to do with the type of assignment that the students were completing, and the duration of observations for the research (Means, Moore, Gagne, & Hauck, 1979). The reading comprehension assignment, given every day for ten days, seems redundant. Apparently, the assignments were already being given to the students. This begs the question, how much did the repetition and/or mundane nature of this teaching method affect the 'effort' results? Also, the researchers only observed these students in the afternoon and only for ten days. Might the results have been different had students received this kind of dissonant or consonant feedback for a month? For a year? Students may be more or less productive at different times of the day, or more receptive to feedback on different days of the week. Overall, the results in the study are striking considering the short amount of time that the expectations and feedback were in place, but it is also worth considering how they might have been different had the experiment been set up to more accurately mirror a school year.

The generalizability of this study is difficult because there are no characteristics that distinguish the participants in the sample from each other (Means, Moore, Gagne, & Hauck, 1979). Another point of interest stems from the TA taking on the role of

experimenter. Perhaps the students did not take the TA's feedback as seriously because they believed that the 'real' teacher had the last word on a score. This might have changed the outcome, and further study where the highest authority in the classroom is communicating expectations and feedback would lend insight into the validity and reliability of the findings. A student might internalize those expectations differently because of the consequences associated with the teacher's appraisal of the students' performance. Teachers of low-income students might take into consideration the findings of Means, Moore, Gagne, and Hauck (1979) in relaying positive expectations to the students and then offering authentic feedback instead of empty praise, particularly if the activity or problem is set up to appear challenging, but is, in the end, surmountable.

In a program called Project Upward Bound, educators insist on this kind of challenging, positive, authentic atmosphere for low-income students who are at a high risk of dropping out of high school. Motivated high schoolers enter the program in their junior or senior year. The goal of the project is to give low-income students adequate academic preparation and skills to succeed in higher education. McCormick and Williams (1974) examined the factors behind the success of Project Upward Bound; 80% of Upward Bound students attend college. Upward Bound students are given opportunities above and beyond their peers. Through the program, these adolescents actively participate in rigorous, college-preparatory courses and workshops and self-affirming activities throughout the year and more intensively in the summer. McCormick and Williams found that the project succeeds in raising student self-concept, academic achievement, and reality of aspiration level, and suggested that these positive changes contribute to increased high school completion and college attendance rates.

The researchers studied three cohorts of Upward Bound participants at the University of Florida (McCormick & Williams, 1974). Each cohort was at a different stage of participation – after their first summer, after one year, and after their second summer. The researchers assessed changes in students' perception of self with the Tennessee Self-Concept Scale, academic achievement with the Metropolitan High School Achievement Tests in language, reading, mathematics computation, and mathematics problem solving, and level of aspiration with Worrell's Level of Aspiration Index. Subjects were tested in the last week of January, the last week in May, and the first week in August, which was the final week of the summer residential program. Analysis of variance for the three groups across the three test periods showed that all groups moved in the predicted direction – toward more positive self-concept, increased academic achievement, and more realistic aspirations ($p < .01$). There were also significant findings to support the idea that the longer the students are in the program, the higher the self-concept ($p < .001$) and academic achievement for reading ($p < .05$).

While these results are striking, they are not readily generalizable to larger high school populations because students in Project Upward Bound spend two to three months in a residential program on a college campus over the summer. This gives them a different schooling experience than their peers. The findings that increased self-concept and reality of aspiration level are linked with academic achievement could, however, be an important concept for teachers of low-income students. The fact that Project Upward Bound works with racially and ethnically diverse students from low-income backgrounds further validates the findings for teachers of low-income students. More information on specific types of curriculum and methods for increasing self-concept would strengthen

the study for teachers wishing to implement similar motivation strategies in their classrooms.

In another study aimed to identify factors underlying academic achievement for low-income students, Coffin, Dietz, and Thompson (1971) found that high achieving low-income students had more favorable attitudes toward school and toward themselves. They compared scores of 30 high-achieving poor students and 30 low-achieving poor students, matched for age, sex, and intelligence test scores. A semantic differential scale measured students' attitudes toward ten different situations and influential persons such as my community, my mother, my teachers, or discipline, and a self appraisal scale measured students' perceptions of their competences in academic, social, personal, and non-intellectual activities.

Coffin, Dietz, and Thomson (1971) found significant group differences for all ten concepts on the semantic differential scale ($p < .01$), with significant variance contributed by the interaction between achievement and concepts ($p < .01$). Significant group differences were also found for the self appraisal scale ($p < .01$). More detailed analysis revealed that high achievers had significantly more favorable attitudes toward school ($p < .01$), toward teachers ($p < .01$), and toward discipline ($p < .05$) than low-achievers. High achievers also rated themselves higher than low achievers on academic competence and personal competence, though low achievers rated themselves higher on social competence.

The small sample size and racially homogenous group limit the possibility of generalizing these results to other populations of students. The significant differences between groups on their attitudes toward school, teachers, and discipline, and differences

in their feelings of competence are worth noting because they support other studies that point to successful classrooms that spend more time on school work and less on behavior, more time on positive feedback and less on punishment. Of course, it is important to consider that the students were not in the same communities or classes, but rather their response patterns reflected a more general attitude toward school and their environment. A study that examines high and low achievers within the same community and finds similar patters would strengthen the results of Coffin, Dietz, and Thompson's research.

Without the ability to compare members of a school or community cohort, the researchers did strengthen their study by matching the high-achiever group and low-achiever group on age, sex, and intelligence test scores. The latter is especially important because it suggests that initial differences in intelligence are not responsible for differences in motivation and achievement; rather, raising self-concept and creating more positive interactions between low-income students and their teachers and school environments may have a positive affect on achievement regardless of intelligence test score.

Smerdon (2002) pointed to another factor that contributes to increased academic achievement – student perceptions of membership in their high schools. She found that feelings of membership begin in middle school, and are sustained in high school through placement in high-ability classes or Academic tracks, use of home rooms and regular class meetings, formal structures to promote positive relationships and more student-controlled/student-centered curriculum. The more students feel a part of their schools, the higher their academic achievement.

Smerdon (2002) used data from the first two waves of the National Education Longitudinal Survey (NELS) when students in the study were in eighth grade and then in then in tenth grade. The study sample included 11,807 sophomores in 88 high schools across the United States. These students qualified for the study because there were full cognitive data, school and student questionnaires from the first and follow-up years available, because they attended public, private or Catholic schools, and because there were at least four other NELS-sampled students in their school. Smerdon focused on questionnaire items that measured student perceptions of school membership, students' characteristics, and school characteristics.

The large sample size, representative of the overall U.S. adolescent population, strengthens the internal and external validity of the study, making the results fairly generalizable to classrooms across the country. Another strength is that the surveys reflect individual student perceptions as opposed to aggregated student data or outsider observations. It is important to consider the limitation of the NELS data; using the closed questionnaire responses as the sole source of data to explain an abstract concept such as 'perceived feelings of membership' may leave out factors not taken into account without being physically present in the morning homerooms, school assemblies, or honors English class meeting.

Teachers of low-income students should note the correlation between nonacademic track placement and lower feelings of school membership ($ß = -.12$, $p < .001$). At the classroom level, some of the ways that Smerdon (2002) recommended increasing school membership is through setting aside time for class meetings, and making space for students to take ownership over some of the curriculum. Smerdon

(2002) also pointed out that feelings of membership in middle school are the best predictor of perceived membership in high school, so teachers of young adolescents should consider their role in fostering a sense of community to promote academic achievement by connecting middle school students to their classroom and school environment before they enter high school and lack of membership leads to academic failure or dropping out all together.

In an attempt to create that sense of community for all types of learners, Andrews (1990) implemented a learning styles program in a low socioeconomic, underachieving elementary school in North Carolina. His qualitative assessment found that focusing on students' individual learning needs and unique abilities increased their academic achievement and their attitude toward school, decreased classroom discipline problems, and raised teacher expectations of the students.

The Learning Styles Program was based on the Dunn and Dunn model. Students completed a Learning Styles Inventory and teachers were given additional training in modifying curriculum to suit their students' needs. At first, only teacher volunteers participated in the study, but after four years many more joined in the program with noticeable results. Based on the findings of the Learning Styles Inventory, teachers adapted their classrooms to begin instruction with student strengths, to teach literacy in the afternoon, and to make classrooms more informal in desk and seating arrangement. The third-grade cohort that began the program when they entered elementary school scored in the 83rd percentile on the California Achievement Test for general intelligence compared to the school average that fell in the 30th percentile before the program began.

Overall, the students in the school were scoring in the 74th (male) and 75th (female) percentiles.

This study focused on only one school (Andrews, 1990), and teachers should therefore think of the findings in terms of the grounding theory to which they contribute, namely, that pedagogy centered on the individual student's needs is positively associated with academic achievement. The fact that the subjects represented a low-income population and that so many students improved after implementation of the learning styles program consistently over time strengthens the internal validity and reliability of the study for teachers of low-income students who wish to attempt similar adaptations in their own classrooms. Andrews (1990) recommended that teachers be trained in the Dunn and Dunn model to better understand how to modify curriculum after students complete the Learning Styles Inventory. He also suggested that, to get a more realistic sense of Dunn and Dunn's theory put into practice, teachers should visit and interview other educators for whom a similar learning styles model succeeded in increasing academic achievement of students.

While Andrews' (1990) learning styles program reflected a means by which teachers could tap into students' intrinsic motivation, Spencer (2005) qualitatively assessed a program of monetary incentives for high-achieving, low-income adolescents aimed at using external motivation to increase academic achievement. The latter researcher concluded that monetary incentives motivate high-achieving students to maintain good grades through high school.

Spencer (2005) evaluated an existing program sponsored by a private foundation that gave a monthly stipend to high-achieving, low-resource high school students for

maintaining a certain grade point average. Subjects in this study were 541 participants in the program from 41 schools, randomly divided into two groups. The foundation did not want to take away the money entirely from the control group, so while the experimental (*Stipend*) group (N = 330) continued to receive the monthly stipend, the control (*Delayed Stipend*) group (N = 211) agreed, for the purposes of the study, to forego their monthly stipend until the end of the year at which time they would receive a lump sum as long as they maintained the required GPA. The researcher followed the participants for one year, tracking their academic process, and interviewing a subset of students (N = 40) about the monetary rewards and their meaningfulness and motivating effect. Only the counselors knew that the study was taking place to control for teacher grading bias. Academic status (good standing vs. not in good standing based on GPA) was the dependent variable with treatment assignment, gender, ethnicity, grade level, positive self-concept, and learning responsibility were independent predictor variables for the standard logistic regression analysis. Hierarchical linear models also monitored the effects of school attended separate from student and group variables.

Spencer (2005) found that more students in the *Stipend* group had grades high enough to stay in the program at the end of the treatment year than peers in the *Delayed Stipend* control group did (61% vs. 51%, p = .01). The fact that students were all from low-income households and represented different regions across the United States strengthens the study for educators of low-income adolescent. Quantitative analysis would further strengthen research that is interested in increasing academic achievement with tangible rewards. It is important, however, for teachers interested in external rewards to consider that only high achievers were sampled in this study. While Spencer

(2005) interviewed student participants about the value of academic achievement and money as a reward, Oakes (1982) questioned whether or not all low-income students would be interested in being rewarded for academic success; for some poor and minority youth, academic achievement is worse for a reputation than purposefully going against teachers and schooling systems through academic failure.

The biggest limitation of Spencer's (2005) analyses, however, is the lack of a true *No Stipend* control group. Controlling for individual student differences and for different school effects is an important step in the assessment, but it cannot compensate for the lack of information from a comparison between students receiving money for grades and students not receiving any money. For the purposes of the paper at hand, it is necessary to note the unlikelihood of a solitary teacher having the means to pay students for grades. It is not inconceivable, however, for a clever teacher to come up with alternative tangible rewards for her students such as dinners or school supplies. Further research is needed to determine whether teachers of low-income students should pursue reward systems that externally motivate adolescents to achieve academically.

Gamoran and Nystrand (1991) examined a different teaching strategy for raising academic achievement. Drawing on direct-instruction research, which supports "teacher-led activities and a strong academic focus" (p. 277), the researchers measured the effects of different instruction methods and student background characteristics on achievement. They concluded that *discussion* has more positive effect than *question-answer*, and *question-answer* has more effect than *lecture*. They also found that these instructional variables, along with teachers' instructional coherence and student participation effects,

account for an important part of the effects of background characteristics on academic achievement.

Data from 924 eighth graders in English and Social Studies classrooms from ten public and six Catholic schools were subjects for this study (Gamoran & Nystrand, 1991). Each class was observed four times over the course of the year, and students and teachers filled out questionnaires. Achievement data was collected via two standardized tests, one for each subject, created by the researchers to examine students' synthesis and recall of curricular material. Interrater reliability for the English exam was correlated at .90, and for the social studies exam at .87. Student background variables were gathered via student questionnaires administered in the fall. The researchers were interested in race/ethnicity and socioeconomic status (SES). Observations in the classrooms focused on number of minutes devoted to various classroom activities, specifically on the number of minutes spent on lecture, question-answer, and discussion (for definitions of each please see Gamoran & Nystrand, 1991, p. 281-282) compared to the amount of time spent on procedures and seatwork. The researchers measured the authenticity of teacher questions based on their open-endedness and level of uptake (incorporating students' answers into the next question), the contiguity in the classroom curriculum by the extent to which students wrote about or discussed their readings or related discussions, and the level of student participation based on student questionnaire responses regarding amount of time spent on homework and amount of assignments completed, and by observing students' time spent off task.

Gamoran and Nystrand's (1991) results indicated that students from higher-socioeconomic status levels scored higher on both tests ($p < .01$). Regression analyses

showed that time spent in discussion (.631), question-answer (.244), and lecture (.104) are positively associated (in order of strongest to weakest effect size) with achievement in both subjects ($p < .01$). Time spent on homework is positively associated with achievement (.370, $p < .05$) and time spent off task is negatively associated with achievement (-.209, $p < .01$). For this study, it is important to note that SES effects were most closely tied to student participation and instructional discourse; the types of discourse were correlated with one another, however, so it is difficult to discern which qualities of questioning (authenticity, incorporation of student responses) are most highly correlated with achievement of low-SES students.

While the effects are moderate, it is worthwhile for future teachers to note that instructional differences accounted for over a third of the SES effects in English, and over 40% of SES effect in social studies (Gamoran & Nystrand, 1991). The fairly large sample size covering different geographical regions and types of schools in the United States contributed to reliability of the study, and the diversity of students' socioeconomic and ethnic status offered reliability for teachers working with low-income students across the country. The fact that the researchers created a their own tests for this study is a limitation and a strength. On the one hand, the reliability of the tests is suspect because they have not been tested over time with many students. On the other hand, the tests attempted to measure what students were actually learning in their English and social studies classes, supporting the validity of the test as a tool for measuring learning as it relates to specific instructional and background variables. Teachers of low-income students can generalize the results to the extent that there were significant moderate effects for time spent on discussion, on homework, and on task. Unlike the direct-

instruction model that puts the teacher at the center of the classroom, perhaps these three variables are positively associated with academic achievement because students are brought to the center of the classroom – contiguity and authenticity of classroom assignments and interactions fall into place when students are directly involved in curriculum through discussion.

Part of Gamoran and Nystrand's (1991) study examined time spent on homework. Their findings, that time spent on homework has a positive relationship with academic achievement ($R = .403$, $p < .05$), begs important questions about student time spent at home. Lareau (1987) studied ways that teachers interact with parents from different social classes, and the extent to which teacher expectations of parental involvement in their classrooms supports or hampers academic achievement of low-income students. Lareau found that academic achievement is linked to parent participation, and that teachers expect the same of low-income parents as they do of middle or high-income parents. She also found that low-income parents do not have the same types of resources to fulfill these expectations, and as a result, their children have less opportunity for success than children of more affluent parents.

Lareau (1987) took on the role of participant observer, acting as a classroom volunteer, one to two times per week for two hours from January to June in first grade classrooms in two communities not far from each other – one working class, and one middle class. The researcher conducted interviews with twelve selected children's mothers (one family at each school had a single mother, the rest had two parents) at the end of first grade and at the end of second grade. She also interviewed most fathers. Lareau (1987) interviewed first- and second-grade teachers and principals of each school;

all interviews were semistructured, tape recorded, confidential, and lasted around two hours. Questions in the interviews attempted to determine a) how teachers expected parents to interact with the school, and how they perceived the interaction of parents affecting their children's learning and b) how parents felt they should and did interact with schools and their students' learning. Observation and interviews also aimed to study the quality of interaction between teachers and parents on the school site.

The findings indicated that, while teachers expected all parents to join in a partnership with the school, not all parents had the resources to do so (Lareau, 1987). Two of the most striking findings that relate to this paper had to do with teacher homework assignments and parental perceptions of the role of the teacher. Lareau (1987) found that teachers in the observed classes often assigned spelling or reading homework that required parental involvement at home. She noted that most of the middle- and upper-class parents in the study were actively involved in their children's assignments, not only practicing reading and spelling with them, but following up with the teachers about homework and class work as well. Often, classroom quizzes and other project grades were predicated on the completion of homework that required parental involvement. Low-income parents, on the other hand, viewed school as the place for work and academic development, and home as the place for play and moral development. Also, many low-income parents were at work when middle- and upper-income parents were not. As a result, students from lower-income households were not as prepared for projects or quizzes, and their academic progress suffered. In a similar vein, parents of low-income students did not have as much interaction with teachers and other parents about school-related issues as more affluent parents did. Low-income parents reported

their belief in the separation of home and school; teachers are responsible for academic matters, while parents are responsible for discipline and love. This lack of communication put low-income parents at a disadvantage because teachers in this study developed beliefs that low-income parents did not 'care' as much about their children's academic achievement as parents from middle and upper classes. Lower class parents, however, consistently expressed their feelings that academic achievement was a top family priority.

Lareau (1987) interviewed parents from different kinds of homes, but not from different regions around the country, or even around the state. Before generalizing these results to a larger population, therefore, teachers must consider the different kinds of parental and familial expectations regarding schooling. Lareau accounted somewhat for this in her recommendations for consistent teacher-student contact, but again, her findings suggested that low-income parents may not be as readily available or as willing to discuss school-related matters with teachers. The qualitative results from teacher and parent interviews revealed a discrepancy in their perceptions about the role of parents in education. The interview technique was a strong option for this study, because open-ended questions revealed information that discrete surveys may have missed. However, rater confounds may be in effect because there was only one observer, one interviewer, and one person interpreting the observations and responses. Further research into the expectations and behaviors of teachers and parents, especially as they relate to students' academic performance, is needed to strengthen the findings of this study.

Rosenfeld, Richman, and Bowen (1998) quantitatively examined the role of social support and supportive communication on outcomes for academically at-risk and not-

identified-at-risk low-income middle school students. They found that for both groups, parents are the primary support network, but that for not-identified-at-risk students, peers and teachers are also sources of social support. The researchers also revealed different ways that the support affects low-income middle school students, with the not-identified-at-risk group benefiting more than their at-risk peers, and benefiting academically from task challenge and emotional challenge support. Rosenfeld and his colleagues were interested in eight specific kinds of social support: listening support, emotional support, emotional challenge, reality confirmation support, task appreciation support, task challenge support, tangible assistance support, and personal assistance support (for definitions of each kind of support, please see Rosenfeld, Richman, & Bowen, 1998 or Rosenfeld & Richman, 1999). Social support is communicated when "support providers…enact behaviors perceived by recipients as enhancing the recipients' well being" (p. 311).

The researchers went about creating their at-risk and not-identified-at-risk groups in different ways (Rosenfeld, Richman, and Bowen, 1998). While all students in the final sample were middle schoolers who met the requirements for free or reduced lunch programs in their schools, the at-risk group was comprised of students enrolled in the Communities in Schools programs in North Carolina and Florida (N = 278), the largest stay-in-school network in the United States. For the not-identified-at-risk group, the researchers employed a two-stage sampling design. Initially, 3,120 selected middle and high school students responded. Middle school students were then taken from one randomly selected English classroom in 93 schools across the country (N = 255). The two groups were similar in gender and ethnicity. Subjects completed the School Success

Profile (SSP), a self-report questionnaire that examines a student's family, school, friends, and neighborhood to measure a) whether a student reports receiving each of the eight types of social support and b) the outcomes of support. Outcomes specifically focused on for this study were *attendance, avoidance of problem behavior, school satisfaction, school engagement,* and *grades*. Discriminant analyses were used to determine which of the eight types of support, if any, students in each group were receiving, and the student outcomes in each group based on whether or not students were receiving the different kinds of support.

For the purposes of this paper, it is worthwhile to note that low-income students in this study consistently identified parents as their primary support providers ($R = 1.0$, $p < .05$, Rosenfeld, Richman, & Bowen, 1998). Only not-identified-at-risk students identified teachers as providing social support, but teachers were not considered important sources of supportive communication. The kinds of support related to increased academic achievement (higher grades) for not-identified-at-risk students were task challenge support (effect size = .59), or "challenging the support recipient's way of thinking about a task or an activity in order to stretch, motivate, and lead the support recipient to greater creativity, excitement, and involvement" and emotional challenge support (effect size = .52), or "challenging the support recipient to evaluate his or her attitudes, values, and feelings" (p. 311).

It is difficult to generalize these results because the researchers put students into the not-identified-at-risk group based on whether or not they were in a program for identified-at-risk youth. Just because students are not identified as at-risk, does not mean they are not at risk for school problems. However, comparing groups of low-income

students comprised of similar gender and ethnic populations adds some strength to the study because teachers of low-income students can be fairly confident that differences between groups are not due to background variables. Using student perceptions of social support is another strength of the study because an outside observer may perceive support, from a teacher for example, that the student is not perceiving. Ultimately, it is the student for whom the support network is created and utilized.

Teachers must question the reason why they are not perceived by low-income students to be a primary source of social support. Rosenfeld, Richman, and Bowen's (1998) results suggested that certain kinds of support, namely the kind that challenges students to be metacognitive about their decisions and behaviors, are positively associated with higher grades. Teachers looking to increase academic achievement of low-income youth might consider ways to work with parents to encourage students through emotional and task challenge support strategies.

Rosenfeld and Richman (1999) extended their research on supportive communication by focusing on the high school students who were left out of the original study. They found that older adolescents continue to rely on parents as primary support providers, but that at-risk students also look to their friends for sources of support. The results of this study also showed that different kinds of support than those present in the middle school study affect student outcomes, particularly academic achievement levels as indicated by school grades.

The sample for the high school study was smaller (N = 320) than for the middle school study, but groups were created in the same manner with at-risk students coming from the Communities in Schools programs (N = 110) and not-identified-at-risk students

from a probability sample of students across the United States (N = 210). All students in the study qualified for free or reduced lunch, and all completed the School Success Profile. Again, sixteen discriminant analyses were performed to assess type of support and effect of support on student outcome for each of the eight types of support detailed in the afore-mentioned study (see Rosenfeld, Richman, and Bowen, 1998 for a description of sample strategy and methodology).

Results indicated that older at-risk adolescents receive seven of eight types (excluding listening support) of support from their parents/adult caregivers, and three types (task appreciation (w = .74), task challenge (w = .71), and reality confirmation (w = .71)) of support from their friends ($p < .01$, Rosenfeld & Richman, 1999). Not-identified-at-risk high school students received all but reality confirmation support from their parents/adult caregivers. Collapsing the means of support types and support providers indicate that, while parents/adult caregivers were identified as primary support providers by the discriminant analyses, teachers, parents, and friends act as an overall support network for at-risk high school youth. Parents/adult caregivers remained the major, if not only, source of support for not-identified-at-risk students after this final analysis. Types of support that contributed to higher grades for not-identified-at-risk students were listening support (w = .56), task appreciation support (w = .48), task challenge support (w = .68), and reality confirmation support (w = 1.00, $p < .01$).

Again, the major limitation of this study is its procedure for categorizing students as at-risk and not-identified-at-risk (Rosenfeld & Richman, 1999). Results, however, consistently revealed higher grades for not-identified-at-risk low-income students, and also showed not-identified-low-income students' grades benefiting more from different

kinds of support than at-risk students' grades did. A major question that is left from this study for teachers of low-income youth is how students become at-risk (beyond risks associated with poverty) in the first place. If the consistency of certain kinds of supportive communication from parents is present from early childhood, are students more likely to succeed in adolescence? This issue was not addressed in the study because students were considered at-risk without qualifying the reasons behind their placement in a stay-in-school program.

The question also remains as to why teachers are not perceived as sources of support for adolescents. In Rosenfeld, Richman, and Bowen's (1998) study, not-identified-at-risk middle school students perceived low levels of support from their teachers, and in Rosenfeld and Richman's (1999) study on high schoolers they found an even smaller reliance on teachers from the at-risk group, but neither group in either study relied on adults in the classroom for major support. Both studies pointed to the importance of developing relationships between teachers and parents, but also more subtly suggested that teachers may be missing out on ways to increase academic achievement by not explicitly providing certain kinds of support, such as reality confirmation or emotional challenge support, that are linked to higher grades for low-income students.

Relationships between teachers and students occur on a number of levels – teacher as authority figure, knowledge giver, disciplinarian, mentor; student as passive recipient, active engager, punished, rewarded, mentored. Murray and Malmgren (2005) investigated the effects of a program designed to improve the relationship between adolescents and at least one teacher in a high-poverty urban high school. The findings

showed that students who participated in the intervention experienced increased academic achievement, although social, behavioral, and emotional adjustment variables did not change.

Eight teachers volunteered to participate in Murray and Malmgren's (2005) teacher-student relationship program (three English teachers, two math teachers, two Science teachers, and one social studies teacher). Students were nominated by teachers based on teacher perception of emotional or behavioral problems, and about half of these students were randomly selected to participate in the intervention that paired them with a participating teacher in the school (N = 66); a total of sixteen student participants left the school or had missing data during the five-month intervention period and two students were extreme outliers and were also eliminated from the analyses leaving the total number of participants at 48. Students were distributed across high school grade levels, and were assigned to a specific teacher for the intervention if they were in at least one of their classes. Teachers completed three rating scales, the adolescent version of the Walker-McConnell scale of social competence and school adjustment, the Achenbach Child Behavior Checklist, and a scale measuring students' classroom engagement, in February, just prior to the commencement of the intervention, and in June, at the end of the school year when the project ceased. These scales measured students' behavior and social competence in school. Academic grades and class absences were the dependent variables in the study. Students in the study were randomly assigned to either the control or treatment group. Throughout the five months, participating teachers were to hold weekly meetings, call home regularly to check in, and increase their expectations and positive feedback for students in the treatment group.

Five separate one-way analysis of covariance were used to compare post-test variables after controlling for pre-test differences between the experimental and control groups (Murray and Malmgren, 2005). The two groups did not differ significantly on measures of social, emotional, or behavioral adjustment. Although the ANCOVA for school engagement was not significant ($F(1, 47) = .97$, ns), the ANCOVA for grade point averages was significant ($F(1, 47) = 4.36$, $p < .05$). The GPAs in this study were calculated on a four point scale by averaging student grades for all of their classes except the grade from teachers participating in the intervention. Students in the treatment group had higher GPAs (Adjusted $M = .97$) at the end of the intervention than their peers in the control group (Adjusted $M = .69$).

The small sample size limits the generalizability of this study (Murray and Malmgren, 2005). However, the demographic characteristics of the sample reflect low-income students across the country, potentially strengthening the study's external reliability. Also, randomly assigning students to the experimental group or control group may have interfered with results in this small sample if groups did not line up along background and behavior characteristics. With a larger sample, random assignment would potentially limit the differences between groups, but in a study with such a small sample size, it might have made more sense to purposefully match characteristics of participants in the experimental and control groups.

A major limitation is that intervention strategies were not uniform across all teacher-student relationships, either, with students missing meetings and teachers forgetting to call home; teachers must consider the results with caution, therefore, paying attention to the finding that positive and concentrated teacher-student relationships

increased grades but did not increase social, behavioral or emotional adjustment for these students. What other factors, such as the types of social support mentioned in Rosenthal's studies (1998, 1999) or the types of interventions advocated by adolescent psychologists (Entwisle, 1990; Harter, 1990; Henderson & Dweck, 1990; Keating, 1990) might be influencing these youth? Further research is needed on factors contributing to the overall well being of low-income students. Meanwhile, teachers in high-poverty schools may consider ways that increased positive feedback, higher expectations, one-on-one attention and home-school connections may increase academic achievement for low-income adolescents.

In a study examining a school that fosters resilience, or the ability to overcome adversity in one's surroundings, in inner-city youth, Freiberg (1993) observed similar teaching strategies as those proposed by Murray and Malmgren's (2005) teacher-student relationship program. Frieberg's (1993) qualitative study focused on how the school-change efforts, specifically how the Consistency Management program, at Jefferson Elementary enhanced resiliency factors at Jefferson Elementary and improved their students' learning. The goal of Consistency Management is to reduce time spent on discipline by recognizing positive student, parent and teacher involvement in the school community, and by gradually turning over responsibility for classroom and school management to the students (for a more thorough description of the program, please see Freiberg, 2005). His findings revealed that this program and other school change efforts succeed by gradually turning over responsibility of classroom management tasks to students so that teachers can spend more time on instruction and less time on discipline, and by involving the community more in their children's education.

The unit of study for the biggest part of analysis was the school itself (Freiberg, 1993). Jefferson Elementary was chosen for its low levels of achievement on standardized test scores prior to implementation of major school changes. The researcher compared achievement and school atmosphere in Jefferson to a comparison school with similar student and teacher demographics and test scores at the beginning of the study. Both schools had high-poverty populations and were ranked in the lowest five schools for achievement scores.

Students at Jefferson who entered first grade just prior to the school change efforts, and who stayed in the school through sixth grade without repeating a grade, showed a significant increase in achievement on the Metropolitan Achievement Skills Test and the Iowa Basic Skills Test during second and third grade compared to students in the comparison (control) school over the same time period ($p < .009$, Freiberg, 1993). The interventions at Jefferson that appeared most related to this positive outcome included twelve "climate variables": student leadership, non-monetary incentives, attendance recognition, recognition systems for parents, teachers, and students, and community-school partnerships. All variables were significantly higher at Jefferson than they were at its comparison school five years after the school changes were made and Consistency Management program was implemented ($p < .01$).

These findings described how concerted school-wide efforts at a low-performing school can have positive effects on student achievement (Freiberg, 1993). Matching two schools with different achievement progressions facilitated study of specific changes, such as the Consistency Management program, that enhanced school atmosphere and academic achievement. More individual data about students in different grades, their

teachers, their parents, and specific community organizations who partnered, or chose not to partner, with the school would strengthen the findings because it would potentially control for extreme effects on mean measurement of variables such as test score, participation, or school satisfaction. Teachers can follow policies advocated for in the Consistency Management plan such as gradually handing over management procedures to students or recognizing parents for getting their students to school on time (Freiberg, 1993). Overall, teachers of low-income students might consider Freiberg's findings that schools that make positive changes to the school community facilitate student learning and increase school pride.

Trends in High-Achieving, High-Poverty Classrooms and Schools

The story of Jefferson Elementary (Frieberg, 1993) brings this paper to its final series of studies on successful schools that have raised academic achievement of low-income students. Jesse, Davis, and Pokorny (2004) qualitatively assessed characteristics of high-achieving middle schools for Latino students living in poverty. They found that these schools exhibited many characteristics attributed to other high-achieving schools; especially relevant to teachers is the finding that educators within these successful schools hold high expectations for all of their students, continue to pursue training in their field, have positive relationships with their students, articulate learning goals, and regularly communicate with parents.

The researchers observed nine public middle schools that served predominantly low-income Latino students in Texas and showed consistent improvement from grade six to grade eight on the Texas Assessment of Academic Skills for evidence of any of 57

empirically-based characteristics of effective schools (for a full list of the 57 characteristics see Jesse, Davis, & Pokorny, 2004, p. 29). They were primarily interested in patterns between the schools that showed consistent characteristics that served to increase academic achievement of the target population for this study. Two of the three researchers observed each school twice, and structured interviews were conducted with principals, teachers, and focus groups of seven to twelve students at each site. The researchers also collected school records including improvement plans, handbooks, curricular frameworks, and communication with parents. In each school, they observed at least six classrooms, and coded their observations to reveal support or lack of support on a four-point scale for each of the 57 characteristics of essential schools. The researchers compared their notes to ensure accuracy. Interrater correlations between the two raters ranged from a low of .67 to a high of .89 across variables within schools. Scores were averaged to create a single score for each characteristic for each school. An average score of 3.0 (out of 4.0) was considered evidence of the presence of the given characteristic; an average score of less than 3.0 indicated that there was insufficient data to support the presence of that characteristic.

Results showed that twenty-three of the 57 effective school characteristics were present in all nine schools. For the purposes of this paper, it is important to consider those variables over which teachers have direct control. All nine schools exhibited positive adult-student relationships (M = 3.61) and high levels of staff expertise (training, experience, certification). Eight of these successful schools had regular flow of information between home and school (M = 3.44), and teachers with exceptional knowledge of their content/subject matter (M = 3.5) and high expectations for all students

(M = 3.33). Seven schools incorporated significant amounts of professional development (M = 3.22) and had teachers who articulated the learning goals (M = 3.33).

Factors limiting the generalizability of this study are the brevity of observations and the regional focus on schools in Texas serving Latino students. The patterns of positive traits found in these high-achieving schools, however, mirror characteristics in successful schools that serve diverse populations, so teachers of low-income students can apply these findings keeping in mind that they may not transfer exactly, but should transfer to some degree. Strengths of the study are found in its range of sources of information (interviews with principal, teachers, and students; observations; school records) and its interrater reliability of coded observations. Jesse, Davis, and Pokorny (2004) suggested to teachers, based on these findings and the literature that supports other characteristics of effective schools, to hold high expectations for students, communicate high standards and clear goals, communicate with parents, and maintain positive relationships with students in the classroom.

McGee (2004) also examined characteristics of high-performing, high-poverty schools. Observations in Illinois' Golden Spike schools showed that success for low-income students derives from strategies such as high teacher expectations, consistent teacher-parent communication and parent involvement, clearly communicated learning objectives, and the genuine care for the well-being of students. A total of 59 schools, or 6.5% of high-poverty schools in Illinois met the criteria to be named a 'Golden Spike' (high-poverty, high performing) school (McGee, 2004). Standardized test scores across all subjects – reading, writing, mathematics, science, and social studies – and all grade levels had to show a certain level of improvement over three years, and had to be in at

least the 66th percentile in the third year of study. The researchers measured student test scores each year, collected school records for each school, and conducted interviews with teachers and personnel in half the schools, with at least six schools from each region in Illinois. Chicago's high-poverty, low-performing schools were excluded from the study's comparison between high-poverty/high-performing schools and high-poverty/low-performing schools because Chicago's student population of 440,000 "dwarfs even the second largest district's size of approximately 20,000" (p.112).

Quantitative results showed that school size was not significantly related to achievement, but that student mobility is significantly different (McGee, 2004). There is less student turnover in the Golden Spike schools than in the high-poverty/low-performing schools ($p < .008$). Qualitative findings pointed to teaching strategies in high-performing/high-poverty schools that encourage academic achievement in low-income students. Every teacher in these schools believed that their students can and will learn. They allocated more time for academic learning, especially for reading and literacy activities. Teachers made parents feel welcome in their classrooms and communicated expectations clearly and frequently, and paid attention to the health and safety needs of their students.

Using multiyear data reduced the likelihood of error with a small population sample, and ensured that schools were making sustained progress, not just experiencing a 'good year' (McGee, 2004). Comparing schools across almost all of Illinois' districts also strengthened the reliability of the results. It is unclear from the article, however, how the researcher obtained much of his data. By relying almost exclusively on questionnaires to reveal less tangible characteristics such as high expectations, the results

may be more subjective and biased in a positive light than were researcher observations or student perceptions used to obtain results. Also, leaving Chicago schools out of the study altogether makes the results less generalizable for teachers in large, diverse urban districts. Finally, characteristics that facilitate academic achievement in low-income elementary students may not be the same as those that facilitate achievement in adolescents because the adolescent brain is experiencing a neuronal overhaul (Wallis & Dell, 2004) and adolescents face different pressures than their younger brothers and sisters; teachers in secondary schools should interpret the results accordingly.

McGee's (2004) findings supported Jesse, Davis, and Pokorny's (2004) conclusions that successful schools serving high-poverty populations exhibit certain characteristics such as high teacher expectations and positive teacher-parent relationships. In her study framed by sociocognitive theory (Miller, 1994), Langer (2001) examined those teaching practices that separate teachers who successfully teach low-income students to read and write well from those who struggle to facilitate academic success. Langer found that teachers who raised and maintained academic achievement in low-income English classes differed from their more typical peers in approach to skill instruction, approach to test preparation, connection between learnings, enabling strategies, conceptions of learning, and classroom organization. In general the high-performing teachers ran a more student-centered classroom that built on authentic student experiences and abilities, and more explicitly expressed learning goals around interdisciplinary curriculum units.

The study followed 44 teachers in 88 English classes in 25 schools in four states across the U.S (Langer, 2001). Schools were selected from Texas, California, New York,

and Florida to obtain a wide variety of types of high-poverty, culturally diverse schools. Teachers were grouped into one of three categories: high-performing teachers in high-performing schools, high-performing teachers in more typically-performing schools, and more typically-performing teachers in typically-performing schools. Each teacher (only one class for that teacher was the focus of observations for this study) and each school was studied for two years, with information about instruction and school performance obtained from extensive interviews, observations, and school records. Each field researcher spent about five weeks per year at each site noting school, teacher, and student goals at the beginning of the year, classroom practice and progress throughout the year, and teacher development opportunities as well as conducting interviews with participating teachers and their students. In addition, researchers maintained weekly contact with teachers and students via email accounts or phone calls to discuss ongoing classroom work, aspirations, and outcomes.

Results were extensive in the qualitative data that supported patterns of pedagogy of successful teachers compared to more typical teachers (Langer, 2001). Typical teachers tended to rely on separated instruction, or "direct instruction of isolated skills and knowledge" (p. 7), whereas high-performing teachers were more likely to make systematic use of different types of instruction, relying more on an integrated approach in which "students are expected to use their skills and knowledge within the embedded context of a large and purposeful activity…the focus is on completing a project or activity well" (p. 7). In terms of approaching test preparation, typical teachers tended to teach test skills in isolation whereas high-performing skills tended to teach test skills in context of more meaningful curriculum. More typically-performing teachers also tended

to have less faith that their students were capable of passing the test than their higher-performing peers. High-performing teachers connected their lessons through interdisciplinary units and a focus on the "real world" whereas typical teachers' lessons seemed disconnected from each other or from life outside the classroom. All of the more successful teachers focused on metacognitive strategies, explicitly teaching students problem-solving skills to enable them to think on their own compared to only 17% of less successful teachers who focused on metacognition. A striking difference was the teachers' conceptions of learning. For all of the more successful teachers, learning did not end at memorization or high performance of a skill, but rather required deeper understanding of concepts. More typical teachers believed that learning occurs when students can answer closed questions or master a certain skill. Finally, in regards to classroom organization, teachers who experienced success with low-income students tended to encourage students to use each other to pursue further knowledge of a subject through cooperative group work and classroom discussion. Teachers with less success in their high-poverty classrooms tended away from "shared cognition" practices, and focused more on individual thinking.

This study's major strengths are its longitudinal results and its focus on diverse populations of low-income students. Teachers in high-poverty schools can confidently draw from information presented in Langer's (2001) results when developing their own classroom strategies because the teachers in this study that were succeeding with all different students exhibited consistent, strong patterns of sociocognitive pedagogy regardless of whether they were in New York or California, Texas or Florida. More information about the challenges faced by high-performing teachers in typically-

performing schools would strengthen the results for educators who find themselves in a similar situation. It is worthwhile to question how some teachers remain resilient and creative in the face of adversity while others, no less capable when they began, simply "burn out". Also, information about student's prior achievement in each type of classroom would enhance the validity of the findings because it is possible that all students in the high-achieving classrooms were high-achievers before they began their matriculation with these successful teachers. If that is the case, then one would have to question whether the student or the teacher was responsible for the positive relationship between sociocognitive pedagogy and high academic achievement.

If, in fact, it is the teachers who are making some difference, then educators trying to raise academic of low-income students will note that student-centered, authentic learning experiences designed around active classroom interactions were present in all of the classrooms of the high-performing teachers in Langer's (2001) investigation. Brookhart and Rusnak (1993) examined what made exemplary urban English teachers so successful in a study of Pittsburg public schools. Successful lessons in these classrooms were defined as lessons where teachers "accomplished their objectives particularly well" and exemplary teachers were "teachers whom their supervisors judged successful with students across ability levels" (p. 18). The researchers found that successful lessons were contingent on teachers with detailed lesson plans and clear student learning objectives in classrooms with high levels of student involvement through interactive and authentic lessons, and high levels of teacher involvement through modeling and respectful relationships.

Eight out of twelve teachers (six female, two male; six white, two black) who were considered exemplary out of all the English teachers in the Pittsburg school district were the interview subjects for this study (Brookhart & Rusnak, 1993). The structured interview asked teachers to describe a recent lesson they considered successful. Each researcher interviewed four teachers in their schools during school hours, and tape recorded the interviews. Themes emerged from the coded transcriptions of interviews – transcribed by a research assistant and triangulated by one researcher, one graduate assistant, and one teacher from the public schools who discussed all discrepancies (less than 5%) to consensus.

Indicators of successful urban teaching emerged from the interview results (Brookhart & Rusnak, 2001). Each interviewee extensively planned their lessons before each class, modifying the activities to fit individual student needs before class began rather than in the middle of the lesson. The three themes that they coded for in the transcriptions – student involvement, teacher involvement, and academic content – were constant in each of the teachers' successful lessons. Student involvement entailed how the students participated with the lesson – raising hands, offering suggestions, asking questions, helping each other. Teacher involvement entailed types of questions, movement through the room, help offered, etc. Academic content was based on the actual activities and exercises taking place in the classroom during the lesson.

The small sample size and lack of information about individual students limit the generalizability of this study. The consistency between teachers and their practice, however, strengthens the internal validity and reliability of the study, and enables urban

teachers of high school students to glean some information about how to successfully plan and carry out a lesson in a high-poverty classroom.

Summary

The second section of this chapter reviewed studies that observed the characteristics of specific strategies, exceptional teachers, and intervention programs that raised academic achievement of low-income students, and studies that discussed more general trends of high-achieving, high-poverty classrooms and schools. In the first part of the section, researchers highlighted teacher characteristics that had a positive relationship with academic achievement of low-income and low-ability students such as high expectations, genuine encouragement and personal relationships, challenging activities, communication with and realistic expectations of parents, and authentic feedback (Coffin, Dietz, & Thompson, 1971; Lareau, 1987; Means, Moore, Gagne, & Hauck, 1979; Peart & Campbell, 1991; Rosenfeld, Richman, & Bowen, 1998; Rosenfeld & Richman, 1999). Other studies found that certain intervention strategies such as monetary rewards, the inclusion of homeroom, or the implementation of discussions in class raised academic achievement (Gamoran & Nystrand, 1991; Smerdon, 2002; Spencer, 2005). Still others cited entire programs as effective strategies for raising academic achievement of low-income adolescents. Andrews (1990) described the Dunn and Dunn Learning Styles Program, McCormick and Williams (1974) examined the success of Project Upward Bound, Murray and Malmgren (2005) implemented a teacher-student mentorship program, and Freiberg (1993) discussed the merits of Consistency Management at Jefferson Elementary School.

In part two of this section, researchers noted trends in high-achieving, high-poverty classrooms and schools across the country that link specific teacher and school characteristics to increased academic achievement. Jesse, Davis, and Pokorny (2004) and McGee (2004) observed that high expectations, consistent communication with and involvement of parents, positive teacher-student relationships, and student-centered classrooms were found in many of the schools with high populations of students living in poverty that were also considered high-performing. These patterns are consistent with the more specific cases studied in part one of this section. Langer (2001) and Brookhart and Rusnak (1993) described exemplary teachers of low-income students who communicate clear objectives and high expectations, spend time modeling ways to think as well as ways to behave, and spend more time on teaching and learning than on discipline. Many of the studies in section two of this chapter suggested that extra attention needs to be given to low-income students. Simply beefing up the overall academic system to offer more rigorous opportunities to all students will not necessarily benefit students of low-income families, because the overall system is inequitable for disadvantaged youth.

Conclusion

Chapter 3 reviewed literature around the issue of raising academic achievement of low-income adolescents. In the first section of the chapter, researchers examined the effects of conscious and unconscious expectations on low-income and other marginalized students. A majority of researchers found that teachers do, in fact, hold lower expectations for low-income students than they do for their more affluent peers. Some

studies concluded that students internalize these expectations so that if a teacher expects a student to be successful, she is more likely to succeed, but if that teacher expects the student to be mediocre or to outright fail, it is more likely that she will not do as well as peers receiving more positive messages. Because of this phenomenon of the self-fulfilling prophecy, teachers need to become more aware of how their lowered expectations might negatively affect their students and must work to increase the motivation and self-esteem of their low-income students. Also, to battle effects of these prejudicial expectations, detracking policies and/or open-admission to honors classes would allow for students who would otherwise be stereotyped as low achievers to experience rigorous, college-preparatory curriculum.

Other researchers argued that teachers may hold lower expectations for certain students but that these students still have the same opportunity to learn as everyone else – their assigned grades may be affected, but their overall learning, as evidenced by non-teacher measurements, is not. These researchers agree that teachers should be aware of their low expectations if they are unwarranted, but that ultimately students cannot all achieve at the same rate and to the same level. These researchers argue that raising academic achievement of low-income students does not require specific intervention for these particular youth, but rather a stronger school system in general would offer better opportunities for all students, regardless of socioeconomic background. Then, if low-income students were willing and able, they could take advantage of the system and be as successful as their more affluent peers.

The second section of this chapter reviewed studies that described what happens when teachers and schools do implement specific strategies to raise academic

achievement of low-income students. Programs such as Upward Bound and Consistency Management are founded on the revisionist belief that students from low-income backgrounds need supplemental help to receive an equal education. Researchers debated whether or not internal or external motivation is the key to raising performance, but they agreed that giving a boost to low-income students could make up for the oppressive marginalization that comes with life in poverty. Many also found that attention to the student's needs and to the unique situation of the student's family and community is positively associated with increased academic achievement.

In Chapter 4, I will consider the guiding question as it relates to the overall findings of the studies reviewed and critiqued in Chapter 3, and will discuss opportunities for further research that will substantiate and extend suggestions from researchers around the issue of poverty and achievement. Classroom implications will center around an important debate underlying suggestions for raising academic achievement of low-income students. If students' academic achievement is a product of their determination and willingness to put forth effort, then effective teaching strategies should focus on rewarding this kind of motivation and punishing (or ignoring) its absence. If, however, a student's success is to some degree predetermined by assumptions about that person's abilities in light of her social class, effective strategies will entail an overhaul of the current system to root out and dismantle those policies that perpetuate inequity.

Chapter 4 – Conclusion

Introduction

The previous chapter laid out a critical review of the literature, taking into account an underlying debate between traditionalists who support the current meritocratic system in U.S. public schools and revisionists who see educational equity attainable only through major school and societal changes. The research showed that teacher and school expectations of poorer students may affect student learning and educational attainment, and offered suggestions for specific classroom strategies for raising academic achievement in low-income youth. The fourth and final chapter links current research to the socio-political history of issues of education and poverty, and recommends strategies to adopt or to avoid based on the validity and reliability of the findings discussed in Chapter 3. This chapter concludes with unanswered questions and suggestions for future research.

Summary of Findings

A critical review of the literature on raising academic achievement of low-income adolescents revealed different findings regarding the current situation and strategies for increasing achievement. Many researchers from the studies reviewed in Chapter 3 seemed to agree that teachers have, unconsciously or consciously, lowered their expectations for low-income students (Brophy & Good, 1970; Hallinan & Kubitschek, 1999; Oakes, 1982; Rist, 1970; Solomon & Battistich, 1996). Dissenters such as Abraham (1989) or Farkas, Grobe, Sheehan, & Shuan (1990) pointed to noncognitive factors as the strongest predictors of teacher expectations; teachers do not expect less of

poor students unless those students also happen to be the least well-behaved in the classroom (which both sets of the authors usually found to be the case).

So while researchers agreed that expectations are generally low for low-income teens, they disagreed on how these lowered expectations affect student performance. Williams (1976) for example, contended that teachers' expectations only appear to affect a student's school grades, not necessarily the student's learning as measured by standardized tests. More studies, however, supported Rosenthal and Jacobsen's (1968) work on self-fulfilling prophecy, observing that students internalize the lowered teacher expectations, perform poorly, and thus fulfill the teacher's initial prediction of the student's eventual level of achievement (Alvidrez & Weinstein, 1999; Brattesani, Weinstein, & Marshall; Krampen, 1987; Rist, 1970; Solomon & Battistich, 1996). Still more studies examined the effects of low schooling expectations – putting students in basic or vocational curriculum tracks – on student performance, and found that here, too, students in lower-ability courses and tracks learned less than students in higher-ability or advanced classes (Abraham, 1989; Gamoran, 1987; Gamoran, Porter, Smithson, & White, 1997; Hallinan & Kubitschek, 1999; Oakes, 1982; Weinstein, Soule, Collins, Cone, Mehlhorn, & Simontacci, 1991).

The question arose in the research, what does an educator do to combat these lowered expectations, coming either from herself, from other teachers, or from a school system that so frequently places low-income students in low-ability groups? Some authors believed that the majority of the responsibility for success rests in the hands of the student. These researchers argued that schools that are offering equal opportunities can encourage students through external rewards and punishments (Hallinan, 1994;

Hallinan & Kubitschek, 1999; Spencer, 2005; Williams, 1976). Under a meritocratic perspective, their findings suggest that if low-income students truly have the same schooling opportunities as their more affluent peers, and if they are willing and able to take advantage of those opportunities, then the only thing coming between their dreams of achievement and the fulfillment of those dreams is hard work.

Other researchers challenged meritocracy in the United States and argued that only extra help from schools and teachers would provide an equitable education for low-income students (Abraham, 1988; Andrews, 1990; Freiberg, 1993; Murray & Malmgren, 2005; Oakes, 1982; Rist, 1970). In section two of the critical review, studies pointed to specific strategies that offered supplemental assistance – above and beyond the equal opportunities offered to all students in the school – to low-income students (Coffin, Dietz, & Thompson, 1971; Lareau, 1987; Means, Moore, Gagne, & Hauck, 1979; Peart & Campbell, 1991; Rosenfeld, Richman, & Bowen, 1998; Rosenfeld & Richman, 1999; Rothenberg, McDermott, & Martin, 1998).

Gamoran and Nystrand (1991), Smerdon (2002), and Spencer (2005) found that certain small-scale intervention plans such as monetary rewards, the inclusion of homeroom to foster feelings of belonging, or the implementation of discussions in class raised academic achievement. A series of studies outlined specific larger-scale programs that had been successful with low-income students. Andrews (1990) described the Dunn and Dunn Learning Styles Program, McCormick and Williams (1974) examined the success of Project Upward Bound, Murray and Malmgren (2005) implemented a teacher-student mentorship program, and Freiberg (1993) discussed the merits of Consistency Management at Jefferson Elementary School.

Researchers observed some general trends shared by high-achieving, high-poverty classrooms and schools (Jesse, Davis, & Pokorny, 1994; McGee, 2004; Langer, 2001; Brookhart & Rusnak, 1993). High expectations, consistent communication with and involvement of parents, positive teacher-student relationships, and student-centered classrooms were some of the most prevalent characteristics in high-performing schools. Langer's (2001) extensive research on exemplary teachers of low-income students revealed that a sociocognitive approach to teaching that includes higher-order problem solving activities, group work, and using student experiences to center curriculum on real life is positively associated with achievement.

Looking Back

The research on raising academic achievement of low-income adolescents brings two distinct historical patterns to mind. First, lowered expectations for our nation's youth from poor households (Brophy & Good, 1970; Hallinan & Kubitschek, 1999; Oakes, 1982; Rist, 1970; Solomon & Battistich, 1996) reflect the cultural ideology that some people are born to be leaders and others are born to be laborers (Murray & Hernstein, 1994). Second, the disproportionate number of low-income youth who are tracked or grouped into the lowest-ability classes is linked with the centuries-old practice of separating a society's children by social class. Teachers, probably unconsciously, have a tape player in the back of their mind that is constantly playing the message that poor children are less likely to succeed, and are therefore less deserving of academic rigor and attention. Students are also broken up into ability groups along lines suspiciously similar to society's class and ethnic divisions, furthering the unconscious stereotypes held by

teachers about their low-income students (Farkas, Grobe, Sheehan, & Shuan, 1990; Gamoran, 1987; Oakes, 1982; Rist, 1970).

Suggestions in the research for combating lowered expectations and inequitable grouping policies challenge the core values of meritocracy and the science of intelligence tests. For teachers to change their perceptions of low-income youth, they must face the reality that United States culture was founded on stereotypes of the lower classes – stereotypes that were reflected in our nation's earliest schools. Beneath the detracking policies advocated by many researchers on the issue of poverty and education is a bold assertion that ability groupings are inequitable and do not reflect the actual ability to learn, test results or no test results, of the students separated into above-average, average, and below-average groups (Abraham, 1989; Bennett, 1976; Heck, Price, & Thomas, 2004; Gamoran, 1987; Gamoran, 1997; Huston, McLoyd, & Coll, 1994; Oakes, 1982; Oakes, 1994).

These researchers also challenge the Anglo-American conception of public schools as a panacea, arguing that schools cannot simultaneously maintain the social status quo and facilitate social mobility, because these tracks and ability groups perpetuate social class hierarchies when the students leave school to join the work force. Whether social class stratification is a necessary consequence of the free market or not is an important question that will not be debated here. For this paper, the question of whether or not schools should predetermine the strata into which their students will live as adults remains open for discussion, its resolution being necessary for determining effective teaching strategies for raising academic achievement of low-income adolescents.

Classroom Implications

In light of the current research, the historical, social, and political context of this research, and the strengths and limitations of the studies reviewed and critiqued in this paper, some distinct patterns emerge to offer insight into how to raise academic achievement of low-income adolescents. Some of the strategies reflect the issue of equitable education (Gamoran, 1987; Gamoran, Porter, Smithson, & White, 1997; Oakes, 1982; Weinstein, Soule, Collins, Cone, Mehlhorn, and Simontacchi, 1991) such as open-access to honors classes or detracking the school system all together. Taken on their own, many of the studies used samples too small, too homogenous, or too young to be generalizable to a larger population of low-income adolescents. The consistent patterns revealed by examining the studies together, however, paint a stronger, more conclusive picture: Teachers must challenge their biases about low-income students and change their practice to help every student succeed (Bennett, 1976; Breakthrough Collaborative, n.d.; Harvey & Slatin, 1975; Rist, 1970; Rosenthal & Jacobson, 1992; Long & Long, 1974; Williams, 1976).

Educators can begin to raise expectations and achievement for these youth by creating more rigorous and authentic curriculum, spending more time on learning than on discipline, using cooperative learning with heterogeneous-ability groups, and directly involving students in lessons and classroom management through active discussions (Brattesani, Weinstein, & Marshall, 1984; Gamoran, 1997; Gamoran & Nystrand, 1991; Freiberg, 1993; Krampen, 1987; Langer, 2001). In her study on social class differences in family-school relationships, Lareau (1987) also recommended that teachers become

aware of the different cultural capital that low-income students bring to class, and to interact with students and parents appropriately.

An essential piece of each of these strategies is keeping low-income students motivated, despite life stress and lowered expectations. Researchers differ on their recommendations for tapping into students' motivation. Some indicated that external rewards such as money or public recognition, work best for low-income youth (Freiberg, 2005; Hallinan & Kubitschek, 1999; Spencer, 2005), while others insisted that intrinsic motivation makes the most significant difference in academic persistence and achievement (Means, Moore, Gagne, & Hauck, 1979; Smerdon, 2002). In either case, teachers must be aware that an apathetic student is not as likely to succeed as one who is motivated to learn. Developing authentic, positive relationships with students can potentially tap into a student's self-worth and resilience (Coffin, Dietz, & Thompson, 1971; Lareau, 1987; Murray & Malgrem, 2005; Peart & Campbell, 1991; Rosenfeld, Richman, & Bowen, 1998; Rosenfeld & Richman, 1999).

Overall, the literature on poverty, academic achievement, and educational attainment pointed to the fact that low-income adolescents are disproportionately tracked into lower-ability classes, and that students in lower-ability classes have a much lower chance of graduating from high school in four years and/or going onto college (Abraham, 1989; Gamoran, 1987; Hallinan & Kubitschek, 1999; Heck, Price, & Thomas, 2004; National Center for Education Statistics, 1995; Oakes, 1982; Payne, 1996). Not all of the researchers recommended detracking policies, but most solidly supported the need for higher teacher expectations in all classrooms. The studies also tended to recommend that all types of classrooms raise the quality of curriculum when more time is spent on

academic material instead of on discipline. Finally, many studies suggested that, regardless of ability group, teachers should create a more student-centered classroom in which students actively engage with the material and with each other.

Implications for Further Research

The recommendations offered in the preceding section were echoed by many studies reviewed in Chapter 3. A major limitation of this research is its failure to explain *how* exactly to go about raising expectations, create more rigorous curriculum, or decrease discipline problems[1]. Further reading is required for teachers to learn which methods work to achieve best practice pedagogy. Another question left from the studies in the critical review has to do with how individual students respond to different teaching strategies aimed at increasing academic achievement in low-income adolescents. Differences between students living in generational poverty or situational poverty, rural poverty or urban poverty, large families or small families, etc. were hardly discussed. Aggregated student data was the norm, rather than the exception, leaving individual differences hazy at best. Finally, more empirical evidence for the qualitative observations of effective teaching strategies would strengthen a number of the findings, especially in the second section of Chapter 3, by offering data to support the changes perceived by teachers, students, and researchers in exemplary schools and classrooms.

---

[1] Many studies cited the presence of the two former strategies as predictors of the latter, and Frieberg (1993) documented a specific program, Consistency Management, as a way to reduce discipline problems in high-poverty schools.

Conclusion

Chapter 4 linked the reviewed literature from the previous chapter to the social, political, and historical context around the issue of education and poverty. The chapter continued with recommendations for teachers of low-income students based on the reliability and validity of the findings discussed in the critical review. Finally, the chapter concluded with unanswered questions and suggestions for future research.

It is important to remember that not all low-income students are low-achievers. Many young people prove their resilience time and again as they overcome obstacles seemingly insurmountable to those of us born into a life of economic privilege. For many teenagers living in poverty, however, our school system seems to sell them short through lowered expectations and a lower quality of education. The question of what kinds of teaching strategies effectively raise academic achievement of low-income adolescents is an important one because our nation's welfare depends on the well being of its residents. Although some educators and policy-makers argue that only certain kinds of people are destined to be the leaders of this country, and that our nation's schools should reflect that hierarchy accordingly, many others are advocating for major societal changes to provide equitable opportunities to all people's children in their schooling experiences. Denying some students a challenging and meaningful education because we do not expect them to use those creative or critical thinking skills in their adult lives sells everyone short.

Regardless of what professions our children choose, educators have a responsibility to provide them with rich learning experiences, full of high standards and high expectations. Our Constitution promises equal education opportunity to all, regardless of social class, but fails to do so as long as the achievement gap between

socioeconomic classes persists. Implementing effective teaching strategies to raise academic achievement of low-income youth is an important step in creating a just and equitable society in which all of our young people can thrive and go on to contribute actively and productively to the greater good.

REFERENCES

Abraham, J. (1989). Testing Hargreaves' and Lacey's differentiation-polarisation theory in a setted comprehensive. *The British Journal of Sociology, 40(1)*, 46-81.

Alvidrez, J. & Weinstein, R.S. (1999). Early teacher perceptions and later student academic achievement. *Journal of Educational Psychology, 91(4)*, 731-746.

Bennett, C.E. (1976). Student's race, social class, and academic history as determinants of teacher expectation of student performance. *The Journal of Black Psychology, 3(1)*, 71-86.

Brattesani, K.A., Weinstein, R.S., & Marshall, H.H. (1984). Student perceptions of differential teacher treatment as moderators of teacher expectation effects. *Journal of Educational Psychology, 76(2)*, 236-247.

Breakthrough Collaborative (n.d.). *Why breakthrough?* Retrieved June 2006 from www.breakthroughcollaborative.org/doc/pressroom/whybreakthrough

Brookhart, S.M. (1993). A pedagogy of enrichment, not poverty: Successful lessons from exemplary urban teachers. *Journal of Teacher Education, 44(1)*, 17-26.

Brophy, J.E. & Good, T.L. (1970). Teachers' communication of differential expectations for children's classroom performance. *Journal of Educational Psychology, 61(5)*, 365-374.

Coffin, B.S., Dietz, S.C., & Thompson, C.L. (1971). Academic achievement in a poverty area high school: Implications for counseling. *The Journal of Negro Education, 40(4)*, 365-368.

Cole, M. (2005). *Cross-cultural and historical perspectives on the developmental consequences of education.* Retrieved June 2006 from www.ichc.ucsd.edu/people/mcole/ humdev.pdf

Department of Education, National Center for Education Statistics (1995). *Vocational course-taking and achievement: An analysis of high school transcripts and 1990 NAEP assessment scores.* Retrieved April 2006 from http://nces.ed.gov

Department of Education, National Center for Education Statistics (2004). *The Condition of Education 2004*. Retrieved April 2006 from http://nces.ed.gov

Department of Education, National Center for Education Statistics (2005). *The Condition of Education 2005*. Retrieved April 2006 from http://nces.ed.gov

Dewey, J. (1938). *Experience and education.* New York: Simon & Schuster.

Ensminger, M.E. & Slusarcick, A.L. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education, 65(2)*, 95-113.

Entwisle, D.R. (1990). Schools and the Adolescent. In S.S. Feldman & G.R. Elliot (Eds.), *At the threshold: The developing adolescent* (197-224). Cambridge, MA: Harvard University Press.

Farkas, G., Grobe, R.O., Scheehan, D., & Shuan, Y. (1990). Cultural resources and school success: Gender, ethnicity, and poverty groups within an urban school district. *American Sociological Review, 55(1)*, 127-142. Retrieved May 3, 2006 from www.jstor.org

Farris, M.C. (1985). Longitudinal determinants of occupational place of low-income rural young adults. *Research in Rural Education, 3(2)*, 61-67.

Floyd, C. (1996). Achieving despite the odds: A study of resilience among a group of African-American high school seniors. *The Journal of Negro Education, 65(2)*, 181-189. Retrieved July 15, 2006 from www.jstor.org

Freiberg, H.J. (1993). A school that fosters resilience in inner-city youth. *The Journal of Negro Education, 62(3)*, 364-376.

Furth, H.G. (1970). *Piaget for teachers*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Gamoran, A. (1987). The stratification of high school learning opportunities. *Sociology of Education, 60(3)*, 135-155.

Gamoran, A. (1997). Upgrading high school mathematics instruction: Improving learning opportunities for low-achieving, low-income youth. *Educational Evaluation and Policy Analysis, 19(4)*, 325-338.

Gamoran, A. & Nystrand, M. (1991). Background and instructional effects on achievement in eighth-grade English and social studies. *Journal of Research on Adolescence, 1(3)*, 277-300.

Hallinan, M.T. (1994). Tracking: From theory to practice. *Sociology of Education, 67(2)*, 79-84.

Hallinan, M.T. (1994). Further thoughts on tracking. *Social Psychology of Education, 67(2)*, 89-91.

Hallinan, M.T. & Kubitschek, W.N. (1999). Curriculum differentiation and high school achievement. *Social Psychology of Education, 3*, 41-62.

Harter, S. (1990). Self and identity development. In S.S. Feldman & G.R. Elliot (Eds.), *At the threshold: The developing adolescent* (352-387). Cambridge, MA: Harvard University Press.

Harvey, D.G. & Slatin, G.T. (1975). The relationship between child's SES and teacher expectations: A test of the middle-class bias hypothesis. *Social Forces, 54(1)*, 140-159. Retrieved July 15, 2006 from www.jstor.org

Heck, R.H., Price, C.L., Thomas, S.L. (2004). Tracks as emergent structures: A network analysis of student differentiation in a high school. *American Journal of Education, 110(4)*, 321-354.

Henderson, V.L. & Dweck, C.S. Motivation and Achievement. In S.S. Feldman & G.R. Elliot (Eds.), *At the threshold: The developing adolescent* (308-329). Cambridge, MA: Harvard University Press.

Huston, A.C.; McLoyd, V.C.; & Coll, C.G. (1994). Children and poverty: Issues in contemporary research. *Child Development, 65,* 275-282.

Jennings, J.F. (2000). Title I. *Phi Delta Kappan, 81(7)*, 516-522. Retrieved March 24, 2006 from the EBSCOhost database.

Jesse, D., Davis, A, & Pokorny, N. (2004). High-achieving middle schools for Latino students in poverty. *Journal of Education for Students Placed at Risk, 9(1)*, 23-45.

Jimerson, S. et. al. (2000). A prospective longitudinal study of high school dropouts examining multiple predictors across development. *Journal of School Psychology, 38(6)*, 525-549.

Karier, C. (1967). Elite views on American education. *Journal of Contemporary History, 2(3)*, 149-163.

Keating, D.P.(1990) Adolescent Thinking. In S.S. Feldman & G.R. Elliot (Eds.), *At the threshold: The developing adolescent* (54-89). Cambridge, MA: Harvard University Press.

Kohl, H. (1994). *"I won't learn from you" and other thoughts on creative maladjustment.* New York: The New Press.

Krampen, G. (1987). Differential effects of teacher comments. *Journal of Educational Psychology, 79(2)*, 137-146.

Langer, J.A. (2001). Beating the odds: Teaching middle and high school students to read and write well. *American Education Research Journal, 38(4)*, 837-880.

Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education, 60(2)*, 73-85. Retrieved July 13, 2006 from www.jstor.org

Long, S. & Long, R. (1974). Teacher-candidates' poverty perceptions. *The Journal of Negro Education, 43(4)*, 494-505. Retrieved July 15, 2006 from www.jstor.org

Luthar, S.S. (1991). Vulnerability and resilience: A study of high-risk adolescents. *Child Development, 62*, 600-616.

Matthews, J.D. (2004). *The history of schooling*. Retrieved June 2006 from www.mindfully.org/Reform

McCormick, M.K. & Williams, J.H. (1974). Effects of a compensatory program on self-report, achievement, and aspiration level of "disadvantaged" high school students. *The Journal of Negro Education, 43(1)*, 47-52.

McGee, G.W. (2004). Closing the achievement gap: Lessons from Illinois' Golden Spike high-poverty high-performing schools. *Journal of Education for Students Placed at Risk, 9(2)*, 97-125.

McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53(2)*, 185-204.

Means, V., Moore, J.W., Gagne, E., & Hauck, W.E. (1979). The Interactive Effects of Consonant and Dissonant Teacher Expectancy Feedback Communication on Student Performance in a Natural School Setting. *American Educational Research Journal, 16(4)*, 367-373.

Miller, P.H. (1993). *Theories of developmental psychology*. New York: W.H. Freeman

and Company.

Munoz, M.A. (2001). Equity and excellence: The effect of school and sociodemographic variables on student achievement. *Journal of School Leadership, 11(2)*, 120-134.

Murray, C. & Hernstein, R. (1994). *The bell curve.* New York: Free Press.

Murray, C. & Malmgren, K. (2005). Implementing a teacher-student relationship program in a high-poverty urban school: Effects on social, emotional, and academic adjustment and lessons learned. *Journal of School Psychology, 43(2)*, 137-152. Retrieved on May 3, 2006 from www.sciencedirect.com

Oakes, J. (1982). Classroom social relationships: Exploring the Bowles and Gintis hypothesis. *Sociology of Education, 55(4)*, 197-212.

Oakes, J. (1994). More than misapplied technology: A normative and political response to Hallinan on tracking. *Social Psychology of Education, 67(2)*, 84-91.

Oakes, J. (1994). One more thought. *Social Psychology of Education, 67(2)*, 91.

Payne, R.K. (1996). *A framework for understanding poverty.* Highlands, TX: aha! Process, Inc.

Peart, N. & Campbell, F. (1999). At-risk students' perceptions of teacher effectiveness. *Journal for a Just and Caring Education, 5(3)*, 269-284.

People's Republic of China, Ministry of Culture (2003). *Education history*. Retrieved June 2006 from www.chinaculture.org

Rist, R.C. (1970). Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Educational Review, 40*, 411-451.

Rogoff, B. (1990). *Apprenticeship in Thinking*. New York: Oxford University Press.

Rosenfeld, L.B., Richman, J.M. (1999). Supportive communication and school outcomes, Part II: Academically "at-risk" low income high school students. *Communication Education, 48*, 294-307. Retrieved July 2006 from the EBSCOhost database.

Rosenfeld, L.B., Richman, J.M, & Bowen, G.L. (1998). Supportive communication and school outcomes for academically "at-risk" and other low income middle school students. *Communication Education, 47*, 309-325. Retrieved July 2006 from the EBSCOhost database.

Rosenthal, R. (1998). Covert communication in classrooms, clinics, and courtrooms. *Eye on Psi Chi*, 3(1), 18-22. Retrieved June 2006 from www.psichi.org/pubs/articles/article_121.asp

Rosenthal, R. & Jacobson, L. (1992). *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development.* New York: Irvington Publishers.

Rothenberg, J.J., McDermott, P., & Martin, G. (1998). Changes in pedagogy: A qualitative result of teaching heterogeneous classes. *Teaching and Teacher Education, 14(6)*, 633-642.

Silver, S. (n.d.). *Gear Up: A capstone for reform.* Retrieved May 2006 from www.ed.gov/gearup

Smerdon, B.A. (2002). Students' perceptions of membership in their high schools. *Sociology of Education, 75(4)*, 287-305. Retrieved July 13, 2006 from www.jstor.org

Solomon, D. & Battistich, V. (1996). Teacher beliefs and practices in schools serving communities that differ in socioeconomic level. *Journal of Experimental Education, 64(4)*, 327-348.

Spencer, M. (2005). Monetary incentives in support of academic achievement: Results of a randomized field trial involving high-achieving, low-resource, ethnically diverse urban adolescents. *Evaluation Review, 29(3)*, 199-222.

Spring, J. (2005). *The American school: 1642-2004.* New York: McGraw Hill.

Spring, J. (2006). *American education.* New York: McGraw Hill.

Swanson, M. (1995). *The Bell Curve and Eugenics*. Retrieved on Jun 26, 2006 from Progressive News & Views at www.hartford-hwp.com/archives/45/026.html

Summers, A. & Wolfe, B.L. (1977). Do schools make a difference? *The American Economic Review, 67(4)*, 639-652. Retrieved July 13, 2006 from www.jstor.org

Weinger, S. (2000). Opportunities for career success: Views of poor and middle-class children. *Children and Youth Services Review, 22(1)*, 13-35.

Weinstein, R.S., Soule, C.R., Collins, F., Cone, J., Mehlhorn, M., and Simontacchi, K. (1991). Expectations and high school change: Teacher-Researcher

collaboration to prevent school failure. *American Journal of Community Psychology, 19(3)*, 333-363.

Williams, T. (1975). Education ambition: Teachers and students. *Sociology of Education, 48(4)*, 432-456. Retrieved July 13, 2006 from www.jstor.org

Williams, T. (1976). Teacher prophecies and the inheritance of inequality. *Sociology of Education, 49(3)*, 223-236. Retrieved July 15, 2006 from www.jstor.org

Zull, J. (2002). *The art of changing the brain*. Sterling, VA: Stylus.