

How Mathematics Teachers Explain Their Placement Recommendations  
for Ninth Grade Students

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By

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## DEDICATION

This study is dedicated to every underestimated, under-taught, and under-challenged student. I know there is as much talent in our trailer parks as in our gated communities.

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## ABSTRACT

### HOW MATHEMATICS TEACHERS EXPLAIN THEIR PLACEMENT RECOMMENDATIONS FOR NINTH-GRADE STUDENTS

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Successful completion of Algebra I is very important for all students in the United States, because it is a high-stakes, gatekeeper course that determines access to additional mathematics (and many science) courses. However, a substantial proportion of students with historically marginalized identities do not gain access to Algebra I until much later in their academic careers than their middle-class, White, English-speaking, fully able peers. This is not only an issue of tracking individual students, but is also indicative of a more profound, institutionalized set of practices. Using a purposive sample, this research highlights the ways typical teachers make tracking and student-placement decisions. Teachers in this research reported a heavy reliance on 1) their own omniscience; 2) collaboration with students and families, and 3) an intense commitment to ensure all students succeed.

## 1. Setting the Stage

Successful completion Algebra I is of growing importance in the trajectory of any student's secondary school career, and indeed, life beyond secondary education. Within the U.S. mathematics education community, Algebra I is well understood to be a gatekeeper course, in that successful completion of Algebra I is essential for success beyond high school (National Council of Teachers of Mathematics, 1998). This applies not only to students seeking entrance to college (as in the past), but is also true for any high school graduates who want to enter the workforce (American College Test, 2006). Algebra is not only the foundation for all further study of mathematics, but also an excellent proving ground for abstract thinking and reasoning, skills that are of value in nearly every facet of life.

The rising "gatekeeper" qualities of Algebra I are profound. Not only must secondary school students successfully complete Algebra I as a prerequisite to higher mathematics courses, but additionally, many science courses also hinge upon a comprehensive understanding of Algebra I concepts. Many states now require successful completion of Algebra I before students may graduate, and some states require additional mathematics course work beyond Algebra I before students may receive a diploma. As access to higher education becomes increasingly competitive and expensive, successful completion of Algebra I is crucial, because without it, students with either fail to gain

admission to colleges and universities or be required to pay tuition for remedial mathematics courses.

Not only is Algebra I defined as a gatekeeper course, but access to algebra has even been labeled a civil rights issue. As Moses and Cobb (2001) explained, "...The most urgent social issue affecting poor people and people of color is economic access. In today's world, economic access and full citizenship depend crucially on math and science literacy" (p. 5). They went on to say, "...People who don't have it [successful completion of Algebra I] are like the people who couldn't read and write in the industrial age" (p. 14). The past president of the National Council of Teachers of Mathematics, Cathy Seeley, built on this idea in one of her newsletters: "Expecting all students to complete four years of high school mathematics that begins with this gatekeeper course [Algebra] is not only a good idea, but is also our moral and ethical responsibility" (2005, ¶ 2). Therefore, for school administrators and teachers to counsel students of color, English language learners, students who qualify for free and reduced-price meals, and students identified with learning disabilities away from this goal is to deny them the access to the lifetime of opportunities afforded to middle-class, White, heritage speakers of English. This situation further reproduces existing social stratifications in U.S. culture.

In tandem with this rise in the importance of successful completion of Algebra I is the issue of shifting demographics in the United States. The composition of the population of the United States is changing, and this is reflected in our schools. As the National Center for Education Statistics (NCES; 2007a), confirmed, "The U.S. population has become more diverse over the past two decades as minority population

groups have increased more rapidly than the White population.” (p. 1). Further, the same NCES report stated that, as of 1999, Latinos surpassed African Americans as the largest minority group in the United States, with the U.S. Latino population increasing 192% between 1980 and 2005. During the same 25-year span, the White population in the United States increased by only 10%, and the African American population grew by 39%. The NCES (2007c) predicts the minority population of the U.S. will continue to grow and will increase an additional 32% by the year 2020.

For the purposes of this research, reference to this group of learners, as a whole, will be *students with historically marginalized identities*. In reviewing extant literature, it seems that there is little agreement on how best to describe students with single or multiple “outsider” identities or characteristics, so rather than stretch or modify other terms to accurately describe the students, I chose, instead, to use this new term.

Freire (2002), for example, usually used the term *oppressed* in reference to colonized community members. His use of this term emerged naturally from his work with indigenous Brazilians, and focused on their marginalized status in terms of class. This term, however, is not only too narrow for the purposes of this research, but also hints at a victimized quality to those it describes. Although useful in other contexts, I found it incomplete for this research.

Building upon the work of particular anthropological tradition established by Lewis (1969), Payne (2003), too, focused on class, and uses the term *culture of poverty* to describe groups of marginalized people, and was rooted in the idea that the poor have a

unique value system that is different from those of middle- or upper-class people. This term adopts a deficit perspective that is not in alignment with the focus of this research.

Other researchers use the term *culturally, linguistically, and ability diverse students*, or CLAD students, to describe a wider range of students from outside the mainstream of U.S. culture. Although this is a broader and more inclusive term than others already mentioned, especially in that it includes students with learning and/or ability differences, it still positions students as measured against a mainstream “standard” learner. Additionally, this phrase places the students last, after the descriptors, while the Publication Manual of the American Psychological Association (2001) requires authors to put the person first “followed by a descriptive phrase” (p. 64). particularly when writing about persons with learning differences or disabilities.

Still other researchers use generic terms to describe students in broad terms, like *minority, diverse, or multicultural*. Other researchers simply use the prefix “non-“ to describe students (such as non-White, non-English speaking, or non-mainstream). While each of these terms offers a view into the outsider status of individuals, none adequately capture the complexity and range in my preferred term, *students with historically marginalized identities*.

My use of this term is broad and inclusive. When I refer to students with historically marginalized identities, I include students from poor and working class families; students whose first language or dialect is not standard English; students who identify as lesbian, gay, bisexual, transgendered, or queer; students with racial heritage other than White; students with ethnic heritage other than those originally of Western

European origin; students from families that practice a faith tradition other than Christianity; students with less common or less valued phenotypical characteristics (such as obesity or hirsutism); students with learning differences or disabilities; students from varying family structures and compositions; students with undocumented legal status; and students with an underrepresented gender in a particular field of study (such as women as advanced mathematicians or men as child-care providers).

I chose this term *students with historically marginalized identities* because it not only places the students first, but also emphasizes the existence of a history of sanctioned marginalization. This term highlights segregation of students by race, class and learning difference while also drawing attention to the ways many students are still marginalized either in formalized or less formal ways. Additionally, the term *marginalized* stressed the way in which culture often works to position a powerful “inner circle” against lesser “outsider” people; i.e, those on the margins.

Students with historically marginalized identities have always been a part of the U.S. school context, whether included in or excluded from the educational process. However, increasing proportions of students with historically marginalized identities are attending U.S. schools, brought about, in part, by record-high immigration rates (U.S. Department of Commerce, 2006). This growth presents unique significance and challenges in the realm of educational achievement. Recent U.S. legislation, specifically the No Child Left Behind (NCLB) Act of 2001 reauthorizing the Elementary and Secondary Education Act of 1965, has helped focus attention on the large contingents of students who have not achieved the same successes at that of their White, monolingual

English speaking peers. A profound and persistent gap in educational success (as measured by high school graduation rates, achievement on standardized tests, enrollment in Advanced Placement [AP] courses, college admission and attendance; NCES, 2005b, 2005c) has haunted U.S. education for decades, and still continues to do so. As the academic gap between “mainstream” students and students with historically marginalized identities continues with little change, the ranks of low-achieving students are growing, which results in an increasing proportion of students who are being poorly served by our public schools (NCES, 2006).

### The Problem

Although early access to Algebra I is widely recognized as crucial, not all students gain access to Algebra I at the same age or grade level. Some students begin their study of Algebra I in elementary school, or as early as fifth grade, while other students are deferred in their study of Algebra I until the 9th or 10th grade. These different points of entry into Algebra I often correspond to student race, socioeconomic status (SES), English-language proficiency, and qualification for special education services. As summarized by Tate and Rousseau, in their 2003 meta-analysis, “Large scale, nationally representative survey studies indicate that poor students are disproportionately placed in lower tracks and have access to less qualified teachers of mathematics” (p. 292). They also stated, “Racial minorities are disproportionately placed in lower tracks” (p. 292). In general, White, middle-class heritage speakers of English with no identified learning disabilities—that is, students who have historically privileged identities—tend to gain access to Algebra I earlier than their peers who have historically



marginalized identities or, in the words of Tate and Rousseau, (2003), the “poor” and “racial minority” students (p. 292).

An imbalance exists with regard to the timing of completion of Algebra I, which contributes to the achievement gap. On the one hand, most students with historically *privileged* identities are encouraged to enroll in Algebra I at the earliest opportunity, frequently in elementary school or middle school, and begin planning for postsecondary education by enrolling in challenging, diverse courses (NCES, 2001). On the other hand, students with historically *marginalized* identities are far more likely to be counseled to postpone Algebra I until 9<sup>th</sup> or 10<sup>th</sup> grade, given the argument that the students are either too immature or insufficiently prepared for the course. Instead, these students are encouraged to enroll in work-bound vocational education tracks, where courses usually emphasize specific practical skills with little attention to underlying theoretical and conceptual foundations. Moreover, these lower-level, vocational courses may not even lead to a standard diploma, but rather, to a “modified” high school diploma or a certificate of attendance. This disparity in enrollment promotes and maintains the educational stratifications and, by extension, income stratifications, among adults in the United States.

When considering the U.S. academic achievement gaps, it is not just individuals that do not attain success as evaluated by traditional academic measures, but entire categories of people with historically marginalized identities. For example, in 2005, Hispanic students dropped out of school more than three times as frequently as their White counterparts (NCES, 2007d). Educators today, shaped by the dominant culture’s

worldviews on Whiteness and social class, may not recognize the cultural disconnects between educators and students that may help maintain and encourage this academic distance. Not only might these teachers fail to recognize these cultural disconnects, but they may have never been explicitly challenged to reflect on these issues. As a result, educators may not be aware of the role they play in the maintenance of the achievement gap.

Taken together, all of this information raises a significant question: What led to this clustering of a disproportionately large percentage of students in less rigorous, non-college preparatory courses (the lowest track courses)? To begin to answer this question, we might point out the shortcomings of the institution of “school,” as it is known.

Public schools are intended to meet the needs of all learners. They do not turn away any children or families, and are required to serve students with physical, emotional and cognitive disabilities. Public schools serve students who are extremely gifted, along with students without identified special needs. However, although the demographics of student populations have been changing dramatically over the past decades, the curriculum and instructional practices have, overall, remained the same. Before 1874, high schools were rare, and the percentage of 17-year-olds graduating from high school has soared in the last 100 years. Perhaps the established systems were never designed to meet the needs of culturally and linguistically diverse learners (Grant & Wong, 2008) or students from poor or working class families.

Another possibility, related to the first, may be that because not all students are equally prepared for school and schooling, the effects of school and schooling are

different. Although differentiation of instruction is the stated cornerstone of many comprehensive school districts' approaches, in practice, it is difficult to attain with any consistency. Differentiation of instruction is, however, sometimes implemented as a form of tracking, streaming, or ability grouping, wherein purportedly similarly talented or similarly challenged students are grouped and provided with the same instruction or materials. Although all students bring to school their unique set of funds of knowledge (Moll, Armanti, Neff, & Gonzalez, 1992), sociocultural capital, and life experiences (Bourdieu, 1986), some of these are more closely aligned with what is valued and expected in U.S. schools than others. This "match" between home life and school life may play a huge role in differentiation of instruction and materials, course placement, and student achievement.

Another explanation for the clustering of particular students in the lowest track might be a misinterpretation of "best practices" on the part of teachers. While much research and subsequent professional development tout the inalienable importance of "high expectations," some educators may take this at face value and fail to enact this with any nuance or complexity. While the majority of teachers would agree that all students can learn, some difference of opinion exists around the idea that all students can learn at higher levels than have been expected in the past. For teachers who simply insist upon high expectations for all students, but do not offer appropriate support or scaffolding tailored to the unique needs of their learners, the maxim of "high expectations" simply becomes another tool for sorting students into those who will succeed and those who will not.

For some students, placement into the lowest track of mathematics may be the most appropriate instructional placement because they have never been exposed to the academic content. This might include non-native English speaking students who have immigrated to the United States who may have had limited or interrupted formal education, or who may have sat through fourth and fifth grade without really understanding the English used by their teachers. For these students, the content of Pre-Algebra would not be a review but rather primary instruction in the academic content.

Still other students may have had poor elementary school experiences. While much is written about the tracking or ability grouping of students, it must be acknowledged that teachers are also tracked (Darling-Hammond, 2004). The strongest teachers are frequently given the power to choose to teach the “best” classes, with the most motivated, well-behaved, easy-to-teach students in the school. Novice teachers, or those with weaker or still-developing skills as educators, are often placed in classes with more diverse, “needier” students. These weak teachers may be only provisionally licensed, or may have been otherwise poorly prepared or equipped for teaching. If a student spends a single year with a weak teacher, this can be incredibly detrimental to a student’s academic trajectory; multiple years only compound this effect. It is possible that students in the lowest track have had an entire educational career of being taught by the weakest teachers in their schools.

In sum, there are many possible reasons the less rigorous, noncollege preparatory, lowest tracks of mathematics courses would be crowded with students with historically marginalized identities. Part of the reason might be tightly bound to that very idea of

identity—that the students and their families carry the weight of historically marginalized identities into schools where mainstream educators have not been prepared to best serve them.

Mainstream families, equipped with the specific social and cultural capital (Bourdieu, 1986) around the importance of Algebra I, may plan their children’s educational experiences with this knowledge and information at the forefront. These families recognize the urgency associated with algebra success and, as early as elementary school, may begin to advocate for their children to be placed in Algebra I as early as possible. Although the new groundswell of support in the United States is for students to complete Algebra I by eighth grade, some parents press for Algebra I even earlier, at the sixth or even fifth grades. These families know that successful completion of Algebra I before high school will enable their children to take more challenging, college-preparatory (or even college credit) mathematics courses during their high school careers, so that they can build the foundation of successful transition to college and life beyond tertiary education.

However, much of the enrollment in Algebra I is controlled by local educational agencies, schools, school administrators, and individual teachers, and most frequently it is based on standardized test scores, teacher recommendations, and family requests. Although families with the social and cultural capital to advocate for their children’s interests frequently succeed in having their students placed in Algebra I, the schools and teachers make the final decisions. In other words, educators and educational institutions hold most of the power in determining which students have earliest access to Algebra I,

and therein lies a challenge. Most educators are White and middle class, while increasing proportions of students are neither (NCES, 2007b).

Even though educators may not necessarily understand or recognize the histories, priorities, values and lived experiences of their students, they are the ones, nevertheless, empowered to make educational placement decisions for all learners. Because of these differences in class, culture, ethnic background, race, and socioeconomic status between teachers and their students, it is obvious that many educators lead very different lives from their students (NCES, 2007a). Not only were the K-12 educational experiences of teachers today very different from those of their students, but furthermore, these differences cut across nearly all facets of life in the United States, and included not only these different experiences, but also different treatment and access as well.

White, fully able heritage speakers of English, who comprise most educators in the United States, also enjoy statistically significant superior positions in other realms when compared to their students with historically marginalized identities. These advantages include higher rates of employment (Bureau of Labor and Statistics, 2007); income (U.S. Census, 2005); accumulated wealth (Oliver, & Shapiro, 2006); and lower interest rates on loans (Consumer Federation of America, 2007). Advantages also include increased home ownership (U.S. Census, 2005); better treatment within the criminal justice system (Mauer, & King, 2007); better quality of and increased access to medical care (Kaiser Family Foundation, 2007); and superior access to prenatal care (Centers for Disease Control, 2006). It is unrealistic and short-sighted to discount or overlook how these advantages, immunities, or privileges (McIntosh, 1990) enjoyed by White teachers

impact the educational experiences of children with historically marginalized identities, who McIntosh described as “people of color.” Failure to consider these privileges may lead to unfairness in a teacher’s evaluations of her students.

As if these vast differences between the lives of White middle-class teachers and their students with historically marginalized identities were not extensive enough, McIntosh (1990) carefully recounted some of other myriad ways in which White people in the United States experience privileges based solely on their racial classification. In a list titled, “Daily effects of white privilege,” McIntosh (1990, p. 2) explored a range of ways in which being White is to her quiet advantage. For example, she explained that because she is White, she can speak with food in her mouth and not have this attributed to her race. Because she is White, it is easy for her to buy posters, toys, greeting cards, and dolls that depict her race. McIntosh suggests that, if she is pulled over by a police officer, it is not because of her race. In other words, she suggested that her race insulates her and other White people from countless challenges and issues that may be overlooked or unnoticed by many Whites. Her list highlighted some of the small and large ways in which Whites and other similarly insulated people are quietly but regularly privileged.

The truth is that, in general, most teachers enjoy historically privileged identities not available to their culturally, linguistically diverse students. Taken in isolation, this might not be an issue. However, as evidenced by multiple achievement gaps (NCES, 2007a), in many instances, those students most different from their teachers have the least access to the most desirable courses early in their academic careers. Early access to Algebra I is widely recognized as valuable, but students with historically marginalized

identities fail to gain admission or access to the course as early as their historically privileged peers. Teachers, who hold some of the access-granting power, may evaluate students as different from themselves as less worthy or capable, which may perpetuate the achievement gaps in the United States.

### Purpose of the Study

The purpose of this dissertation is to examine how these different life experiences, histories, and values between students with historically marginalized identities and White educators may affect the timing of and access to Algebra I. Across the United States, as a result of increased immigration and shifting demographics, educators at all levels are increasingly teaching students that are different from themselves. As noted, the majority of teachers fall into the category of White, fully able, middle-class, monolingual heritage English speakers, while the proportions of similarly White, fully able monolingual heritage English speaking students are declining (NCES, 2005a). Consequently, it can no longer be taken for granted that educators will work exclusively or primarily with students who share backgrounds or upbringings similar to their own. Old, well-established systems of evaluating students employed by teachers may no longer work with today's increasingly diverse student population. The differences between teachers and their learners are large and growing. They include not only racial and linguistic differences, but also cultural and socioeconomic differences.

In this dissertation, I seek to advance our understanding of the procedures and criteria used by individual teachers in one comprehensive school district in placing (i.e., tracking) middle school students in various mathematics course progressions (i.e., those



below grade level, on grade level, above grade level, and significantly above grade level). Specifically, I examine how teachers explain and justify their placement recommendations and the reasons they put forward to defend their decisions.

To this end, I recruited a purposive, representative sample of eighth-grade mathematics teachers who are White, heritage speakers of English, and middle class, and whose students are eighth-graders who have not yet taken Algebra I. I sought to learn how the teachers decide whether their eighth grade students should be promoted to Algebra I in ninth grade, and which students are limited to taking Pre-Algebra in the ninth grade, thereby deferring their study of Algebra I for at least one additional year.

Because of an increasing need for all students to attain sophisticated levels of mathematical literacy, it is important that all educators be prepared to make these life-impacting decisions for the learners in their charge. This study is intended to inform teacher preparation and the professional development provided to educators. It may also inform the recruitment and hiring of new teachers.

#### Research Question

In many cases, teachers hold ultimate power in making next-course recommendations for the students in their care. The teacher's course level recommendation will become the student's course level placement unless the student or the student's family intervenes and initiates a course-placement review process.

To better understand how teachers make their placement decisions, I chose to make the voices of seven classroom teachers the focus of my research. I have explored such factors (e.g., family communication, grades, standardized test scores) considered by

these educators in making these decisions. Further, I listened to the voices of three district-level central office staff members responsible for middle and high school mathematics in order to understand how they think educators should approach these decisions, and whether they perceive any disconnect between what they think should happen and what actually happens.

To this end, the following research question emerges:

- How do educators make mathematics placement recommendations for those students moving from Math 8 into high school?

The premise underlying this research question is that eighth-grade mathematics teachers have power in the decision-making process, and that power is mediated not only by their own histories, but also by their professional culture and their own prior school experiences. Although some teachers may appear to occupy a low position in the hierarchies of their individual schools or communities, their decisions in making course placement recommendations are very powerful and their decisions carry much weight. They are enabled to make life-changing decisions for their students, and my goal is to understand how they reached their conclusions and made their recommendations for students who have historically marginalized identities.

### Summary

This chapter outlined the growing importance of successful completion of Algebra I. It highlighted various facets of the shifting demographics of the United States, along with the accompanying academic achievement gaps that continue to afflict our schools. The problem is that middle school students who have historically marginalized

identities, by being denied the opportunity to enroll in rigorous mathematics courses (e.g., because of their ethnicity, gender, or socioeconomic status) are not gaining access to the most challenging mathematics courses early in their academic careers. Such students are at a disadvantage when compared with other students with historically privileged identities. How, then, do teachers determine which students are best suited for each mathematical track?

The purpose of this research is to highlight and explore the processes by which eighth-grade mathematics teachers, along with central office staff members, select the mathematics courses for their students, including those students with historically marginalized identities. This research focuses on the ways these teachers explain, defend, and justify their decisions. For the purposes of this research, all names and locations have been fictionalized.

## 2. Theoretical Framework and Literature Review

This research is rooted in the view that education is not neutral, but rather, is always meaningfully situated within a larger construct of power. To this end, I approached this research with a perspective informed by postmodern and critical theories. I believe that there is nothing neutral, and that each action, each utterance, is significant (Freire, 1973). Equally, I believe each lack of action and each silent space is significant. This is not to say, however, that I believe each actor is necessarily aware of the subtexts and lack of neutrality. Rather, I believe each player—myself included—is part of a larger, far more enigmatic process, often unwittingly producing and reproducing the cultural tropes we have been silently instilled with, in participating in this process of cultural reproduction.

By adopting a sociocultural approach to this research, I posit that we are each entwined within complex contexts of individuality, family, community, culture, language and history, of which many of the details are invisible or forgotten. I recognize that, as a researcher, my own ethnic and family roots and branches, too, are inextricably tangled in those of others, including the participants of this research. As a result I need constantly to consider the influences and interweavings of my own habitus, which is my “socially patterned matrix of preferences and propensities” (Wacquant, 1996, p. xvi), shaped by my own unique history.

The composition of this literature review represents a select sampling of the research and conceptual underpinnings that inform not only the ways in which educators view students with historically marginalized identities, but also includes the research and frameworks that focus on how educators make placement and promotion recommendations for students, specifically in the area of mathematics. Many studies and concepts selected for inclusion in this review employ a critical (or somewhat critical) theoretical framework, in keeping with the theoretical framework of this research. Additionally, the literature and frameworks included here highlight my role as researcher and my own positionality and reflexivity in interacting with my participants and the context at large.

The primary themes and theoretical models included in this review of literature focus on the ways students with historically marginalized identities are granted or, more frequently, denied access to rigorous gatekeeping academics in public schools in the United States. The selected literature takes a decidedly critical, postmodern bent, exploring the ways those in power (in this example, school-based personnel) work quietly to maintain the current hierarchical structures and relationships, and the ways in which institutionalized practices perpetuate the *status quo* unchallenged.

In making mathematics placement decisions for students moving from eighth grade to ninth grade, educators in this study are, in essence, participating in the tracking or ability-grouping of students. Extensive research on this topic, such as that by Oakes, Joseph, and Muir (2004) has explored several facets of this phenomenon, who studied the current state of education for “low-income, minority students” (p. 70), or students with

historically marginalized identities. Their research highlighted the overall impact of tracking, justification for and placement criteria used, teacher expectations and judgments, and the impacts of de-tracking, or heterogeneous grouping. Research related to each of these issues is summarized below, framed within critical and sociocultural frameworks.

### Selection of Literature

In searching for studies and conceptual frameworks to be included in this review, I used several strategies. I began with the chapter “Access and achievement in mathematics and science: Inequalities that endure and change” (Oakes, Joseph, & Muir, 2004) in the *Handbook of Research on Multicultural Education* (Banks & Banks, 2004). This comprehensive and thoughtful chapter led me to multiple other relevant studies, many focusing on how tracking and ability grouping are used to exclude students with historically marginalized identities from higher-level course work.

I also carefully read the chapter “Research on preparing teachers for diverse populations” (Hollins & Torres Guzman, 2005) in the text *Studying Teacher Education* (Cochran-Smith & Zeichner, 2005). While this overview focused on preservice teacher education, it provided a useful bibliography of related research, some of which focused on in-service teacher views and stances towards students with historically marginalized identities, which they referred to as “diverse populations.”

Next, I conducted a series of advanced searches within several electronic databases, including INFOTRAC, EBSCOhost, ERIC, and ISI Web of Science. I used various combinations of the terms *math*, *placement*, *promotion*, *teacher disposition*,

*teacher attitude, teacher expectations, in-service, diverse diversity, tracking, ability-grouping, multicultural, English language learners, CLAD (culturally, linguistically and ability diverse,) and ESOL.* I was led to studies that I selected because of their unambiguous investigation into the issue of teachers' views and perspectives on working with students with historically marginalized identities, educators' mathematics promotion and placement of students with historically marginalized identities, and the impact of these placements. Although I intended to limit inclusion to studies that were completed within the last 10 years, I compromised this to include several older, large-scale, foundational studies of great relevance.

A search in ProQuest Digital Dissertations revealed several dissertations that had some link to teacher's views on students with historically marginalized identities and their mathematics placements. Of these, I selected only two for inclusion in this review, and these were chosen based on their focus on mathematics. Both were completed relatively recently in 2000 and 2006.

### Conceptual Underpinnings

As mentioned, I view education and, by extension, this research as rooted in the context of a shifting sociocultural hierarchy. Building from historically sanctioned and mediated conceptions of power, I have framed my conceptual framework around ideas tightly linked to critical theory.

### *Cultural Reproduction*

A large part of my conceptual framework hinges on the idea that schooling, as a facet of culture, is part of its own incomprehensibly larger context, and is a culturally

mediated—and mediating—activity (Vygotsky, 1978). By mediated, I mean that what is known as schooling has been shaped and influenced by numerous forces, some well identified and others completely unknowable (Hansen, 1995). Some of the known forces include the organization of schools and classrooms and the recruitment of teachers (Bruner, 1996).

While educators may naively believe their actions, behaviors, and even their thoughts are uniquely their own, Vygotsky posited that each educator—again, myself included—is the product of a panoply of earlier experiences, including our own historical and cultural traditions. When I write about schooling as a mediating activity, I mean that school exerts immense power in shaping (and frequently reproducing) culture, including implicit and explicit hierarchies and power relationships that permit some individuals and communities to decide which members have control and which members do not.

Vygotsky conceptualized mediation as, simply, the mechanism by which the external becomes the internal—that is, the ways and means through which we learn in context. Simply put, “human thinking develops through the mediation of others” (Moll, 2004, p. 113).

I believe this concept of cultural reproduction is especially significant within the realm of schooling, in that children, at some of the most impressionable and malleable phases in their lives, are required to become frequently unwitting participants in this process of recycling power. Influenced by the work of Bourdieu and Freire, I believe that hierarchical power, woven (often imperceptibly) within the grand narratives of culture, is given voice through symbolic capital and symbolic violence (Bourdieu, 1986), and that



education can be—and indeed, has been—used to indoctrinate the subjugated to adapt to a world of domination (Freire, 1973). As Sleeter and Grant (1991) explained, “Curriculum always represents somebody’s version of what constitutes important knowledge and a legitimate worldview” (p. 80). Within the context of my research, I believe many students with historically marginalized identities are participants in this recycling of power and recycling of worldviews with regard to their mathematics course placements.

### *Habitus*

The concept of habitus stands at the center of the work of Bourdieu, and a large part of cultural reproduction is manifested in the habitus of an individual—that is, the beliefs and subsequent actions that are the result of a socially constructed disposition. Essentially, this might be described as an educator’s teaching philosophy. Habitus includes a focus on class, but not exclusively in the traditional paradigm of class as bound to a person’s formal relation to the means of production and location in the labor process. Rather, habitus defines class and class relations and how they are constituted (Bourdieu, 1977).

For educators, what this carefully protected and insulated habitus overlooks, or even denies, is that in nearly every facet of life in the United States, people with historically marginalized identities (which include those of lower social class and lower income, as Bourdieu explained) have different experiences than White, middle-class, fully able, heritage speakers of English, with those in the latter group typically receiving the best service and greatest range of opportunities. What many White educators fail to

recognize or include in their individual *habitus* is the fact that not all of the more than 300 million U.S. inhabitants—one third of whom are “minorities”—have common experiences or benefits to draw or build from, and these differences are frequently influenced or defined by racial, ethnic, or linguistic identity.

Many educators (often unwittingly) fail to consider or recognize the “funds of knowledge” brought by each student (Moll, Armanti, Neff, & Gonzalez, 1992), which are the historically accumulated and developed strategies held by each student and used to function within the family or community. Because U.S. demographics are continuing to shift, today’s classrooms are very different from those most educators participated in as children. This may result in a limited, oversimplified worldview that may contribute to a kind of “cultural barrier,” blinding educators to the more nuanced, highly detailed reality beyond superficial recognition of “difference,” perpetuating the idea that students “choose” whether or not to learn (Deci & Ryan, 2000), rather than focusing on the ways educators may influence or mediate this experience.

### *Symbolic Capital*

The concept of symbolic capital may manifest as a series of privileges, including the privilege to be heard, the privilege to make decisions, the privilege of prestige, and the privilege of receiving credit for positive outcomes or situations. Symbolic violence occurs when a holder of this symbolic capital (an individual or an institution) uses this power to change the actions of a subordinate entity. In many examples, the dominated subordinate parties grow to accept their status and internalize their social positions. I view the work of educators—particularly such mathematics teachers as those studied in

this research project who make placement decisions for students—as a either a transmission of symbolic capital (in placing students in challenging courses) or symbolic violence (in placing students in basic, nonrigorous courses), or a combination of both forces.

Expressions of power and control are part of critical theory, in that critical theory seeks to peel back the layers of power, and determine which parties enjoy such power. Beyond this, critical theory seeks to disrupt the power structures and redistribute benefits and wealth more equitably. This stance seeks to answer questions such as who benefits? At what cost? Moreover, why? Kraft (2003) summarized this, stating, “Teaching is ultimately a political action because, consciously or unconsciously, it serves to confirm or contend the prevailing social order and power relations” (p. 20).

This is not to say, however, that I believe all U.S. classrooms are the same or similarly positive or negative. Rather, I recognize that individual educators bring to their work their “personal, practical knowledge” (Elbaz, 1983), which includes their interpretations of the curriculum, their thoughts, their beliefs, and their views of their students. Each individual teacher develops a unique lens and perspective, built from his or her individual history and experiences. Each teacher’s socio-cultural background may influence her perception of students, and Gudmundsdottir (2001) described this by saying, “Through years of participation in a given cultural activity, people in all cultures gradually develop distinct ways of knowing about, understanding, and perceiving their shared physical and social reality (p. 231).”

*Narratives*

Gudmundsdottir (2001) built upon the work of Bruner (1991), who referred to this way of knowing, developed through ongoing participation in a given cultural activity, as *narrative*. Bruner describes how narratives are, by nature, pluralistic, in that many competing or conflicting interpretations may exist simultaneously, within the same space. “Narratives, then, are a version of reality whose acceptability is governed by convention and ‘narrative necessity’ rather than by empirical verification and logical requiredness, although ironically, we have no compunction about calling stories true or false” (pp. 4-5).

The narratives of mathematics education in the United States represent different perspectives and experiences that include multiple versions of “reality” as perceived and determined by the teachers. However, the range of these narratives is relatively narrow when compared with other content areas (Ball, Lubienski, & Mewborn, 2004). Part of the reason for this may be that mathematics education in the United States is a surprisingly stable—and even static—entity. Mathematics education in the 21st-century looks much as it did in 1950—and even similar to the way it was in 1900 (Ball et al., 2004). Drill and practice still make up large parts of the typical instructional period, and the use of procedural algorithms are encouraged instead of deep conceptual understandings (Ball et al., 2004).

The persistence of these practices may be attributed to the rigid metanarratives of mathematics education. Ball et al. (2004) listed the following factors as reasons for the persistence of these metanarratives: “Culturally embedded views of knowledge, learning, and teaching; social organization of schools and teaching; curriculum materials and assessments; and teacher education and professional development” (p. 435). Much of this

“cultural embedding” takes place in the 2,000+ hours that each teacher has already spent as a K-12 student, participating in schooling as a student in what Lortie (1975) called the “apprenticeship of observation” (p. 61).

This “apprenticeship of observation” as part of a narrative construction is potentially troubling, in that schools today frequently do not match the schools educators attended as children. When compared with students in U.S. schools 20 years ago, students of today represent greater diversity, while with the advent of NCLB, the educational outcomes are more high stakes than in the past. There is great potential for a mismatch between the expectations of teachers and the realities of their classrooms. For these reasons, teachers may regard working with students with historically marginalized identities as especially challenging because the situation is so different from their own childhood experiences. Educators may fall back on stereotypical ideas and ideals, in spite of teacher preparatory efforts to counter this, because issues of race and racism are so tightly bound to U.S. culture that they have become normalized (Ladson-Billings, 1998). As Ball, Goffney, and Bass (2005) explained, this is important in mathematics education because:

The disparities in mathematics achievement are tightly coupled with social class and race, and have not narrowed over the last decade despite a rhetoric of “mathematics for all.” Some have come to suspect that some aspects of “good teaching” may unwittingly create, reproduce, or extend inequities among students, differences deeply rooted in the inequalities of our society. Take an example: A glance at mathematics textbooks, even those newly designed or revised, reveals

the settings for many mathematics problems to be most familiar to middle class white students. Plans for garden plots, mileage covered on family vacations, stereotypical images of “family,” allowance plans—these and other “meaningful” and “real world” contexts may be more familiar and engaging to some students than to others. (p. 3)

### *Reflexivity*

My theoretical framework also includes an element of reflexivity (Bourdieu, 1992) in that throughout the process of data collection and analysis, I have worked to maintain a constant awareness of my own position of power and control. As a White, educated, heritage speaker of English, working in a central office in a large school system, I recognize that I enjoy special benefits and privileges, and I have tried to remain mindful of these while I have conducted this research and analyzed my data.

It must also be noted that many of the stories, opinions and anecdotes shared by participants in this study were part of what might be termed *White bonding*. Because people recognize my Whiteness and native fluency with English, those with similar identities tend to confide in me or feel that I must, somehow, relate to their perspectives. Bruner (1996) described this, stating, “What subjects say, moreover, depends upon how participants construe the relationship between the questioner and the answerer” (p. 113). Educators in this study often seemed to be seeking validation from me, asking, as it were, “Do you agree, and am I right?” after making pessimistic or even insulting statements about students. I worked, throughout my interviews and interactions with participants, to maintain a superficially neutral stance, in an attempt to elicit the true understandings and

beliefs of participants. However, I was aware that the opinions shared are those not often heard except when whispered in confidence, so I purposefully let the participants, both teachers and administrators, speak their minds with little intervention. My own reflexivity occurs here, within this document, and in the recommendations for professional development I will present to the school district. This element of constant reflection and reflexivity is a crucial part of this research, in that all interpretation herein is filtered through me, the researcher.

### Why Algebra?

Having established the importance of cultural reproduction and the issue of reflexivity in conducting this research, I raise the question of “Why algebra?” As I have outlined in chapter 1, access to Algebra I is of utmost importance for success in the United States, and the earlier a student successfully completes Algebra I, the more opportunities are available for additional mathematics courses and thus to a greater range of career and tertiary options. This urgency highlights a unique contradiction around the idea of Algebra I, in that algebra, in and of itself, is not of any particular utility in everyday life. Rather, most adults, including the vast majority of well-educated professionals, rarely use algebraic concepts in their day-to-day activities. However, the unspoken benefit of algebra is that it requires abstract thinking, which is a move beyond the lower-level, more concrete ideas that serve as the precursors to Algebra I.

People who complete Algebra I have demonstrated competence in manipulating theoretical models. This type of thinking translates not only into a solid foundation for additional mathematical studies, but also serves as a framework for abstract thinking in

other content areas, including English, science, and social studies. Not only can abstract thinking help students gain deeper understandings in other content areas, but abstract thinking may also be a skill valued in the workplace. Failure to acquire these deeper understandings may limit the range of professions available to students (American College Test, 2006).

If the authentic, core purpose of education is to enable, inspire, and empower students to reach high academic standards, show responsible citizenship, and lead ethical lives, as outlined in the mission statement of the research site of this study, it follows that elements of social justice should be infused into each content area—including mathematics. Social justice implies that students will be supported by whatever means necessary to reach their full potential, not just academically, but also personally and interpersonally. This mission statement, and this sentiment of social justice, implies that students will be encouraged and even expected to challenge the *status quo*, and learn to advocate critically for themselves and others. Gutstein (2006) summarized this idea, stating, “Students need to be prepared through their mathematics education to investigate and critique injustice, and to challenge, in words and actions, oppressive structures and acts” (p. 4). By infusing social justice into mathematics education, students will be better equipped to approach complex issues within their own lives and the greater communities in which they live. Current conditions in 21st-century U.S. education indicate that stances like the “multicultural social justice education” approach suggested by Sleeter and Grant (2007, pp. 184-214) are precisely what is needed for all learners to attain equity in mathematics and in life beyond school.



Further justifying the need for social justice as part of mathematics education, Bourdieu (1991) argued that institutionalized practices may compel “some people to maintain their rank and distance and others to know their place and be happy with what they are, to be what they have to be, thus depriving them of the very sense of deprivation” (p. 123). In other words, individuals and communities may become unwittingly complicit in their own oppression. Freire (1998) concurred and further posited that education should empower learners to gain the consciousness, will, and means (what Bourdieu would term *cultural capital*) to intervene critically in and interfere with existing manifestations of power. This might be summed up as educators being charged with “comforting the disturbed, and disturbing the comfortable,” even if they, as educators, number among the comfortable.

Within this framework of social justice in mathematics education, some educators are not only reinforcing limited and limiting stereotypes about children of immigrants, but are working, albeit sometimes unwittingly, to promote or reinforce the idea that life in the United States is a truly egalitarian experience, where hard work and cooperation are enough to bring rewards to anyone willing to apply themselves (Gladwell, 2008). While this idea of egalitarianism is positive, there exists a gap between it and reality. Today’s mostly White (84%) and female (75%) teaching force (National Council of Education Statistics [NCES], 2007a) —is sending the meritocratic message that all people, no matter their ethnic, socioeconomic, cultural, linguistic background, or country of origin are equal, and everyone has the same chances at and opportunity for success. In adopting this stance, educators fall into the multicultural approach that Sleeter and Grant (2007)

termed *teaching the exceptional and culturally different*. As extant research confirms, White, middle-class students are seen as “normal” students who are not worthy of special mention or measure, and everyone outside of that “norm” is somehow deviant, lesser, and in need of special attention—or neglect. This perspective is known colloquially as “business as usual,” and intimates a subtle pressure for those outside the mainstream to conform (Kincheloe, 2007).

### Mathematics and Students with Historically Marginalized Identities

The study of mathematics is beneficial for all learners. However, in the United States, certain groups of students enjoy greater success and completion of mathematics courses than others. This section outlines the current state of affairs for U.S. students with historically marginalized identities and includes a summary of a particular perspective held by some educators: a deficit perspective.

#### *Current State of Education for Students with Historically Marginalized Identities*

Although there are countless fortunate exceptions, many adults educated in the United States would agree that “the school mathematics experience of most Americans is and has been uninspiring at best, and intellectually and emotionally crushing at worst” (Ball et al., 2001, p. 434). This complex sentiment, rich with unpleasant nuances, frames much of what still remains to be learned and understood about mathematics education in the United States.

In his foundational work, *Pedagogy of the Oppressed*, Freire (1973) explored the concept of what he called the “banking model” of education (p. 72). This traditional approach to education implies that the teacher is the sole source of knowledge, and the

learner is merely a passive receptacle. Freire posited that the teacher, as keeper of this information, may use access to knowledge as a means to manipulate, control, and dominate learners. On the surface, the motives of teachers are perhaps not quite so ominous, but the subtext may remain, although possibly unacknowledged and unrecognized by either the teachers or their students.

Perhaps more so than any other content area of study, mathematics education might most closely fit Freire's description of the banking model. The very design of current curricula and modern textbooks in the United States promotes this stance. Because mathematics, as a whole, has been composed by mostly hidden, context-less authors, this has the effect of rendering mathematics as a cultural form imbued with mystery and power (Povey & Burton, 2004). Further promoting this, teachers are by and large educated in this manner, taught to internalize these stances, and as cultural reproduction runs its course, so, too, do teachers perpetuate this instructional disposition: The teacher and text are the sole sources of knowledge.

Cultural reproduction is a powerful force. While cultural reproduction is not necessarily negative, this behaviorist instructional stance, the banking model, has persisted in spite of recent national efforts to alter it—perhaps because many educational practitioners find the banking model to be unobjectionable and perhaps even preferable to any other.

In response to the document *A Nation at Risk* (1983), the National Council of Teachers of Mathematics introduced the revolutionary *Curriculum and Evaluation Standards for School Mathematics* (1989). Although not explicitly described as such, the

*Standards* reflect an overtly constructivist approach, emphasizing inductive thinking and exploring of mathematical concepts, all with the goal that students will actually understand the mathematical content rather than simply memorizing and regurgitating it. This could be considered the polar opposite of the banking model, as the NCTM *Standards* promote independent, even novel thinking on the part of students. Rather than only one “right” way to reach solutions, the *Standards* promotes the generation of a variety of paths to reach the same ends.

As mentioned, this shift in approach (from behaviorist to more constructivist) is rarely seen in classroom practice in the U.S. with any consistency. With few exceptions, (typically classrooms for “gifted” students), teachers continue to teach as they were taught, and perpetuate the banking model (Ball et al., 2001). Numerous studies and abundant anecdotal evidence speak to the inefficiency in the banking model in meeting the needs of all learners, but because it is familiar to most individuals educated in the United States, it seems to be the path of least resistance. Change is clearly difficult.

How, then, might this banking model impact the experiences of learners, and more specifically, how might this instructional approach impact the experiences of students with historically marginalized identities? Povey and Burton (2004) suggested that this approach (the banking model) might also be defined as an epistemological construct of silence, wherein learners are voiceless in the educational process. Students are cast as merely passive receptors, detached from “developing, acting, planning or choosing” (p. 44) what content or how they will acquire new information. Povey and Burton described this silence as a way of knowing that is characterized by feelings of

fear, immobilization, and powerlessness. They explained that in some classrooms, this “silence,” perhaps particularly for girls (Belenky, Clinchy, Golberger, & Tarule, 1997), is seen as far more commendable than questioning the teacher, because posing questions has the potential to take the lesson off-track, possibly deviating from the intended objective. Student desires are irrelevant to the teacher’s curriculum-driven and/or government-mandated goals. This would clearly imply that the learners, unless conditioned to remain submissive and unendingly receptive, would experience feelings of negativity and disengagement (Belenky et al., 1997).

Olivo (2003) spoke to this issue of silence in his article, “Quit talking and learn English!” He describes several high school educators of ELLs at a Canadian school. The teachers all enthusiastically proclaimed their pleasure in working with ELLs, primarily because the students were so quiet and compliant. Olivo states,

ESL students were viewed as polite students who did not show evidence of “behavior problems” that would be indicated by such things as “talking back” to the teacher...There was an explicit connection made between the students’ lack of skills in speaking English and their polite behavior. (p. 56)

The teachers in the study recognized the students’ hesitation in speaking aloud, reinforced it, and capitalized upon it with sanctions and strict “no talking” rules. The students, however, were not entirely blind to these issues of power, control, and voicelessness. “Students appeared to understand the ways in which their talk was undervalued in the classroom setting” (Olivo, p. 67). Sleeter and McLaren (1995) summarized this sentiment by positing that our public schools teach students to

“harmonize a world of incongruity and fractious antipathy and to domesticate the unruly and unpleasant features of everyday life in which costs are imposed for being different and rewards given for ‘fitting in’ compliantly” (p. 7).

Mathematics educators, like many educators in the United States, are typically unprepared to meet the needs of students other than White, middle-class learners (Hollins & Guzman, 2005) and are especially unprepared to meet the needs of ESOL students (Cochran-Smith, Davis, & Fries, 2004; Howard, 2003). Because so much content-based course work is required for licensure as a mathematics educator, there is frequently little time to include additional courses or information about supporting diverse learners. Mathematics teachers are well prepared to teach their content with much less time (preservice course work) spent on preparing them to meet the needs of diverse learners. Although many teacher preparation programs now include at least token discussion of meeting the needs of students from “microcultures” (Gollnick & Chinn, 2002) or, in other words, students with historically marginalized identities, these programs do not necessarily benefit the large contingent of already working, in-service teachers who have daily contact with what they termed “heterogeneous student populations” (p. 4).

Rousseau and Tate (2003), in seeking to learn how a specific group of high school mathematics teachers viewed “traditionally underserved students” (p. 210), or, for the purposes of this dissertation, what I term students with historically marginalized identities, Rousseau and Tate (2003) spent a school year interviewing educators and observing their teaching. They found that the educators in their study faced two major challenges. First, the teachers all spoke of their support of the paradigm of “equality.”

Collectively, they had conceptualized equality as each student receiving the same treatment, same assignments, held to the same standards of behavior, and so on. This was in contrast to what the authors would have preferred to find: equity. In equity, each student would get what was needed, not contingent upon an arbitrary “sameness” for all students. Although related, equity and equality are significantly different concepts, especially when applied in an educational setting (Secada, 1989). When educators practice equality, all students receive the same instruction and assessment, while when educators practice equity, each learner receives whatever instruction is necessary to ensure success.

The second major challenge the teachers in the study faced was that almost every educator embraced the idea of color-blindness. Rousseau and Tate (2003) stated,

Color blindness not only limits teachers’ acknowledgement of student characteristics and perspectives; it also fails to acknowledge important influences on schools and society. In particular, a color-blind approach requires a willful ignorance of the impact of racism. This failure to acknowledge the racist structures in society and schooling must necessarily be accompanied by a failure to question and disrupt those structures. Therefore, despite the well-meaning intentions of the color blind, this mindset prevents the questioning of assumptions and thereby serves to perpetuate a status quo of inequality. (p. 213)

In an attempt to prevent attitudes and stances like these (equality instead of equity and colorblindness), Mueller and O’Connor (2007) created an intervention used with one section of 23 preservice teachers in a teacher preparation program in Michigan. The

semester-long project focused on institutionalized racism and the ways current U.S. educational practices consistently and methodically privilege and benefit White, middle-class culture. In spite of this intense, highly critical exploration and examination of these issues, the students maintained “unwavering ethnocentrism” (p. 853), with steadfast commitments to their beliefs that their own epistemologies were not only “right” and “good,” but also superior to any others. Startlingly, not only did the participants in the study reject the critical perspectives, but also “twisted information that was incongruent with their own ethnocentric beliefs to fit their already established frames of reference” (p. 853).

This is a clear employment of the deficit model of viewing “oppressed” students, or students with historically marginalized identities. Freire (1998) explained,

We have a strong tendency to affirm that what is different from us is inferior. We start from the belief that our way of being is not only good but better than that of others who are different from us. The dominant class, then, because it has the power to distinguish itself from the dominated class, first rejects the differences between them but, second, does not pretend to be equal to those who are different; third, it does not intend that those who are different shall be equal. (p. 71)

The work of Karabenick and Noda (2004) built upon this idea that teachers are not well equipped to meet the needs of “diverse student populations” (p. 55) or students with historically marginalized identities. Their study, conducted on a comparatively large population of in-service teachers (n = 729) in a Midwestern suburban district, simply sought to gain insight into the teachers’ current beliefs, attitudes, practices, and needs



related to English language learners. Karabenick and Noda reported that although the teachers generally held favorable attitudes at the prospect of having ELLs in their classes, “a substantial number of teachers were either uncertain or had unfavorable attitudes” (p. 60).

### *Deficit Perspective*

Some educators adhere to and espouse a deficit perspective, wherein some students, their families, and their communities are seen to be lacking in qualifications or somehow less worthy than others due to their differences from the mainstream. Multiple examples of this deficit perspective with regard to socioeconomic status are found in the work of Payne (2003), an educator-turned-author who conflates the idea of poverty with things like criminal behaviors and aggressively violent tendencies. Payne (2003) implied that children in poverty may have a “lack of precision and accuracy in data gathering” (p. 124) and “impaired verbal tools” (p. 123). This stance of finding fault with the students is built explicitly around the previously dominant deficit paradigms that framed scholarship throughout the 1960s, 1970s, and 1980s, in contrast to a model that emphasizes empowerment and strength.

As explained by Valencia (1997), “The deficit thinking paradigm, as a whole, posits that students who fail in school do so because of alleged internal deficiencies (such as cognitive and/or motivational limitations)...or shortcomings socially linked to the youngster—such as familial deficits and dysfunctions...” (p. 2). In other words, for Payne and many of her like-minded peers, learners that are not White, middle-class heritage speakers of English are seen as deficient, in need of adjustment, bolstering, and

support. The goal of this support is so that the “underprivileged” might one day attain the status of the majority, or, at minimum, an understanding of that status so they may “know their place” and support the maintenance of the status quo.

Constructed to perpetuate an idealized meritocracy, the philosophical stance of the deficit perspective, rooted in racism and elitist, middle-class prejudices, implies that if students of color or English language learners just try hard enough, they will be successful—as successful as their White, middle-class peers, if enough effort is exerted. This stance neatly encompasses a complete and comprehensive denial of societal structures that may impede access for all learners. Adherents to this stance may state, for example, that all children can grow up to be president of the United States, if only they try hard enough or choose that path. Payne’s (2003) assertion that, if students from the lowest SES simply learn the ways of the middle class, they will be “fine,” denies much of the reality faced by millions of people in the United States. Rather than directly facing issues that lead to institutionalized practices that perpetuate poverty, meritocratic sentiments such as these may serve to perpetuate a naïve, simplistic, and assimilationist approach to the truly critical and complex challenges faced by particular groups of people in the United States. By squarely placing the onus of responsibility upon the learners, Payne and others like her deftly sidestep any meaningful obligation to educate the learners. As Gorski (2006) explained in his critique of Payne’s work, the framework of the deficit perspective places full responsibility for change within the afflicted individuals, external from the systems that create and maintain inequities including poverty. Gorski (2006) went on to explain: “Meanwhile, Payne renders the average

person in poverty—the hard-working, drug- and alcohol-free, education-valuing, nonviolent, responsible, non-criminal person—invisible” (¶ 32). By emphasizing that it is the responsibility of those in poverty to learn the ways of the middle class, Payne and others like her deny their own responsibility, ownership, and even complicity. The burden belongs to the students, their families, and their communities.

As examples, Payne (2003) chose individuals, groups, and communities of poverty. Others with historically marginalized identities are also targets of the deficit model. This may include persons of color, persons for whom English is not their first language, or persons with learning disabilities. In short, Payne and others like her carry with them an understanding of “normal,” that excludes large groups of students who are seen to be falling outside the “normal” range for any number of reasons (Payne, 2003; Valencia, 1997).

### *Critical Perspectives*

In contrast to those educators who embrace a deficit model, other educators have moved toward a more critical, culturally responsive form of pedagogy. Inspirational mathematics teachers such as Jaime Escalante and Kay Toliver, among many others, have excelled in their work with students with historically marginalized identities. As classroom teachers, Escalante and Toliver were convinced and demonstrated that even the most economically disadvantaged students could be successful in higher levels of mathematics. During their careers as a public school teachers, Escalante and Toliver helped hundreds of students with historically marginalized identities in East Los Angeles and New York City schools to prepare for more academically challenging, college-level

mathematics, including passing Advanced Placement Calculus exams (Matthews, 1989; Toliver, 1993). These two inspirational mathematics teachers, like thousands of others, believed deeply in their students, held very high expectations for each of them, and were committed to doing whatever it took to guarantee their success.

Educators like Toliver and Escalante embody the approach to teaching that Sleeter and Grant (2007) loosely termed “multicultural education” (pp. 149-183), wherein educators and educational systems for social justice and social reconstruction work with passion to effect social change, not just at the individual level, but also at the institutional level, reflecting principles of both equity and justice. This perspective, also described by Kubota (2004) as “critical multiculturalism,” involves not only a simple recognition of differences, but extends beyond awareness and recognition to action. Educators who embrace this approach thoughtfully and intentionally employ strategies that meet the needs of each learner, no matter how unfamiliar the students’ backgrounds and needs may be. Further, this tenet of equitable opportunity (within the construct of multicultural education) also extends up and out, and tackles the very structure of schooling itself. As neighborhoods are economically stratified, so, too, are public schools economically, ethnically, and often racially stratified, where schools with higher concentrations of low-income students of color frequently receive less funding than those schools with fewer students of color. The corresponding quality of education is often strikingly different, and this, in turn, impacts the students’ chances of admission and enrollment in college (Kozol, 2005).

One of the key challenges to a full-fledged, critical educational approach is that the vast majority of U.S. educators were not schooled in this approach themselves. Rather, most U.S. educators participated in K-12 public schooling and tertiary education, which promoted business as usual and reduced “culture” to surface, superficial markers such as clothing, music, and food. This long-held focus on observable facets of culture obscures the need to commit to providing equitable educational opportunities and outcomes for all learners and undermines the need to work to address inequities and injustices (Banks, 1989; Banks & Banks, 1993; Gay, 1992; Nieto, 1999; Sleeter & Grant, 2007). Today’s conservative voices in the United States (Payne, 2003; Thernstrom & Thernstrom, 2004) argue loudly and strongly against a critical approach, and because few precedents have been set, those wishing to pursue this stance are among the vanguard, treading unfamiliar ground. However, energy in this arena is growing as increasing numbers of educators and educational systems (Gorski, 2006; Gutstein, 2006; Kozol, 2005; Kubota, 2004; Sleeter & Grant, 2007) realize the benefits of such a stance. Although still a few paces shy of full-fledged social justice, adherence to this stance is powerful in that it actively works to make level the playing field for all learners.

### Tracking

Tracking, at best, supports students in gaining access to the most appropriate course placements in order to maximize their educational experiences. In theory and often in practice, tracking is beneficial to students. However, those most likely to benefit are those placed in the highest tracks, often at the expense of those in the lowest tracks (Oakes, 2005).

### *Justifications for Tracking/Ability-Grouping*

Over the past decades, many school boards, school administrators, educators, and community members believe ability tracking of students in mathematics is not only beneficial, but also essential for the appropriate delivery of a robust program of studies (Oakes, 2005). The justifications given by teachers for tracking are frequently straightforward and seem to be common knowledge and standard procedures. Seeking to explore the dynamics of high school tracking decisions, Oakes and Guiton (1995) studied three California high schools for two years. In addition to reviewing publicly available information (student handbooks, course descriptions, master schedules), they also conducted interviews and observations of school administrators and teachers. Oakes and Guiton asked, specifically, about “appropriate” curricula for various students. Additionally, they collected transcript data for the students in the schools.

Oakes and Guiton (1995) found that educators had multiple justifications for the maintenance of tracking, beginning with the widely held core belief that students’ “abilities, motivations and aspirations are fixed” (p. 10). Building upon this, perhaps as a corollary, they found, that “because race, ethnicity, and social class signal ability and motivation, they also influence curriculum decisions” (p. 15). In other words, educators in their study believed they “knew” students based upon race, ethnicity, or social class. As a result, the schools with the highest proportions of students with historically marginalized identities had the most limited range of college-preparatory courses available, justified by the beliefs that these students would neither want nor benefit from such course offerings. Even when students with historically marginalized identities

presented the same test scores and grades as other students, they were still placed in vocational or less rigorous courses. This decision was justified by teacher perceptions of motivation, family support, or educational values (Oakes & Guiton, 1995).

While studying the tracking practices of 23 middle schools in California, Loveless (1994) found that the mathematics teachers he studied were almost universally resistant to the idea of heterogeneous grouping of their middle school students in mathematics. In other words, the teachers in the study thought that the students required separation into ability groups, and that their own evaluations and opinions of students were valid and valuable enough to make these determinations. Loveless explained that the majority of mathematics educators viewed mathematics as a “hierarchical sequence of concepts requiring mastery” (p. 28), in contrast to California’s Department of Education’s view that mathematics is “something socially and individually constructed by learners” (p. 29). Affirming this idea, Loveless continued, “Math teachers frequently referred to content, instead of process or affect, as the substance of their teaching. Furthermore, with content coverage seen as imperative to good teaching, heterogeneously grouped classes were viewed as unmanageable obstacles to professional excellence” (p. 30). In extensive interviews with teachers and administrators, Loveless found a widely held belief among mathematics educators that some students are simply not capable of learning algebra and their placement alongside stronger students would only serve to harm all involved.

This belief that some students simply cannot learn algebra is widespread and insidious. The leading authority on mathematics education in the United States, the National Council of Teachers of Mathematics (2000), has highlighted “a pervasive

societal belief in North America that only some students are capable of learning mathematics” (NCTM, 2000). Lesser and Blake (2006) built on this, stating, “Mathematics classes are therefore viewed as gatekeepers to keep the intellectually ‘less gifted’ from joining an exclusive club, thus creating a perpetual lower class of citizen” (p. 160).

Further exploring the tension between teaching content and teaching students, Ladson-Billings (1995) stated, “real education is about extending students’ thinking and ability beyond what they already know,” and “effective pedagogical practice involves in-depth knowledge of students as well as subject matter” (p. 140). These weighty proclamations imply that teachers must hold complex images of their learners in their thoughts as they craft and facilitate instruction. When teachers present the content without consideration of the specific learners, their strengths, and their dispositions, the results are likely to be inconsistent at best, and resulting in defiant, disengaged students at worst (Ferguson, 2008).

Lindle’s (1994) meta-analysis reveals some of the more hidden motivations for tracking and ability-grouping students. Many of the studies included in her meta-analysis highlighted the ways in which teachers, besides students, are also tracked, with the strongest, most experienced, and most senior teachers assigned to the “highest” classes of students, while the newer, less skilled teachers are left to work with the most needy students. This speaks to the quiet subculture of pre-K through 12 U.S. education, wherein there are few opportunities for advancement and promotion (short of moving into



administration). This tracking of teachers may serve as an informal career ladder of sorts (Lindle, 1994).

Oakes (2005) summarized the most frequently cited justifications for tracking and ability-grouping as four “unexamined assumptions that underpin school culture” with regard to tracking (p. 192):

1. Students learn better with academically similar peers
2. Slower students have better self-esteem when isolated from faster learners
3. Tracking is part of the meritocracy of school, with the most deserving students placed in the highest tracks
4. Teaching is easier and of better quality when the students are at similar levels

Although research has challenged each of these assumptions, strong adherence to these beliefs persists. The hegemony of public school culture in the United States is designed to maintain these viewpoints, which is to the advantage of those already enjoying the benefits (Burriss, Heubert, & Levin, 2006).

#### *Placement Criteria: How Tracking Happens*

Oakes, Joseph, and Muir (2004) explored the issue of placement--that is, how educators decide which courses are most appropriate for students. They emphasized that there rarely are uniform, objective measures in place to determine which students are promoted to more challenging courses. Instead, in addition to test scores and grades, educators use “highly subjective judgments about students’ personalities, behavior, and motivation” (p. 79). This is echoed by Cesario (2006) who says, “most schools do not have established criteria for identification into ability groups... So this becomes an equity

and access issue. At what point in student's education do you limit access to advanced concepts and knowledge" (p. 31)?

Indeed, at what point in a student's education should access to advanced concepts and knowledge be limited? Educators frequently feel justified and empowered to make these potentially life-altering decisions for students, often based on subjective, spurious information (Dorph, 2000; Green, Johnson, Kim, & Pope, 2007). In a thoughtful examination of assessment practices and the ethics of teachers, Green et al. (2007) surveyed 169 in-service and preservice teachers to determine how these two faces of professional practice—assessment and ethics--intersected. They stated,

Teachers may not always be well equipped to make ethical judgments related to assessment. Teachers' knowledge base about guidelines or ethical codes may be uncertain because they often lack formal assessment training or their training has become dated. Conflicting norms related to teaching (e.g., institutional norms vs. ethical interpersonal norms) often place teachers in ethical dilemmas. (pp. 1000-1001).

Building from this, Green et al. (2007) also focused on the issue of "score pollution," which they describe as "any practice that improves test performance without concurrently increasing actual mastery of the content tested" (p. 1001). In other words, score pollution is a grade or mark that does not accurately represent or reflect student achievement in the content, but may include modifications based on perception of student effort, timeliness of assignment completion, or behavioral issues. Green et al. (2007) continued to assert that because many teachers fail to use a blind scoring system, they

may “unintentionally engage in score pollution by giving less favored students lower grades than they deserve” (p. 1002). If teachers rely on grades as a primary tool for determining placement and advancement, this issue of score pollution may have serious implications for “less favored students,” which may include students with historically marginalized identities.

Although, in theory, any student may be placed in a lower track or ability group, what actually happens is that students with historically marginalized identities frequently make up the majority of participants in these lower-level courses. Multiple studies have illustrated that students with historically marginalized identities, including Black students (Gamoran & Mare, 1989), “students at risk” (Moore & Davenport, 1988, p. 11) and “underrepresented groups” (Oakes, 1990, p. v) are disproportionately represented in lower-track, non-college-preparatory courses.

In looking at the expectations mathematics educators hold for students and the nature of student/teacher interactions, Hargreaves (1988) found that teachers of mostly students with historically marginalized identities tended to rely primarily on the banking model of teaching, with compliance as a primary goal, in contrast to the more desirable student-centered approach. Hargreaves found a preponderance of authoritarian, teacher-centered, worksheet- and seatwork-based styles of instruction, with few, if any, opportunities for critical thinking by the learners. This was echoed in the work of Oakes (1990), who focused on “underrepresented groups” (p. v) and continues to be part of the fabric of education for students with historically marginalized identities. The expectation

is that students will listen, comply, and work quietly—not question, challenge, or create their own understandings.

Teachers’ expectations of students not only influence, but are influenced by tracking and ability-grouping, usually to the detriment of students with historically marginalized identities, or more specifically, “low-income, African-American and Latino children” (p. 222). Smith-Maddox and Wheelock (1995) summarized this: “Ability grouping in schools and the accompanying differential distribution of expectations are vital elements in locking students out of meaningful opportunities for future success” (p. 222).

By denying students access not only to more rigorous curricular content, students with historically marginalized identities may also be isolated from interactions with other kinds of students—those of different cultural, linguistic, socioeconomic status, ability, or other diverse backgrounds. This may serve to limit the perspectives and problem-solving approaches to which students are exposed, and it may also influence the quality of interactions between the teacher and the class as a whole (Oakes, 1990; Oakes, Gamoran, & Page, 1992).

In recognition of the challenges faced by “urban, Latino students” (Gutstein, 2003, p. 37), or students with historically marginalized identities, Gutstein took proactive measures and conducted action research in his own classroom, moving from seventh to eighth grade with his students as part of this longitudinal study. All 28 of his students were Latino and enrolled in his honors mathematics course. Spanish was the first language of each of the students.

Using ethnographic research methods including observations, surveys, and informal conversations, Gutstein also analyzed student standardized test scores and included an analysis of student work samples. Using real-world, social-justice issues (such as gentrification) as catalysts for mathematical growth, Gutstein embraced a Freirian pedagogical model for instruction and sought to determine how this might impact his learners. His goals for the project fell into two categories: to help students develop sociopolitical consciousness, a sense of agency, and positive social and cultural identities, and for his students to develop mathematical power and improve their dispositions towards mathematics. In the end, over the course of two years, he found that without exception, every student showed growth in the first category—that is, each student expressed an increased sociopolitical consciousness, sense of agency, and positive social and cultural identity. Gutstein also found that all but three of his students showed an improved attitude towards mathematics, which contradicts the research of Wilkins and Ma (2003), which showed that students typically lose enthusiasm for mathematics in middle school. Clearly, Gutstein labored to meet the affective needs of his learners, striving not only to connect their mathematical experiences with relevant, real-world applications of the content, but also to empower his students as social activists, ready to take responsibility for their own education. This teacher-researcher (Gutstein) brought to light the connections between teacher stance and student attitudes, and the ways in which these may interact—a profound act of critical multiculturalism.

Inextricably bound to the issue of critical multiculturalism is the paradigm of social justice. Taken together, critical multiculturalism and social justice can precipitate

discomfort in some educators. Gloria Ladson-Billings opened her chapter “Making mathematics meaningful in multicultural contexts” (1995) with this quote from a middle school math teacher: “What do I need to hear about multicultural education for? ... I teach math!” (p. 126). This limiting refrain is sung heartily across the United States in bold denial of the ongoing institutionalized racism that helps keep the U.S. achievement gap firmly in place (Revilla, Wells, & Holme, 2004). A steadfast, but flawed, belief in U.S. culture as a true meritocracy denies the persistent lack of social mobility within U.S. culture (Sleeter & McLaren, 1995), and it helps keep necessary but inherently uncomfortable conversations about multiculturalism and social justice at the margins of conversation and action.

#### *Results of Heterogeneous Grouping*

In recognition of these problematic issues, numerous schools and school districts have made strides to embrace heterogeneous grouping of students. This effort to provide all learners with a valuable, rich education has yielded encouraging results. This is highlighted in the work of authors such as Gamoran and Hannigan (2000), among others.

In seeking to learn how “algebra for everyone” could impact the academic trajectories of all students, Gamoran and Hannigan (2000) analyzed a large set of existing data, which included information on approximately 12,500 students. Working from a nationally representative survey of students, their families, teachers, and administrators, the researchers analyzed student test scores, background information, and course enrollment information. They found that “all students, regardless of prior math skills, benefit from taking high school algebra” (p. 250).

Other studies drew the same conclusions. By analyzing the high school transcripts of 4,800 students in California and New York public schools, White, Gamoran, Smithson, and Porter (1996) found that high school freshman who enrolled in algebra (or other college-preparatory mathematics) learned more mathematics throughout their high school careers than students enrolled in lower-level mathematics courses as freshmen. Further, the freshmen that completed algebra were found to be more likely to enroll in higher mathematical studies in the future. This reinforces the research that casts algebra as a gatekeeper course.

A more recent, large-scale ( $N = 985$ ), longitudinal study by Burris, Heubert, and Levin (2006) compared two matched cohorts of middle school mathematics students in the same public, suburban school system. One of the cohorts participated in a traditional, “tracked” mathematics curriculum, while the other participated in a model of mathematics education wherein all students, including “minority students, students of low socioeconomic status and students at all initial achievement levels” (p. 105), or students with historically marginalized identities, were enrolled in a “high track” (p. 111) mathematics curriculum—essentially, Algebra I.

The students in the “high track” were heterogeneously grouped (by design), and enrolled in the same, challenging courses. However, extra support in the form of additional class time was provided when needed to ensure each student’s academic needs were met. The researchers found that even when controlling for a wide range of factors (including SES, previous standardized test scores, previous grades), the entire cohort was far more successful than the homogeneously grouped students. The initial results of this

uniform “acceleration” of students was that a large majority (96% of all students) successfully passed their state standardized test in mathematics in eighth grade—as compared to only 51% of the tracked students. Most revealing, perhaps, is that while only 23% of students with historically marginalized identities in the tracked classes passed their state standardized test, a full 75% of those in the high-track classes were successful.

However, the benefits of this high-level, more academically rigorous curriculum extended beyond state standardized tests. The cohort of high-tracked students continued on to mathematical success in high school, with each student meeting or exceeding the state graduation standard in mathematics. Their participation in college-preparatory high school mathematics also exceeded that of the more traditionally grouped students (Burriss, Heubert, & Levin, 2006).

*Overall impact of tracking.* In a comprehensive meta-analysis of studies on tracking and ability-grouping of students, Lindle (1994) examined more than 500 articles, research reports, and books. She found that “the literature clearly shows the inadequacy of tracking/ability-grouping.... More than 70 years of research on ability-grouping/tracking has failed to establish any obvious benefits for any group of students, except the highest groups” (p. 14). This is echoed in Cesario’s 2006 dissertation, where she states, “Research provides evidence that grouping practices that identify and place students in permanent levels are academically deleterious to all but the top students (p. 31).”

Building on this idea, Lindle (1994) unambiguously revealed her critical stance in stating that “schools which use this practice [tracking/ ability-grouping] are unintentionally legitimating a social/academic hierarchy among students which destroys



self-confidence and creates inaccurate stereotypes among students” (p. 7). It is clear that excluding students from rigorous curriculum is not only detrimental from an academic perspective, but from a social, interpersonal perspective, as well.

### Summary

When taken together, these studies and frameworks indicate several major ideas. First, the current state of the educational experiences of students with historically marginalized identities is generally poor. Although exceptions exist at all levels, the overall tenor of the research indicates that students with historically marginalized identities are faced with institutionalized challenges less well known to White, middle-class students.

Second, these studies speak to the cascading effects of tracking and ability group of students with historically marginalized identities. While these practices may seem to be superficial, transient, or temporary experiences of students, the effects of these ritualized denials of access are long-lasting and far reaching.

Third, educators have devised numerous justifications for the maintenance of tracking and ability-grouping. These rationalizations are not only pervasive, but also are well accepted by the hegemonic community at large. The purpose of tracking and ability-grouping seems to be, at root, not linked to best meeting the needs of all learners, but rather to maintaining the hierarchical *status quo* in education.

Fourth, the placement criteria used by those who ability group students are highly subjective and prone to bias and error. Although it is impolitic to link tracking and

ability-grouping to race, ethnicity, or SES, many educators employ these as primary criteria, although without explicitly stating as such.

Finally, the results of heterogeneously grouping students—that is, allowing all students access to rigorous curricula—are overwhelmingly positive. The fears outlined by those opposed to this form of access are shown to be ungrounded, with positive results for all involved, especially for students with historically marginalized identities.

### 3. Methodology

#### General Approach to the Study

This study is focused on the voices and perspectives of a purposive sample of secondary-level mathematics educators who teach students enrolled in eighth-grade mathematics. These educators, at different middle schools within the same school district, are responsible for making high school placement recommendations for their students as the students move from middle school (eighth grade) to high school (ninth grade). By focusing on this purposive sample of teachers, I hope to understand better the criteria educators use to determine their mathematics placement recommendations, and to gain insight into their unique rationalizations for placement decisions. In this dissertation, I will focus on the disproportionate placement of middle school students with historically marginalized identities in lower-track high school mathematics courses.

To this end, the methods employed in this study were qualitative in nature, centering on the viewpoints and perspectives expressed by educators with the power to make life impacting curricular and placement recommendations for young adolescents. The ultimate goal of this research is to determine how these educators rationalize and explain their decisions, which will allow me, based on the research findings, to propose policy and suggest professional development that will guide educators in supporting all students in their progress toward college preparatory mathematics. For these reasons, it is

imperative to understand the current thinking of educators actively making these gate-keeping decisions.

### *A Critical-Interpretive Perspective*

Framed by a critical-interpretive perspective (Wong, 2005), this qualitative research highlights the ways in which power, agency, history and culture influence the decisions made by mathematics educators, and the ways these educators explain, justify, or defend their decisions. I am particularly interested in how these educators use language—discourse and rhetoric—to draw and define the boundaries of their beliefs. As the researcher, I accept subjectivity and engage, personally, with the research at hand.

I have sought an interpretive understanding of how these educators conceive their roles and positionalities, and I have examined how they make sense of the decisions they make, the larger context of their decisions, and their role within the historical trajectories of not only the students, but of our larger culture. My goal was to understand how the participants make sense of what happens and how they view the ways they make their decisions. I sought to learn how the participants understand the meanings of their actions (Maxwell, 2005; Rabinow & Sullivan, 1979).

The critical spin on this interpretive stance is crucial, in that in exploring how the highly qualified, experienced secondary mathematics educators understand and conceptualize their functions, I was listening for their justifications that speak to their own power, or lack of power. I was listening to find spaces where class, culture, race, and history intersect to influence the decisions the educators make, and to probe the ways these elements have influenced and shaped their decisions. Critical theory tells us that

people are unnecessarily oppressed by implicit cultural beliefs (Habermas, 1989), and the goal is make these unconscious ideas public, and therefore addressable. This idea of making underground ideas public is a driving force in this analysis.

I recognize that by choosing to interview teachers with power (or at least relative power, in contrast to their students), I risk further silencing the voices of the students being discussed. However, I view this research as contributing to a larger emancipatory project in that it highlights the ways in which students are viewed, evaluated, and placed—all ways of bringing their experiences to the foreground. Perhaps most important, I view this research as emancipatory in that it brings to light the whispered beliefs spoken from behind the cupped hand of individual professionals with power.

#### *Critical Discourse Analysis*

Because each of the interview questions generated multilayered responses, and in keeping with the critical-interpretive approach, I used a form of critical discourse analysis (CDA) to interpret the responses, in that I sought to find more than one level of meaning in each statement. The first level of meaning I sought was superficial, literal intention of the communication, which is often purported to be the sole intent of the communicator (Kress, 1989). Using CDA, however, I moved beyond this literal meaning to include an interrogation of the ideological assumptions of the communicator, and also the ways in which the communication has been received or "heard." In keeping with this multilayered approach to examining texts, Wodak (2001) defined CDA as

Fundamentally concerned with analysing opaque as well as transparent structural relationships of dominance, discrimination, power, and control as manifested in

language. In other words, CDA aims to investigate critically social inequality as it is expressed, signaled, constituted, legitimized, and so on by language use (or in discourse). (p. 2)

### Site Selection

With a well-established cadre of highly qualified, very experienced teachers and a very diverse student population, Saxon School District stood out as an ideal place to conduct this research. The diversity among the student body includes solid representation of students from a range of socioeconomic backgrounds, as well as significant proportions of students from a variety of racial, ethnic, religious and linguistic backgrounds. As a whole, students in Saxon School District consistently perform well on state standardized assessments, but achievement gaps along racial and economic lines are obvious and well discussed in the media.

To conduct this research, permission from the George Mason University Human Subjects Review Board was obtained. To this end, I prepared the necessary application that was submitted and approved. I then completed the parallel process in Saxon School District to obtain permission to work with educators.

### Participant Selection

The participants in this study include 10 secondary level mathematics educators within the school district. For the purposes of this study, I have categorized these educators into two groups by the type of job category or position they hold in the district: the district administrators and the classroom teachers. The first group (three educators)

works as district central office administrators. The second group (seven educators) works as eighth-grade mathematics teachers in middle schools in the school district.

*Group One: Central Office Administrators*

The three educators in this group all work in the central office of the school district, specializing in secondary mathematics. In many ways, they are viewed as advocates for teachers and students, and they are known to be skilled and articulate teacher educators and mathematicians. I interviewed these three central office administrators to learn what they value as the key components to be considered in making placement decisions for eighth-grade students moving to ninth grade. Their perspectives were particularly valuable in that I posit that their ideas represent the district's overarching stance on student placement, and are also reflective of the criteria recommended by local, state, and national organizations. Although one of the Central Office Administrators has a subordinate role to the others (in terms of title, responsibilities, and salary), all three are experienced secondary mathematics educators and are well respected and liked within the school district

*Group Two: Eighth-Grade Mathematics Teachers*

The seven teachers in this group hail from seven different socio-economically distinct, culturally diverse schools, representing a broad cross-section of perspectives from various points in Saxon School District. Specifically, I explored whether they considered similar factors, or if they gave different weight/ emphasis to different student characteristics, including ESOL status/English language proficiency of the students, standardized test scores, or socioeconomic class. I did not enter this research assuming

that all seven teachers would be of a single mind, but I sought similarities in how they viewed students and made placement recommendations.

In selecting participants for group two, I chose fully credentialed teachers working in a variety of middle school settings within Saxon School District. I was interested in hearing from teachers with either large or small proportions of fee-waiver (free and reduced lunch) students, and with large differences in the proportions of English Language Learners. Within Saxon School District, middle schools range from those with more than 50% of the student body receiving ESOL services to those that have as few as 2% receiving such services. My sample included representatives from both extremes, as well as from several in the middle.

In selecting teachers to participate in this research, I used a purposive sampling method. I included only those educators that have taught eighth-grade mathematics in this school district for at least the previous two school years. This ensured that the participants have made placement decisions for their rising ninth-graders at least twice in the past, so they were familiar with the process.

### *Recruitment*

I recruited teachers through purposive sampling by using the snowball method (Goodman, 1961). At the invitation of a colleague, I approached teachers individually at a district-wide mathematics meeting and asked if they would be interested in being considered for participation in this research. To employ the snowball method, I then asked if they knew anyone else that met the criteria that may be interested. Once I generated a list of potential participants, I purposefully selected seven participants that



not only met the criteria of having taught Mathematics 8 for at least two years in Saxon School District, but also work in seven schools that are different from each other. I included participants from the more homogenous and higher income schools, and from the more diverse and lower-income schools. Although my sample was small and limited to no more than one teacher at any given school, this diversity in school choices revealed interesting stances and opinions that may be of use in designing future professional development.

#### Data Gathering Strategies

Data were gathered in three ways. First, participants in the research completed short, pre-interview surveys, for the purpose of framing each individual interview. Next, participants were interviewed, independently, to explore their decision-making processes and view of student promotion. These were conducted one on one, not in the presence of other educators, to help participants speak freely and not censor their opinions for peers. Finally, my own lived experiences as a mathematics educator within a similar school system informed my interpretation of the context and setting of the research.

Confidentiality of the participants was maintained at all times. With privacy and anonymity as a priority, as part of the data collection process, participants were asked to generate a pseudonym to be used throughout the research. This was recorded on their pre-interview survey and kept in a secure location available only to me. This pseudonym was used on all subsequent documentation, including interview transcripts. Schools were also assigned pseudonyms and any identifying characteristics will be omitted from any data or findings published in the future.

All participants in this research completed and signed an informed consent document. This document ensured each participant understood the potential risks of participation in this research, entered into the research voluntarily, and had the option to drop out at any time with no penalty. These signed documents are stored in a secure location.

#### *Personal Observations of the Overall Environment*

Over the course of the data collection portion of this research, I made several visits to each of the seven middle school where informants worked. In entering and securing meeting spaces within these schools, I sometimes met school administrators, other mathematics teachers, or ESOL teachers. At times, I was also able to informally observe students in their interactions with teachers. Because this research put me in contact with such a range of individuals within each school—from administrators to the newest students—I can offer some insight (albeit filtered through my personal lens) about the context and setting of the school community and the district at large.

#### *Pre-interview Surveys*

Each participant selected for this research was asked to complete a brief, pre-interview survey (Appendix A) to help guide the initial and subsequent interviews. The primary purpose of this survey was to identify which factors are considered to be the most important when making placement decisions for each rising ninth-grade mathematics student.

Additionally, this survey included questions about whether the participant has ever lived abroad and whether she/he spoke any languages other than English. This

information is important in that it led to discussion around how the participant came to view and evaluate ESOL students.

This survey was developed to establish a beginning point for each conversation with participants. It is intentionally brief (Fowler, 1995), consisting of several questions about the participant's education and travel abroad. I sought information about travel abroad because I believe teachers working with culturally, linguistically, or ability diverse students may have a different perspective after traveling or living outside the United States. The survey also included a checklist of factors that might be considered when making mathematics placement decisions for students. Participants also had the option to add their own ideas to the checklist.

The items on the checklist were initially generated through an informal poll of 30 Saxon School District middle school mathematics teachers who were participating in a professional development workshop. They were asked to brainstorm which factors they considered when making course placement recommendations, and a whole-group list was generated. From this list, a draft (pilot) version of the pre-interview survey was created and shared with approximately 20 Saxon School District middle school mathematics teacher-leaders in attendance at a meeting. Their feedback and suggestions were used in crafting the final version of the instrument used in this research.

### *Interviews with Participants*

Interviews following a guided interview approach were the primary source of information for this research. Following an open-ended interview protocol (see Appendix B), I engaged each participant in a conversation about how placement decisions are

made. Out of respect for the limited time teachers have within each school day, each interview was scheduled to last only 30 minutes, unless the teacher had additional time and/or desire to talk. Each interview was audiotaped (using two recording devices), transcribed, and then added to an NVIVO database.

I met with each participant at least twice, for at least 30 minutes per meeting. However, on several occasions, the interviews were as long as 90 minutes, because the informant had a great deal of information to share and also a schedule with enough flexibility to allow for a longer interview.

The participants chose the interview locations. Several took place in the Saxon School District central office building, but most took place in the participant's schools. One participant preferred to meet in a coffee shop.

#### Data Analysis Strategies

Rather than waiting until all data was collected before analysis, I instead employed an ongoing, organic method for reflexively interacting with the data as it occurred, sometimes known as reflexive grounded theory. This inclusion of a reflexive perspective means that I have foregrounded my own interests, assumptions, and positions. As researcher, I am an integral part of this research, and I used two strategies to analyze the data: memos and coding (Maxwell, 2005).

I chose to use reflexive grounded theory (Wong, 2005) because it provided an open-ended, flexible means to approach the data generated in this research. Because I did not approach this study with a fixed hypothesis, I chose to use grounded theory to help capture whatever participants might choose to share. Grounded theory permits the

researcher to “discover” new categories of ideas, based on the language and terminology used by informants and, in this way, offers an organic “on the ground” view into the ways informants see their world. Because one of my intentions in conducting this research was to see the world through the eyes of my participants, grounded theory was a natural choice.

Though rooted in the process of inductive reasoning, wherein explanations are found in the data themselves, reflexive grounded theory moves beyond inductive reasoning and is a process wherein “theory, data analysis and data generation are produced dialectically” (Mason, 2006, p. 180). This more complex form of reasoning is sometimes called an “abductive research strategy” (Blakie, 2000, p. 25.) Coffey and Atkinson (1996) explain the process of abductive thinking, stating,

We identify a particular phenomenon—a surprising or anomalous finding, perhaps. We then try to account for that phenomenon by relating it to broader concepts. We do so by inspecting our own experience, our stock of knowledge of similar, comparable phenomena, and the equivalent stock of ideas that can be included from within our disciplines (including theories and frameworks) and neighboring fields... Abductive inferences seek to go beyond the data themselves, to locate them in explanatory or interpretive frameworks. The researcher is not content to slot them into existing ideas, for the search includes new, surprising or anomalous observations. (p. 156)

Because the generation of this “beyond the data” type of theorizing has the potential for great complexity, I needed electronic support to establish and maintain some

sense of organization. To this end, I used the software NVivo to identify my codes uniformly in a searchable format. I had originally begun coding my interviews by entering information into a spreadsheet, but this quickly became untenable in that I ultimately generated more than 200 unique codes. This NVivo software proved to be flexible and robust, and it allowed me to sort and group my coded information with ease. After much sorting and reorganization of the codes, I settled on approximately 10 “umbrella” categories for the codes, or nodes, some of which will be used in future analysis of these interviews.

I wrote memos throughout the research process, beginning with the recruitment of participants. I recorded (using MS Word) my experiences in approaching participants, and their reactions and questions about the study and the interview process. Within several hours of each interview, I added these memos to my database of information in NVivo.

The bulk of my memos, however, were directly linked to the actual interviews and audio recordings. I generated these memos by not only taking notes during interviews, but also by writing extensive notes immediately after each interview ended. These notes consisted of my impressions, thoughts, ideas, questions, and overall interpretation of the tone of the sentiments shared by the participant. In addition to these open-ended thoughts, I asked myself, “What makes this person an excellent teacher? What are her or his strengths?” I also asked myself, “What would it feel like to be a student with a historically marginalized identity in the care of this teacher?” I spent at least 20 minutes after each interview capturing my thoughts.

Each of the interviews was transcribed and reviewed at least three times. In listening to the interviews and reading along with the transcript, I wrote memos to record and generate my analyses. As Maxwell (2005) stated,

A memo can range from a brief marginal comment on a transcript or a theoretical idea recorded in a field journal to a full-fledged analytic essay... They are all ways of getting ideas down on paper... and of using this writing as a way to facilitate reflection and analytic insight. (p. 12)

The second strategy I used is coding, using grounded theory. That is, I let the codes/themes emerge organically and reflexively, including my own lenses and interpretations within the matrix of ideas and information. Mason (2006) suggested, “Moving back and forth between your intellectual puzzle, your research questions, and your data, so that you develop your indexing [coding] categories through this process of interaction.” (p. 159)

I coded the interviews by going through each one, line by line, and assigning a word or phrase to each passage or idea spoken by the participant. Some passages have only a single code, but most have four or more. For example, the statement, “Most of them just accept what we do,” was coded as “communication,” “power with teacher,” “privileged style of discourse,” and “passivity.” Because I used reflexive grounded theory, I considered each phrase or section and, through my own interpretation, assigned at least one code. These codes consisted of meanings that stood out to me, such as “optimism,” “longitudinal view of school process,” “hygiene,” and “student attendance.”

Additionally, I used NVivo to help me record and process ongoing memos, commentary, and my own reactions to the interview transcripts. These, like the interviews, were also coded and served as the foundations for the findings of this research.

### Validity and Limitations

Validity is relative (Maxwell, 2005). That is, because this research is qualitative, and contingent upon my interpretations of the thoughts shared by the participants, a multiplicity of perspectives may be presented. Because I reject the notion of an objective truth, I see validity from a different perspective, which is different from a positivist or scientific validity. As Coffey and Atkinson (1996) suggest, “Qualitative research captures multiple versions of multiple realities” (p. 163). Mason (2006) builds on this idea, stating, “If your research is valid, it means that you are observing, identifying or ‘measuring’ what you say you are” (p. 39). I intend this research to be valid in that it highlights the ways mathematics teachers make placement recommendations, as told to and interpreted by me.

The primary threat to the validity of this research is that of the power differential between myself and the participants, in that I am a researcher affiliated with a university. This perception of my power, at whatever magnitude, may influence what participants say and reveal in interviews.

My own views as a white, middle class, English speaking mathematics educator, perceptions, and life experiences serve as another threat to the validity of this research. I recognize the temptation to selectively include and exclude information from my data



collection that is contrary to what I know (or think I know). To counteract this, I have used member-checking, wherein I shared transcripts with each participant, seeking confirmation that what was transcribed accurately matched the informant's original intention.

I also used triangulation by sharing anonymous perspectives of respondents with one another, seeking validation of expressed ideas and opinions. This use of triangulation helped participants clarify their own ideas, especially when they were able to compare their own perspectives to those of other participants.

Additionally, I have aggressively addressed this by intentionally including all data, even that which causes me to experience cognitive dissonance, and have worked to reconcile conflicting, confusing, or disappointing results. I entered this research believing (anecdotally) that educators have different standards for different students, with a more detrimental stance toward students with historically marginalized identities. However, I also suspected I would work with educators that critically advocate for all learners. In this research, I found evidence of both extremes—teachers with pronounced lower standards for students with historically marginalized identities, and other educators with enthusiastic and genuine advocacy for all students.

Another threat to validity is reactivity, which is the possibility that the participants may say what they think I want to hear. Although I am employed as a teacher, on a teacher contract, I conducted this research under the auspices of a university. In my affiliation with my university, I recognize that my position is one of privilege, and this may have been mistakenly interpreted as power or authority.

To ameliorate this threat of reactivity, I worked to keep this threat in mind during every interview and interaction with the participants. I intentionally tried to avoid words, actions, or other cues that would lead participants to formulate particular kinds of responses, and I constantly monitored my own reactions and thoughts. These personal reactions were recorded in my memos, many of which were written immediately after the each interview ended. These were all considered during the final analysis and interpretation of the data.

In terms of limitations, the findings of this research must be “read” within the unique context of Saxon School District between the years 2007 and 2009. Although the school district has characteristics in common with other school districts in the United States, my findings are not intended to be generalized, but rather, to suggest or perhaps inform other researchers and stakeholders with similar concerns. Coffey and Atkinson (1996) state, “The generalizing we engage in should always remain firmly grounded in the empirical details of the local” (p. 163).

## 4: Contextualizing the Issues

This chapter provides a broad overview of the research context. In addition to a description of the research site, this chapter also provides information about the demographics of the students in the various academic tracks, focusing on the lowest track mathematics courses. Finally, each teacher-participant is described broadly to offer a contextualized understanding of the views and beliefs expressed in subsequent chapters.

### Research Site

This study was conducted in one of the largest and wealthiest school districts in the United States. Located in the eastern half the U.S., Saxon School District is consistently high achieving (as measured by graduation rates, standardized test scores, and continuation to college). However, a pronounced and persistent achievement gap exists between White, middle-class, heritage speakers of English and students with historically marginalized identities. The school district serves far more than 100,000 students (K-12), making it among the largest in the United States, and the largest in the geographical region where it is located.

Although the school district is among the wealthiest in the nation, with a median income that is almost double the national median income, there exists great economic diversity, with approximately 20% of students in the district receiving free or reduced price meals. Approximately 50% of the students enrolled in the school system are

classified as White, and approximately 35% of all students are classified as English Language Learners (ELLs), with approximately 15% of all students receiving ESOL (English for Speakers of Other Languages) services.

In spite of the overall low dropout rate in this school district (one of the lowest among large school districts in the United States), the ethnic and racial disparities in the rate of dropping out of school are alarming. Students of Hispanic heritage are more than 10 times as likely to drop out as their White counterparts, according to district statistics. Furthermore, an achievement gap in mathematics exists at all levels between White and minority students, with the exception of Asian students, who scored on par with White students. For example, in the 2006-2007 school year, about 68% of Black students and about 64% of Hispanic students passed their state standardized eighth-grade mathematics tests, while about 95% of their White peers passed the same test.

In Saxon School District, a wide range of courses, programs, and opportunities can be tailored to meet the unique needs, interests, and aptitudes of the many students served by the school district. Whether students need acceleration or extra time, enrichment, or remediation, a program is in place with these (and many other) accommodations.

#### Tracking at the Research Site

The Saxon School District, as required by federal law of all school districts in the United States, has policies in place that guarantee equal educational opportunities to all students. The policies echo the language of the U.S. Department of Labor, ensuring protection of students' rights to be free from discrimination on the basis of race, sex, age,

color, disability, religion, or national origin. This “freedom from discrimination” carries the implication that all students will have equal access to all services and activities.

In a large school district like Saxon, however, not all students are equally prepared for the same academic experiences. Some students may have had extensive pre-school experiences, with great exposure to a range of children’s literature and structured academic activities, while other students may have been home with family members and have had less access to books. Some students may have spent their summers, between grades, in enrichment programs and activities like Space Camp, while others may have been at home in the care of a babysitter. Some students may have participated extensively in afterschool activities like team or coached sports or academic programs, while others may have had less structured out-of-school time. Any of these, in concert with a wide range of other variables, may influence each child’s readiness for entry into the various academic tracks in Saxon School District.

On the surface, it appears that opportunity abounds in Saxon School District, with the intent of providing a customized educational opportunity for each of its learners. In the specific case of mathematics, opportunities and tracking can exist simultaneously. Multiple courses are offered at each level in mathematics (elementary, middle, and high school), with the implied idea that they are open to all students, with the intention of supporting and promoting the development of all students in mathematics. These options include different course progressions (tracks) for those students considered below grade level, at grade level, above grade level, or significantly above grade level.

Although multiple paths are available in K-12 mathematics education in Saxon School District, for the purpose of this research, I will focus on six tracks, as outlined here. These tracks are for students working significantly above grade level, above grade level, on grade level, slightly below grade level, well below grade level, and ESOL students who are also working below grade level.

#### *Significantly Above Grade Level*

Students in this category have been identified as being well ahead of their same-age peers, and ready for more complex and challenging mathematics. These students participate in school-based programs that emphasize critical and creative thinking. Additionally, these students have multiple opportunities for reflection and self-assessment. This group of students will take Algebra in Grade 6.

#### *Above Grade Level*

This category includes students who have been identified as somewhat ahead of their same-age peers. These students are taught an enriched and extended curriculum, and will take Algebra in Grade 7.

#### *On Grade Level*

These students meet expected, grade-level standards. They progress at the “normal” rate and will take Algebra in Grade 8.

#### *Slightly Below Grade Level*

Students identified in this category do not keep pace with their same-grade peers, and may need more time to fully learn the mathematics content. Their course of study

consists of the state standards, with a focus on preparation for the state standardized test. These students will take Algebra in Grade 9.

#### *Well Below Grade Level*

This category includes students who have participated in at least two years of the same mathematics content but have not yet successfully demonstrated mastery. These students will take Algebra in Grade 10 or even Grade 11.

#### *ESOL and Below Grade Level*

This group of students are at the beginning levels of English language proficiency and also have not demonstrated mastery of prerequisite mathematics skills required for entry into Algebra. Depending on their progress with English and mathematics, these students may enter Algebra in Grade 9, 10, 11, or 12.

#### Differences Between Tracks at the Research Site

For students considered to be working above or significantly above grade level, some of the available programs include gifted and talented services, accelerated mathematics, honors courses, advanced placement (AP) programs, and International Baccalaureate (IB) courses. Gaining access to these opportunities is frequently a straightforward process, assuming the student has met the stated prerequisites, although almost all of the programs have only limited numbers of “slots,” which ensures only a predetermined proportion of students may gain access. In many cases, access often simply requires a request from the family of the student. Information about this process is made available to families on the district Web site and through evening parent meetings. At other times, however, as with gaining access to gifted and talented services,

admittance to the programs and courses is not so simple as a family request, but involves a more convoluted, school-based decision, with classroom teachers independently holding the ultimate power to decide which students may participate in particular courses or programs.

Some students in this school district begin their accelerated/“honors” mathematical careers in Grade 3. As reported in other studies of tracking and student achievement (Anderson & Tate, 2008; Lindle, 1994; Oakes, 2005) , these students tend to be those from families with the particular social capital that is valued by the school system—that is, they are typically White, middle- or upper-class, heritage speakers of English, or students of Asian descent, fulfilling the “model minority” (Lee, 1996) stereotype. Using a modified curriculum known as “accelerated mathematics,” students as young as third grade can begin moving quickly through state-mandated course objectives, and can learn 1.5 years of content in a single year. Moving at this rate, those students who begin participating in accelerated mathematics in third grade will be prepared to take Algebra I as sixth-graders. However, as noted, access to this accelerated mathematics curriculum is limited and based heavily upon teacher recommendations and a battery of standardized tests.

Nevertheless, well-informed families knowledgeable about the workings of the school system may (and do) advocate for placement of their students in this course of study, and may present any additional or compelling evidence necessary, including evidence of independently conducted testing, to ensure student placement in this program. The broad guidelines are explained on the district Web site, which states that all



students in Grade 6 are “considered” for placement in accelerated classes. The Web site goes on to state that although a committee carefully evaluates all available data, families may contact the school if they feel their child would benefit from this type of academic acceleration.

In other words, the school district “considers” each sixth-grade student by evaluating their grades, standardized test scores, and teacher recommendations. Additionally, the explicit inclusion of families in the process of accelerating students is crucial. For students outside the mainstream of the U.S. educational system—that is, students with historically marginalized identities—recognition of their areas of strength may not be as readily apparent to teachers that are well insulated in the mainstream and perhaps less sensitive to various ways “giftedness” may manifest. However, because of social, cultural, linguistic, or even class differences, and possibly a lack of knowledge about how the U.S. public school system functions, families of some students with historically marginalized identities may be reluctant to or even afraid of advocating for their students—assuming that they even know they are expected to do so.

As a result, students with historically marginalized identities in these accelerated mathematics programs in this school district are the exception rather than the rule. This leaves the “regular” and remedial track classes swollen with disproportionate numbers of students with historically marginalized identities. With the exception of some students mostly of Asian descent, the accelerated mathematics courses are primarily filled with White, middle- and upper-class students. This academic “fork in the road” at the

beginning of middle school is the first major sorting point for students in mathematics in this school system.

Presently, approximately 45% of students enrolled in this school system complete Algebra I by the end of middle school—that is, in sixth, seventh or eighth grade (see Figure 1). These students go on to enroll in Geometry as seventh-, eighth- or ninth-graders, and in Algebra II as eighth-graders, freshmen, or sophomores. From there, they may choose to enroll in pre-calculus, calculus, or trigonometry/math analysis, leaving them free to take college credit mathematics courses in their junior and/or senior years.

<b>Student grade level</b>	<b>Significantly above grade level</b>	<b>Above grade level</b>	<b>On grade level</b>	<b>Slightly below grade level</b>	<b>Non-ESOL/ Well below grade level</b>	<b>ESOL/ Below grade level</b>
<b>6</b>	Algebra I	Accelerated Math 6	Math 6	Math 6	Math 6	Math 6
<b>7</b>	Geometry	Algebra I	Math 7	Math 7	Math 7	Sheltered ESOL Math
<b>8</b>	Algebra II	Geometry	Algebra I	Math 8	Math 8	Sheltered ESOL Math
<b>9</b>	Pre calculus	Algebra II	Geometry	Algebra I	Pre-Algebra	Sheltered ESOL Math
<b>10</b>	Calculus	Pre-calculus	Algebra II	Geometry	Algebra I	Pre-Algebra

*Figure 1. Access to Algebra I by grade level and track.*

Students that do not enter Algebra I (i.e., those, slightly below grade level) until the ninth grade (those deemed to have demonstrated mastery of the content of mathematics 6-8 by the end of grade 8) are considered to be “on grade level” and may enjoy most of the same course options as their accelerated peers in high school, albeit at a later point in their academic careers. They may still earn four college-preparatory mathematics credits during their high school careers, but will have no opportunity to take mathematics courses for college credit.

The second major “fork in the road” occurs when students move to high school, from eighth grade to ninth grade. For those students who remain in Math 8 (instead of a more advanced mathematics course like Algebra or Geometry), teachers again “sort” (or track) them into two groups: those ready for Algebra I as ninth-graders, and those deemed not yet prepared for the rigors of the Algebra I curriculum. In other words, some of these students are promoted to a college preparatory mathematics course (Algebra I) while others are placed in a remedial, rereading of the mathematics already presented in middle school. These mathematics students in the lowest track, mostly students with historically marginalized identities, are enrolled in a nonrigorous, low-stakes course called Pre-Algebra, which is a skills-based course and a rehashing of the mathematics taught in seventh and eighth grades. The expectation for the learners enrolled in this lower-level course is that they will enroll in Algebra I as 10<sup>th</sup>-graders (or possibly 11<sup>th</sup>-graders). Students who take Algebra I in 10th grade are then four years behind their peers who took Algebra in 6th grade.

In contrast to their on- and above-grade level peers, students placed in a remedial ninth-grade mathematics course have truncated possibilities for earning college-preparatory mathematics credit in high school. At best, students placed in this track can hope to earn a maximum of three mathematics credits: Algebra I, Geometry, and Algebra II, thereby limiting their ability to compete for college admissions with other, more well-prepared peers.

#### A Closer Look at Enrollment Data

As mentioned, when Saxon School District students transition from middle school into high school, approximately six different mathematics tracks are available to them (see Figure 1). Entry onto these tracks is determined and limited by a number of factors, including student English language proficiency, teacher recommendations and teacher willingness to include students in accelerated mathematics curricula. All tracks ultimately lead to Algebra I, assuming students do not drop out of school, but not all tracks reach Algebra I in the same time frame.

Students may only enter the most accelerated tracks through recommendation of their teachers and by passing a series of standardized tests with scores in the 94<sup>th</sup> percentile or higher. This screening process may begin in Saxon School District as early as grade 3, when the first group of students is identified by teachers (and/or through family recommendations) as being in need of accelerated mathematics. These students may progress through mathematics so quickly that they are prepared to take Algebra I while in elementary school, as sixth- (or even fifth) grade students. Figure 1 shows a

possible progression for these students under the heading “significantly above grade level.”

For the tracks that reach Algebra I earliest, students are afforded the most opportunity to take higher-level, college preparatory (or college credit) mathematics courses that ensure their competitiveness in applying for tertiary education. For the tracks that reach Algebra I latest, these students are not prepared for on-time high school graduation and are at greatest risk for dropping out of high school altogether (NDPC/N, 2009).

Within Saxon School District, approximately 10,000 students are enrolled in Grade 8. Of these students, approximately 55% are enrolled in Math 8, which is slightly or well below grade level, if Algebra I is considered an appropriate grade level placement. The remaining 45% of students complete Algebra I in Grade 8 or possibly in Grade 7 or Grade 6, as explained summarized in Table 1 below.

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Table 1

*Proportions of Grade 8 Students in Different Tracks*

Significantly above grade level	Above grade level	On grade level	Slightly below grade level	Non-ESOL/ Well below grade level	ESOL/ Below grade level
5%	10%	30%	30%	20%	5%

At the lowest end of the spectrum of possibilities are the eighth-grade English language learners with lower-level mathematics skills. These students, mostly those with interrupted or limited formal education, are at the beginning levels of English language proficiency and have not yet mastered middle school mathematics objectives simply because they have never been exposed to the content. For these learners, a sheltered mathematics class is offered where students can simultaneously learn academic English and also gain mathematical skills necessary for success in a grade-level mathematics course. Sheltered instruction means that the classes are composed entirely of ELLs and include a dual focus on language and content at the same time. For this group of learners, usually immigrants who were born outside the United States, it may take several years to acquire English language proficiency skills and the same content-specific background knowledge necessary for success in grade-level content courses. This applies to all courses, including mathematics. This catching-up period of several years may serve to further limit their access to higher-level mathematics courses in high school. Students enrolled in these sheltered ESOL Mathematics classes are relatively few, numbering around 100 in Grade 8.

Each of the approximately 5,500 eighth-grade students enrolled in Math 8 has, in essence, been passed over for promotion and acceleration by their previous teachers. Earlier, while still enrolled in elementary school, they were not selected for acceleration as third- or fourth-grade students, and so on through Grade 8. At the end of Grade 8, the “fork in the road” is presented when teachers must recommend either promotion into Algebra or placement into Pre-Algebra, which is a repetition of middle school

mathematics concepts with a few “teaser” Algebra objectives included for good measure. Students enrolled in Pre-Algebra as ninth-grade students have again been passed over for promotion to rigorous and college preparatory mathematics. In the 2007-2008 school year, approximately 3,000 students were enrolled in this lowest-track course.

### Who Are the Students in Math 8, the Lowest Track?

Who, aside from the students enrolled in the sheltered ESOL mathematics courses, are these approximately 3,000 students being left behind in this lowest track available to students who have successfully completed Math 8? What follows is an overview of these students and their teachers in Saxon School District.

In considering the students enrolled in the lowest track mathematics course available to Grade 8 students, a reasonable prediction would be that the demographics of the lowest tracks would closely mirror the overall demographics of the school district. However, this is not the case. In fact, according to demographic information collected by the school district, the population in the lowest track is disproportionately heavy with students with historically marginalized identities along several planes.

#### *Race*

The skewed proportions of students enrolled in Math 8 are most pronounced in the disproportionate representation of students by race. Within the context of this research, race (as distinct from ethnicity) is socially constructed category that has a social reality and social implications (Bonilla-Silva, 2003) that is based on sets of visible heritable characteristics. In examining the civil rights statistics for Saxon School District, wherein families of students self-report their racial identification, White and Asian



students are both under-represented in this lowest track course, while Hispanic and African American students are over-represented. Data from the 2007-2008 school year, comparing the entire school population with the proportions of students in Pre-Algebra, are displayed in Table 2, Comparison by Race.

Table 2

*Comparison by Race of Students Overall and Students in Pre-Algebra*

<sup>a</sup> “White” is inclusive of students with origins from the original peoples of Europe, the Middle East, or North Africa.

	White <sup>a</sup>	Asian	African American	Hispanic
General population	50%	15%	15%	20%
Enrolled in Pre-Algebra	25%	5%	25%	45%

Within this data, however, there is another possible layer of marginalization. While enrollment data shows that 25% of the students enrolled in the lowest track are White, this label is misleading on a practical level, in that Saxon Public School District uses federal guidelines to determine race. The working definition of “White,” from the U.S. Census Bureau (2009, ¶ 4), stated, “A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.” By including persons from the Middle East and North Africa, it is possible that there are students classified as “White”

who may in fact self-identify—or be identified--as persons of color. For the purposes of this study, this information is important because several participants in this study spoke of “Middle Eastern” students or families and identified them as non-White.

Although information on country of origin exists for all immigrant students in Saxon School District, this information was not made available as part of this research. However, based on student first and last names and student identification numbers (which indicate how recently a student has enrolled in the school system, and by extension, those who may have immigrated to the United States), and participation in ESOL programs, it appears that approximately 15-20% of students in the lowest track who are classified as White may be students of North African or Middle Eastern descent. This leaves the pool of White students of European descent as an even smaller proportion of the total population of the students in the lowest track.

#### *Special Education Services*

Within the approximately 3,000 students enrolled in Pre-Algebra, the lowest track mathematics course, just over one third qualify for special education services, with 37.5% in this category. This is a large proportion, given that within the school district at large, only 14% of all students qualify to receive special education services. These services include support for students with learning disabilities, emotional disabilities, and autism.

#### *Grade Level*

Although Pre-Algebra is often described by participants in this research as a course for ninth-grade students, not all of the students in Pre-Algebra are in Grade 9. Table 3, Grade Level, shows the breakdown by grade level. Although most of the

students (75%) in Pre-Algebra are enrolled in grade 9, nearly one in every four students is a sophomore, junior, or senior. These students in higher grades have fewer opportunities and less time to complete more advanced mathematics courses that may make them competitive for college admission.

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Table 3

*Grade-Level Distribution for Pre-Algebra, 2007-2008*

Grade 9	Grade 10	Grade 11	Grade 12
75%	15%	9%	1%

Students may be in Pre-Algebra as sophomores, juniors, or seniors for a few different reasons. The primary reason is because the student has failed the course as an underclassman. In other cases, the students may be English language learners and may have recently completed the sheltered mathematics course. Occasionally, students repeat the course even though they have passed it because a teacher has recommended it. And in some cases, even if students successfully demonstrate mastery of the course content, they may be given a failing grade and forced to repeat it based on chronic tardiness to class (nine or more instances in a single school year).

Disproportional representation by race in upper grades is evident. Of the students in 10th grade, only 10% are White and 9% are Asian, with the bulk of the population being Hispanic, African American, Native American, or of mixed race. Of the juniors,

less than 9% are White and less than 12% are Asian. In other words, sophomores, juniors, and seniors that are enrolled in Pre-Algebra are more likely to be students of color than they are to be White.

### *English Language Proficiency*

Of the students enrolled in this lowest track high school mathematics course, more than one third is actively receiving services from ESOL teachers. These students are at all levels of English language proficiency, ranging from students with beginning understanding of spoken English to students with near-grade-level proficiency in written academic English. In the school district at large, only 13% of all students qualify for ESOL services, illustrating the gross overrepresentation of ELLs in this lowest-level course.

This disproportionality may be due to several factors aside from English language proficiency. Some immigrant students have had limited or interrupted schooling due to circumstances ranging from poverty to war to rural isolation. For some students, their early years of education in their country of origin may have been less robust than that of students in the United States in that their school year may have been shorter or their teacher may have been less educated or qualified than educators in the United States. Other immigrant students may have come from a school system where mathematics are taught in a different order than in the U.S., thus making them “behind” their U.S. peers.

Many ELLs, however, were born in the United States or arrived as preschool-aged children. For these learners, who received their formal education entirely in the United States, “home country” factors do not apply.

### *Gender*

Although folk wisdom says that boys are better at mathematics than girls, the students enrolled in Pre-Algebra, the lowest course, are mostly boys, by large margin. Girls make up approximately 35% of the students in this course, while boys make up the remaining 65%. In some schools in the district, entire sections of Pre-Algebra courses are all male. Overall, the school district is approximately 50-50 between male and female students, which means the Pre-Algebra courses are, again, not in alignment with the population at large.

### *A View into a “Typical” Pre-Algebra Classroom*

Because many school principals recognize that smaller class sizes may benefit students, class sizes for Pre-Algebra are usually smaller than average, with approximately 23 students in each class (in contrast to other high school mathematics courses that are usually around 28 students). Based on this statistical information about race, special education, grade level, English language proficiency, and gender, the demographics represented in a typical Pre-Algebra class begin to emerge.

In an average Pre-Algebra class of 23 students, about four of the students would be White. One would be of Middle Eastern or North African descent. Two students would be Asian, five would be African American, and nine would be Latino. Two students would be of mixed racial heritage or American Indian. Ten would have been born outside the United States.

Fifteen of the students would be male, and eight would be female. Nine of the students would be learning English, and nine would be receiving special education

services. By grade level, 18 students would be in 9th grade, 3 students would be in 10th grade, and 2 students would be juniors. Based on district-wide data from the state Department of Education, at least five students would qualify to receive free or reduced price meals.

A table of six students might include the following adolescents. Julio Escobar (a pseudonym), a ninth-grade Latino boy, is an English language learner with advanced-intermediate level of English language proficiency. His classmate might be Nadia Zeitoun, a 10<sup>th</sup>-grade girl from Lebanon. Her table partner might be Joseph Dixon, an African American ninth-grade boy who has been diagnosed with a learning disability. His classmate might be Nicholas Sullivan, a ninth-grade White boy. His study partner might be Ravinder Singh, a ninth-grade Asian student who qualifies for free meals. Their table mate might be Lidia Paz, a Latino girl who is learning English and has been diagnosed with a learning disability.

In short, a peek into a section of Pre-Algebra reveals a cohort of students that is mostly male composed of mostly students of color. The students in these courses are more likely than students in higher-track classes to qualify for special education services or English language support.

#### Who Teaches the Lowest Track Mathematics Courses?

Saxon School District employs thousands of credentialed teachers to work in PreK-12 classrooms across the school district. Approximately 100 of these educators are teachers of mathematics for students in the eighth grade, spread throughout approximately 30 middle schools. Of these teachers, about 50 teach sections of Math 8,

while the remainder teach students in higher level courses like Algebra, Geometry, or elective test-preparatory courses. Most mathematics teachers teach five periods a day, typically teaching one or sometimes two different topics.

Within Saxon School District as a whole, in accordance with state and local regulations, approximately 99% of those teachers teaching Math 8 are certified to do so by the state. About 99% of these teachers hold at least a bachelor's degree, while about 65% have at least a master's degree. Although school-district specific demographic information on teachers by gender and race was not available, statewide data from 2003-2004 indicated that approximately 80% of all teachers in the state are White and about 20% self-identify as minority (NCES, 2009a). Additionally, about 20% of teachers in the state are male, and about 80% are female (NCES, 2009b).

The participants in this study mirror these statistics and are representative of the approximately 50 teachers who are assigned to teach the lowest track mathematics course in Grade 8. Of the seven classroom teachers interviewed, six are female and one is male. Five are white, one is Latina, and one is self-described as "half Filipino, half White." Five hold master's degrees, and two hold bachelor's degrees. All have taught in Saxon School District for several years.

Informants for this study were not randomly selected, but rather were recruited first through snowball sampling and then through purposive sampling with the intention of reflecting the demographics explained above. Working from the existing pool of approximately 50 teachers of Math 8 in Saxon School District, I sought educators with at least three years of experience in teaching Math 8 and, by extension, at least three years

of experience in making placement recommendations for their students moving into high school.

Additionally, because the school district is geographically large and economically, racially, linguistically, and culturally diverse, I intentionally recruited participants from schools with different demographics to represent best the varied settings, climates, and clientele in the school district. What follows is a brief biographical sketch of each teacher.

### *Ashley*

I met with Ashley in her classroom, located in her highly diverse, relatively low-income school. An immigrant from Panama eight years earlier, Ashley is fluent in both English and Spanish, and has a bachelor's degree. Her current school is the only one she's taught at in the United States, and she is the mathematics department chair for her building.

Like many educators in Saxon School District, Ashley is a parent. Her two elementary-age daughters are enrolled in a neighboring school system. During our second interview, which took place on the last teacher work day after students left for the summer break, both of her daughters were present while we chatted, and Ashley was quick to digress from our conversation to offer her children feedback on their behavior.

Ashley speaks passionately and thoughtfully, varying the volume and tempo of her speech for emphasis. Her passion around certain ideas was evident in her rapid speech and broad gestures. Serious about her role as a teacher and parent, she has clearly given much thought to how best to meet the needs of those in her care. Although Ashley



spoke with great conviction, she also peppered the conversation with her own humility and doubt, interjecting things like “I’m still in the learning process!” and “I’m still trying to figure out what’s best for these students.”

*Becky*

My first meeting with Becky was arranged through a mutual acquaintance. For both interviews, we met in Becky’s school, which closely parallels the overall school district demographics. The first interview took place in an unused office, the other in her classroom after students had departed. Becky, a White woman, had been teaching Math 8 for 16 years and had been in her current school for nine years. She had earned a master’s degree in secondary mathematics education.

Becky is the parent of three college-age children, as are other educators in the school district. She was quick to reference the importance of rigorous high school mathematics courses as a means to college preparation, but within reason. Her examples and anecdotes often circled back to her own children, and included reference to the seven years they lived in Canada and attended Canadian schools.

In describing her role as an educator, she made frequent reference to the importance of being authentic with students. She commented, “They’ve seen me have happy days, angry days, sad days, you know, sick days, I don’t feel good days, just like they do.” This sense of “realness” was evident throughout our conversation, and it included her ongoing excitement about being a teacher. “I like listening to their different ways of doing things.” This energy and enthusiasm were the backdrop for both interviews.

*Christine*

The first time I met Christine, a White woman, she was in her classroom in a relatively affluent neighborhood, after school, working with three students. As I set up my recording equipment, Christine continued her conversation with the adolescent students. Leaning in to look at the work of an African American girl, Christine pointed to the paper in front of the girl and said, “Oh, good, this one looks great! And this, too. You got it!” The girl reacted with a satisfied expression, punctuated with a small smile. Christine continued, speaking to all three students: “It’s about time to go, so get packed up and I’ll see you tomorrow. Have a good evening!”

This warm and encouraging stance towards her students foreshadowed the thoughtful and reflective tone Christine had when talking about the students in her care. It was evident that she thought carefully about each student in her class, and sometimes agonized over how best to meet their unique needs. She expressed regret at not having enough time to really get to know each student, and volunteered, “I have one kid in particular this year. If I’d known at the beginning, I would have said, you know...this was a waste of her year being in Math 8.” In other words, Christine had realized, too late, that the student would have benefited from acceleration.

Both interviews with Christine were rich with long pauses, as Christine considered and constructed her responses. Her care and thoughtfulness in responding to me seem to be mirrored in her care and thoughtfulness in working with her students, in that she seems to be an educator who seeks to include all relevant information in her actions and decisions. Sensitive to the fact that some students do not excel in testing

situations although they know the material, Christine explained, “When I think about [a] student, I think about the person that I see in class, not the person who apparently shows up to take the quizzes and tests, because there is a large disconnect sometimes between those two.”

*Pam*

Pam, a White woman, is an established member of the mathematics department in her school, which is located in a community where nearly half of the students qualified for free or reduced price meals, while the other half were from very wealthy families. At the time our interview, Pam had been serving as the mathematics department chair for her school, even though she only held a bachelor’s degree. For reasons unrelated to this study, we were only able to schedule one interview instead of two like the other participants.

Pam and I met early one morning in her classroom, before the school day began. Pam’s role as department chair was evident, as several teachers approached Pam during our interview with pressing questions about various issues. Pam’s level of organization and attention to detail were noteworthy in that she was ready with detailed and concise responses to all askers.

Passionate about her students, Pam’s voice grew tense during our interview when she recalled a field trip where her eighth-grade students visited their future high school for an orientation. Frowning, she said, “There was just almost open dislike for students from our school.” She continued, “Once our kids gets there, they're discriminated against, and teachers will even say things like, ‘Oh, you're from [Pam’s school].’ So I just get

very angry.” Sensitive to this kind of judgment of her students, Pam works diligently to ensure all her students are well equipped for the rigors of high school mathematics.

*Randall*

Randall, a White male, had taught Math 8 in two different middle schools in Saxon School District. After several years at the same school where Pam works, he transferred to a school a few miles away that served markedly low-income families.

During our interviews, Randall made several references to his son, a high school student in a neighboring school district. Randall’s son had been accelerated in mathematics, and Randall believed his son was getting a good education. Randall’s highest degree was a master’s degree in education, and he talked about his son proceeding into college within a few years, as well.

Although Randall had lived abroad, including several years spent as a Peace Corps volunteer, he had no fluency in a language other than English. This experience outside the United States made Randall unique in this study and among teachers in general, but his monolingualism was consistent with most teachers in the school district.

Randall expressed a strong desire for consistency in education. When talking about textbooks and other instructional materials, he said, “It scares me that teachers are not using the same materials and are making up their own and I think that becomes a problem.... That’s what scares the heck out of me.” Worried about a more eclectic or substandard approach by other teachers, he summarized his thinking, stating, “My philosophy is that I’m preparing them for a high school. I want their noses in the book.”

*Sharon*

My introduction to Sharon occurred when I attended a workshop she was facilitating on the topic of race in education. Sharon, a “half-White, half-Filipina” woman, represents a departure from other educators in the school district in that she openly espouses an anti-racist, social justice stance on education.

Nearly finished with her master’s degree, Sharon spoke some Spanish but was hesitant to claim fluency. She had taught mathematics for eight years at two different schools within the school district, with the most recent being in a middle-class community. At the time of our interviews, she had just been selected as mathematics department chair for a third site, a struggling high school, in large part because of her outspoken commitment to issues around meeting the needs of diverse students.

On numerous planes, Sharon is not representative of the typical teacher in Saxon Public District School. Her willingness to speak plainly about issues of discrimination and equity set her apart, as does her single, child-free status. A strong advocate for students and families, Sharon was careful to foreground her own opportunities to learn, grow, and better meet the needs of the students in her care. She summarized her work with teachers, students, and families, saying her goal was for “students to have a voice.”

*Sue*

Sue, a White woman, works in a school located in a markedly affluent community. Our second conversation was a telephone interview, conducted just before Sue and her family (including three small children) set out on a cruise. With a master’s degree in secondary mathematics education, Sue was similar to other educators in the school district. One distinction, however, was that Sue mentioned her father during our

interview, because her father had earned a Ph.D. Sue made clear how this underscored her commitment to making sure everyone received a good education.

Sue had previously taught high school mathematics, but after several years, had chosen to move to the middle school level, where she had worked for the last nine years. She explained this decision by stating, “If you like math, teach high school, and if you like kids, teach middle school.” She cast herself in the “likes kids” category, and offered evidence of this throughout our conversations.

### Summary

The educators in this study are strong teachers and kind friendly people. They are earnest, and they are each doing their best, given their own understandings of what “best” consists of and their own limitations. Their level of commitment to the teaching profession is strong, and their willingness to participate in this research speaks to their devotion. They are reflective, thoughtful, and trying to “do right” by their students.

Despite this commitment to teaching, however, there are unconscious shortcomings, many beyond the control of these individuals. Upon examination of the characteristics of the students in the lowest track mathematics course and the mostly White, middle class teachers of these classes, it is clear that the teachers do not reflect the demographics of the students they serve. Although each teacher in this study, and perhaps each teacher in the school district, expressed a commitment to “doing what’s best for students,” it seems that the possibilities for cultural distance and cross-cultural miscommunication are large. While most of the teachers are White, most of the students are not. While most of the teachers are female, most of the students are male. While

many of the students are not yet fluent in English, all of the teachers speak English proficiently. And while some significant portion of the students qualifies for free or reduced price meals, all of the full-time teachers earn at least \$44,000 per year and receive health benefits, which places them well above the poverty level.

Given these differences between teachers and the students in the lowest track, how, then, do these teachers make their placement recommendations for the students moving into high school? What funds of knowledge do the teachers draw from, and what kinds of criteria do they use to make these life-changing recommendations for their learners? What follows is an exploration of how the teachers in this study responded to these questions.

## 5. Research Findings

The participants in this research shared a variety of perspectives, and carefully explained and justified their ideas, beliefs, and decision-making processes in determining which courses are most appropriate for each student. Overall, their views can be sorted into three distinct categories. First, and most common, were teachers who describe a “sixth sense” or sense of omniscience that is used in making course placement recommendations. Second, some educators in this study made reference to placing power with students and their families, in some form, for making course placement recommendations. Finally, some educators in this study expressed an unwavering commitment to the education of each student in their care, and they explained that, as educators, they were dedicated to doing whatever it took to ensure all students were successfully promoted. What follows is a detailed exploration of these ideas.

### Finding 1: The Omniscient Teacher

In considering the culture of education in the United States, no analysis would be complete without an examination of the way teachers view their own roles in the process of educating students, as well as the values, beliefs, and factors that influence their roles. For generations, despite shifting theoretical models and paradigms shared by researchers and educational theorists, many teachers have followed a similar, predictable pattern of traditional teaching behavior wherein teachers hold themselves at the center of



instruction. As in the last century, some contemporary teachers, reflecting their own cultural roots, continue the traditions of punitive and subjective grading of student work, indifference toward or disregard for student interests and concerns, and an inability or unwillingness to draw from and build up the rich background knowledge each student brings to the classroom. Bruner summarizes “our Western pedagogical condition” (p. 20) as “a single, presumably omniscient teacher explicitly tells or shows presumably unknowing learners something they presumably know nothing about” (p. 20). This presumption of omniscience on the part of some teachers, which may also be how teachers view themselves, is the focus of this chapter.

The terms *omniscience* and *omniscient*, or rather, all-knowing, have traditionally been used within the context of theology, specifically in reference to a deity or deities. Many faith traditions, including the major monotheistic and many polytheistic faiths, hold that a higher power (God) is all-seeing and all-knowing, or omniscient.

When used in the context of theology, the concept of omniscience evokes a sense of the absolute. Within organized religion, an omniscient deity is one that enjoys unconditional and unlimited access to universal truths, along with an infinite knowledge of past, present, and future. No domain or era is excluded, but rather, every knowable detail is included. This omniscience leaves no room for debate or quarrel; an omniscient deity simply knows all there is to know.

Building from the work of Nietzsche, Kant and Sartre, Bourdieu (1991) explored the ways individuals and institutions may lay claim to a state of omniscience, or at least the appearance of such. In exploring this idea of omniscience-made-human, Bourdieu

explained the ways those with authority—priests, politicians, and the like, including teachers—gain, maintain, and exercise their power. Bourdieu built this argument specifically upon his interpretation of Nietzsche, stating,

Delegates [those with authority] *base universal values on themselves*...and thus monopolize the notions of God, Truth, Wisdom, People, Message, Freedom, etc. They make them synonyms. What of? Of themselves. “I am the Truth.” They turn themselves into the sacred, they consecrate themselves and thereby draw a boundary between themselves and ordinary people. They thus become, as Nietzsche says, “the measure of all things.” (p. 211)

In discussing the Oracle Effect, Bourdieu (1991) defined this omniscience-made-human, this making of oneself as “the truth” as the “oracle effect” (p. 211). Using priests and “priestly humility” as an example, he explained: “It is in abolishing himself completely in favour of God or the People that the priest turns himself into God or the People. It is when I become Nothing... that I become Everything” (p. 211). Woven tightly into this form of omniscience-made-human is what Bourdieu termed “symbolic violence,” manifest in the “impossibility of producing a divergent, dissent speech against the *enforced* unanimity” (p. 213) expressed by those with power.

In a parallel way, some contemporary, traditional educators, too, may have the sense that they embody omniscience-made-human, and are all-seeing and all-knowing with regard to the students in their care. Asserting great confidence and minimal modesty, these educators may embrace a traditional interpretation of schools and schooling, in that the teacher knows what is “best” for each learner. Dewey highlighted

this sense of omniscience in traditional teachers, stating, “The center of gravity is outside the child. It is in the teacher, the textbooks, anywhere and everywhere you please except in the immediate instincts and activities of the child himself” (p. 34). Dewey (1900) further explained a “traditional” model of education as “one of imposition from above and outside” (p. 2). While this may have been Dewey’s lament in 1900, this traditional, teacher-centered, rote-memorization model of imposition—and the imposition of omniscience—persists, particularly for those students with historically marginalized identities, and is as exclusionary and silencing today as it was in Dewey’s time.

Freire (2002), too, alluded to this sense of omniscience in teachers in his description of the “pedagogy of the oppressed,” where the teacher is an uncritical performer, engaging in “banking education.” Freire described banking education as a system wherein “the teacher knows everything and the students know nothing” (p. 73). Freire went on to explain that the teacher who expresses loyalty to the banking model of education also “chooses and enforces his choice, and the students comply,” (p. 73) and “chooses the program content, and the students (who were not consulted) adapt to it” (p. 73). The teacher, in other words, holds ultimate knowledge, and ultimate power to make decisions. The voices and perspectives of students are not considered, because in the view of an omniscient teacher, this would serve no purpose. An omniscient teacher does not require the input of students.

Within this teacher-centered, “all-knowing” framework of traditional banking education and symbolic violence, in this dissertation I posit that the concept of omniscience, or omniscience-made-human, may help to explain some of the attitudes and

decisions made by secondary mathematics teachers in the United States and in Saxon School District. All teachers in this research expressed commitment to their students and their professions, and most (8 of 10) expressed a profound desire to continue to learn and grow. However, the most frequently occurring pronounced theme expressed by the secondary mathematics teachers who participated in this study was one of being “all knowing”—or in other words, omniscience. Although seven of the informants suggested that they were “just” teachers, using language to humble themselves, half (five of ten) chose to assert their personal senses of enlightened wisdom, awareness, and complete understanding of the students in their care. With varying degrees of concern and regard, participants with this stance of omniscience expressed confidence in their personal, subjective evaluations of each student. As Tyack and Hasnot (as cited in Brantlinger, 2003) suggested, “A tacit consensus exists among educators, scholars, and elites that only expert knowledge is legitimate” (p. 10).

This common theme of omniscience, which includes the shifting of focus away from historically marginalized students, is not necessarily indicative of inherently weak, unskilled, uncaring, or unsuccessful teachers. Rather, those educators espousing an omniscient perspective believe they are acting in ways that benefit the learners in their care, and see themselves as doing what is in the best interests of each learner. Through their individual cultural conditioning and the development of their unique perspectives on education (shaped by their individual life experiences as White English speakers), those teachers with an omniscient sense believe they are acting as advocates rather than as oppressors. In writing about teachers who hold limited or limiting beliefs about their

students, Delpit (1995) pointed out that these educators “probably are not bad people. They do not wish to damage children; indeed, they likely see themselves as wanting to help. Yet they are totally unable to perceive those different from themselves except through their own culturally clouded vision” (p. xxiv).

I posit that omniscience, when exercised by secondary mathematics teachers who abide by the traditional teaching philosophy of making course placement recommendations for their students, may be considered a form of symbolic violence (Bourdieu, 1991) when teachers place students into the lowest mathematics tracks available. In relying upon a sense of omniscience, secondary mathematics teachers, with their positions of power, use this authority to change the educational paths (and by extension, change the lives) of their students.

For several of the secondary mathematics educators in this study, the idea that particular students—students with historically marginalized identities—should be in higher level classes was an idea that was viewed as “seemingly irreconcilable.” Bruner (1990) made connections to this idea of omniscience in his discussion of the ways narratives within cultures are constructed. He stated, “An obvious premise of our folk psychology ... is that people have beliefs and desires: we *believe* that the world is organized in certain ways, that we *want* certain things, that some things *matter* more than others, and so on” (p. 39). Building on this idea, he went on to posit, “We believe, moreover, that our beliefs should cohere in some way, that people should not believe (or want) seemingly irreconcilable things” (p. 39). In this way, participants worked to

“preserve the core”—that is, they worked to maintain the status quo by keeping students with historically marginalized identities in the lowest level mathematics courses.

In developing these omniscient teaching views, participants typically expounded at length about examples of their views of what they considered a “normal” students—that is, students fitting into the mainstream majority--sometimes including their own biological children. For example, their stories frequently began with words like, “this one student” or “my daughter” or “this really bright kid.” These stories fit into what Bruner (1990) described as the way “human beings, in interacting with one another, form a sense of the canonical and ordinary as a background against which to interpret and give narrative meaning to breaches in and deviations from ‘normal’ states of the human condition” (p. 67). These stories of “normal” students emerged as participants were asked about students with historically marginalized identities. It was challenging to keep the focus on “outer circle” students, because the participants tended to shift the conversation back to descriptions and tales of “normal” students.

The six secondary mathematics teachers in this study who implicitly (but not explicitly) expressed a sense of omniscience assigned power for all decision making with themselves or with other school-based teachers. The omniscient beliefs of traditional secondary mathematics teachers seem to lead them to believe they were able to see and evaluate situations from an objective standpoint, as the situations truly exist, with no admission or acknowledgement of other ways of seeing, knowing, or believing. This stance is most typified by educators with an unwavering sense of certainty in their own opinions about students—with the attitude that these opinions were, in fact, facts.

Secondary mathematics teachers in this study expressed, described, and qualified their omniscient teaching philosophies and views in four ways: (a) the “gut feeling”; (b) idiosyncratic and unwritten “rules” for students; (c) silencing families; and (d) subjective evaluation of effort.

### *The Omniscient’s “Gut Feeling”*

Nine of ten participants, using assertive language and convincing tone, explicitly expressed that they experienced or knew of other teachers who had a “gut feeling” or a sense “in [their] heart” about which mathematics courses were most appropriate for each student and which students were best suited for each course. These participants strongly believed that their intuition and professional background qualified them to make these critical student placement decisions.

When explaining their thinking using these idioms, the mathematics teachers in this study frequently supplemented their assertions with body language in by pressing their abdomens when mentioning a gut feeling, or tapping their chests when speaking of a sense in their hearts. However, when expressing this intuitive form of knowing, this bodily omniscience, participants rarely offered quantifiable evidence to support their assertions. The simple act of “intuitive knowledge,” buoyed by each individual’s position of power as a teacher, was offered as enough of a solid basis for making course and placement recommendations, and it did not require additional documentation, evidence, or proof. The existence of this allegedly keen intuition was sufficient evidence for participants to speak with great conviction about which courses were most appropriate for each student.

*Randall.* The participant most strongly expressing omniscience through a “gut feeling” was Randall. After several decades of working in a field unrelated to education, Randall earned a Master of Science in education and entered the teaching profession relatively late in life. At the time of these interviews, Randall had been a teacher for eight years, teaching only Grade 8 mathematics.

Randall’s strong conviction that his own ideas and intuitions about student course recommendations were right and correct was the most extreme among the participants in this research. He strongly emphasized his use of student assessment and grading during our conversations. In addition, as supporting evidence to his commitment to just and objective teaching, he commented that he had developed an innovative grading system that is both “accurate” and “fair.” In discussing the grading system, he also expressed, at great length, how much his own grading is based on what he referred to as an intuitive “understanding” of his students. Randall summed it up by saying, “You just *know*,” and expanded this sentiment further in stating, “I know the students better than any test can tell.”

This perspective, this idea that “you just know” what is “best” for students, is echoed in the work of Brantlinger (2003), when discussing how those with elevated status (i.e., those with historically privileged identities, like teachers) construct “ideological tales” to mask or “divert attention” from their own complicit roles in maintaining institutionalized hierarchies. Brantlinger stated, “Subordinates are not asked how they feel about segregated or lesser status nor are they seriously included in decisions that affect them. It is implied that remedies benefit them or the whole society” (p. 9).



Randall, with his strong reliance on his gut feeling, frequently linked his impressions of observed classroom behavior to his beliefs on the students' academic readiness for more difficult course work. In talking about his decision-making process in making course recommendations for students, Randall said,

I'm also, in the back of my mind, thinking behavior as part of that, attendance as part of that, and ah, that's ... that's ... ah ... where it's more of an art than a science. But, ah, if I know I have a kid that's screwing around in class and doesn't get his homework done ....

This trailing off, which was followed by a shrug, was a strong statement about the unbreakable link, to Randall, between his interpretation of student behavior and readiness for academic challenges. In his thinking, activities considered to be "screwing around," (meaning "to waste time") were not afforded careful scrutiny, and failure to complete homework was not probed, but rather simply taken as sufficient evidence of lower ability or deserving of few opportunities. Randall's personal, intuitive, gut feeling led the way.

In addition, Randall expressed a mostly confident outlook in his course recommendations for students. However, he did waver slightly when asked if he had misjudged or made mistakes in evaluating a student's potential during his past eight years of teaching, or ever wished he could change his recommendations. He remarked, "I think our [secondary mathematics] placement judgments have been fairly good." Note also that he used the pronoun "our" when speaking of the placement decisions, which was a departure from his earlier (and subsequent) use of the first person, "I." This choice of a

more inclusive pronoun, when discussing possible mistakes, may indicate a willingness to share responsibility (or possibly culpability) for errors or possible errors.

Bourdieu (1991) spoke to this shift from “I” to “we” in explaining that when a person “wants to make a symbolic takeover by force, he shifts from saying ‘I’ to saying ‘we’....So the ‘I’ of the delegate...must conceal itself behind the professed interest of the group, and the delegate must ‘universalize his particular interest’” (p. 213). That is to say, in shifting from the first person to the collective, the speaker enacts symbolic violence in masking personal intentions as those of a larger, perhaps more powerful and unassailable, group, further cementing the appearance of an omniscient reality.

*Christine.* Like Randall, Christine also followed her “omniscient gut feeling” in making crucial placement recommendations for her students. When asked about how she makes her course placement recommendations, Christine offered this example, wherein she described a student’s reaction to getting a poor grade. Christine explained that she offered all students an opportunity to do “test corrections.” This means that after each test, the students may choose to review their errors and make corrections for partial credit. She said,

A kid who does test corrections is saying, “Hey, I have some incentive to do better. I can still improve.” Whereas a kid who sees that grade and says, “I’m done!” may, so... It’s sort of those kinds of things, and that’s, sort of the gut instinct that, that goes into it a lot of times. It’s, you know.

Christine took this willingness to complete test corrections at face value and did not probe further into why a student may or may not have chosen to participate. No

acknowledgement of other factors (fatigue, frustration, lack of interest, distraction, etc.) that might cause students to avoid or decline participation in test corrections was mentioned.

Christine built on this initial example, explaining how she incorporated it (and similar anecdotal examples) into making mathematics course recommendations for her students. She explained, “I almost can’t even say, for some kids, why I make the decision. I just, when I think about them, I say, ‘Yeah, that’s somebody who should be going to Algebra.’”

Taking this “omniscient gut feeling” further, Christine explained that when considering students for promotion to the more advanced levels of mathematics, she strongly considers

Their interest in math and so that, that I think probably really sort of plays into the gut instinct. You know, there are kids who get excited; like the other day, we were doing angle relationships, and there were kids who looked at the two parallel lines cut by a transversal, and they were all excited about the fact that it was really a puzzle, you know? So I look at those kinds of activities, you know? Does this kid get excited about that, or are they like, “Oh, really? When am I gonna be done?”

Here, Christine seems to equate her perception of enthusiasm for the subject matter with a readiness for further study. Because she is a mathematician, perhaps she places additional value on students who express a similar eagerness for the content. Those students who express apparent boredom, disinterest, or a lackadaisical attitude are

not considered ready for promotion, regardless of their demonstrated mastery of the content.

*Idiosyncratic and Unwritten “Rules”*

Another common theme emerged among those secondary mathematics teachers that fall into what is referred to as having some type of “omniscient mindset.” These teachers spontaneously and repeatedly referred to and described a privileged style of discourse and a preferential way of “being.” Although each participant had a unique way of describing this, it was clearly the same general idea in each case, with those students deemed “not worthy” for promotion to be riddled with various undesirable characteristics. The secondary mathematics teachers in this study who expressed this form of omniscient thinking had a defined “good” and “bad” list of attributes, characteristics, and “objective” indicators in mind, which, although consistent among all participants, were neither stated nor included in any school district policies or formal documents. In this way, using arbitrary, idiosyncratic, and unwritten “rules,” these educators expressing these perspectives used their positions of power in what could be described as tools of oppression. As Eagleton (as cited in Brantlinger, 2003) pointed out, “It is the oppressor’s privilege to decide what the oppressed should be” (p. 11).

Delpit (1995) has voiced perspectives on this idea, too, with regard to a privileged “way” of participating in the culture of power. She stated, “The rules of the culture of power are a reflection of the rules of the culture of those who have power” (p. 25). She continued, “This means that success in institutions—schools, workplaces, and so on—is predicated upon acquisition of the culture of those who are in power” (p. 25). These

meshes neatly with the narratives constructed by the participants, who, in sum, said to students: Be like me.

*Scott.* While working as a high school mathematics teacher, Scott earned his Master of Arts degree. After nearly 10 years as a classroom teacher, he was promoted to a central office staff position, overseeing high school mathematics for the entire school district. Although Scott did not explicitly embrace or espouse the idea of omniscience, he indicated that he had a clear understanding of how an educator who espoused an omniscient philosophy could lend itself neatly to an idealized style of discourse or a preferred way of being among teachers. Although he did not use the words “omniscience” or “symbolic violence,” Scott described some ways secondary mathematics teachers enacted these ideas by, for example, retaining students simply because, in their opinion, these students either did not have or did not display the “preferred characteristics” of being able to learn or communicate in a certain way.

I asked Scott why teachers would want to hold students back or why they would want to limit opportunities for their students, and he explained that among teachers in his school district,

There are some long-held beliefs that some students aren't ready for certain courses, even if they want to take them. They're not cognitively ready, um, that they ha-, haven't matured enough to reach such a high level of mathematics at that point.

I asked, “Do you think that's true?” Scott continued,

And that they need more time. I don't. I do not. I think that, given the right situation and a teacher who understands different ways that students learn, any student can progress, and can reach a challenge.

In continuing the conversation with Scott, I shared that some mathematics classroom teachers participating in this study had indicated that student behavior was a key factor in deciding whether to promote or slow down the progress of students. Scott replied,

You know, I think that's a perfect example of what I was just talking about. They're making decisions based on, I think, very faulty logic. A student may be disruptive and a behavior problem because they are bored, and if they got into a class where they were learning new material at a faster pace, many of those things would disappear. Or maybe if they were with a teacher who created a relationship with them, or could see past the occasional acting out, and understood that they are eighth-graders, and they still have qualities of children, they could be very successful.

Scott built on this idea, giving an example from his own experience as a classroom teacher, several years ago before he was promoted to his central office supervisory position.

So, I think that's, you know, I, just in my own experience, the thing that I would hate the most is the teachers at the first day of school who would grab your class lists and say, "Oh, this one, oh he's a pain in the neck. Oh, she's terrible, she just, she, she just wants to sleep all the time." Don't—no. Don't tell me those things,

'cause they're probably not true. They might be true; they might have been true in your class, but I doubt I'm gonna have those issue in my class. Oftentimes the students that I would have the more difficulty being with would be, uh, in my classes, would be the ones who were very compliant and who were very quiet, who thought that they could just, as long as they stayed quiet, and compliant, then they would make it through somehow. Those are the ones that I would tend to disrupt and shake them up a little bit so that they would push themselves to achieve higher.

*Randall.* Although the majority of participants, when speaking about their students, were careful in choosing their words, and seemed to exert great effort to avoid using language or sharing ideas that could be construed as biased in any way, Randall offered a different view. When asked for his thoughts as to why the highest tracks were primarily composed of White and Asian students, using “secret code” as a metaphor, Randall made the following comment and then answered with the following question.

How do you go about educating a student who will refuse to do all the work? And who will not listen to what's going on in class. You know, that is the age-old question—how do you educate them? I don't know.

I replied, “Right. And there is no secret code,” to which Randall said, “That's right.” I continued, “If you do these three dance steps, everything will fall into place.” Randall replied,

Well, it, but, I mean, there is, there is a secret code. It, if they do what White middle upper class and Asian students will do, chances are they will do much

better in school! But if they are don't do it, or incapable of doing that, then, then it becomes a problem in the school. Um, and, how to get around that, I don't know.

As a researcher, my response to Randall's view ("And there is no secret code.") was in reference to the idea that there is no "secret code" or universal solution to figuring out how to educate all students. In other words, I was speaking to the uniqueness of each student and each situation, and the need for differentiation. I meant that no universal approach—no "secret code"—exists to guide teachers in knowing how to support each learner. I referenced "three dance steps" as an attempt at humor, with the implication that teaching students is not something rote or as clear-cut as simply following predetermined footsteps. However, Randall seemed to interpret this invocation of a "secret code" a bit differently than I intended, and rather than focusing on what we, as educators, can do, he shifted the focus to the students. What Randall expressed in this conversation was that for him, there is something that could be described as a "secret code." In his thinking, this secret code is something students must learn, which involves learning to "act White." To paraphrase Randall, he said that if students would just learn to "act White," then they would be successful in his class. Randall's expression of what seems to be an assimilationist agenda falls into the category Kubota (2004) would term *conservative multiculturalism*, in that Randall "overtly defends Eurocentric modes of thinking and educational practices" (p. 31). Randall affirms this, stating,

You have to understand the kind of person they are. Not just the person, but the student that she is. We do look at [state standardized test] scores, but I would place much more weight on what I know of the student.



In this dissertation, I argue that conservative and traditional secondary mathematics teachers such as Randall, who are White, middle class, and English speaking, see the world from a position of power. Apfelbaum (as cited in Brantlinger, 2003) suggested that “dominant groups develop standards based on their own characteristics and customs and expect others to emulate their styles and assimilate to their customs whether it is feasible for them or productive to society” (p. 3). Randall, inspired by and based on his rigid views, has clearly decided which students are the “right kinds of kids” for the upper-level classes, and for him, it is those with the preferred (White) style of discourse and behavior.

These descriptions of effort, as perceived by some mathematics teachers, point toward a preferred “way of being” for students. In other words, students who appear to demonstrate specific behaviors—compliance, tenacity, willingness to review previous material—increase their chances of being viewed as showing good effort. Randall captures the subjectivity of this idea in his interpretation of the state standardized mathematics assessment.

One of the key strategies Randall described using when making his secondary mathematics placement recommendations involved an arbitrary score on the state standardized assessment for eighth-grade mathematics, which has a maximum score of 1000. Although the official minimum passing score is 650 (which the state considered indicative of readiness for Algebra I), Randall chose to create his own interpretation of the assessment for eighth-grade mathematics test scores. With the approval of his school-based mathematics department chair, Randall made the decision that only those

secondary mathematics students who scored 800 or higher on the state standardized mathematics assessment would be enrolled in Algebra I—since he deemed these students “worthy” or “ready” in his opinion and in alignment with his “gut feeling.” As a result, any student with a score below 800 would be placed in the lower-level, Pre-Algebra course. This means that students with scores between 650 and 800—who had demonstrated mastery of the requisite eighth-grade mathematics content, but did not meet Randall’s elevated standard supported by his supervisor—would be denied access to Algebra I.

However, in spite of Randall’s stated confidence in his own personal “cut-off” score, he admitted there were times he bent his own rules. He described an example, explaining,

Now, I deviated from that because I know the students. For instance, I had one girl who doesn’t do real, real well on tests, but is very, very bright and ... and works her rear-end off ... is ... I mean ... the ideal student.

In probing further about this White, monolingual English-speaking, female eighth-grade mathematics student who fell below his arbitrary criteria for promotion, Randall revealed that she had been identified as gifted several years before she entered the school and that, according to his gut feeling, she should be promoted. Although Randall had attempted to establish some form of subjective measure of student mastery of content matter, this, too, was influenced by his omniscient interpretation of information.

*Silencing Families*

In addition, several of the educators who espoused an omniscient view of teaching also expressed a disdain for parental involvement, characterized by a disregard for the opinions, ideas, or desires made by their student's families. Those educators either subtly or overtly resented the voices of their students' parents or guardians in their omniscient decision-making process. This stance, in rejecting or ignoring the input of families, is in direct opposition to the No Child Left Behind Act (U.S. Department of Education, 2001), which states, in part, that parents should participate in "regular, two-way, and meaningful communication involving student academic learning and other school activities" (p. 1962).

In rejecting family involvement, particularly the input of families in making course placement recommendations, teachers with this attitude of "silencing families" exerted a form of symbolic violence, in that they sought to silence the voices of concerned stakeholders in deference to their own, teacher-ly opinions. Teachers espousing this stance seemed to believe they, as teachers, were the keepers of the "right" information, and the funds of knowledge of the families was viewed as lesser or less valuable. Teachers with this viewpoint seemed to believe that families of students did not really understand the workings of the school—or in other words, did not possess the proper cultural capital necessary to have a valued opinion.

When families asserted themselves and advocated for what they considered to be the best or more appropriate course placements for their students, participants in this study sometimes ridiculed, insulted, derided, or degraded these decisions. Although few research participants admitted to openly disagreeing with families, it quickly became

clear that for some informants, assertive or vocal families were viewed as, at best, irritants, or at worst, know-it-all, pushy fools, who “badger the guidance counselors,” “don’t understand the process,” “don’t know the difference between the different classes,” and “don’t know what’s best for their kids.” Freire (2002) spoke to this idea, asking, “How can I dialogue if I am closed to—and even offended by—the contribution of others?” (p. 64).

The two teachers who most vehemently opposed to the input of families were Ashley and Randall, whose opinions and perspectives most closely align with that of omniscient educators and seating power with themselves as teachers. Interestingly, both Randall and Ashley have taught Math 8 for eight years, less time than any other participant except for Sharon, who also taught for eight years.

*Randall.* When talking about communicating with families, Randall explained his perspective, saying,

Ah, you know, we kinda have the two extremes here--the gifted students whose parents are extremely involved and the rest of the students whose parents are very unconcerned. So as long as they kinda get through school one way or another, um, so.

In other words, Randall saw involved families as those with students identified as gifted. His broad categorization is that “the rest of the students” come from families where the parents are “very unconcerned.” Randall made clear that there is a preferred style of discourse not only for the students, but also for the families of students. Families that did not contact him are construed as unconcerned, painted as a contrast to the

families of gifted students. No concession or consideration is made in thinking about other reason families may not have contacted him.

Part of the reason some families may not have contacted Randall, particularly low-income families, may be because Randall preferred to use e-mail as his primary means of communication. In his socio-economically diverse school, where well over half of the student population qualify for free or reduced price meals, one may assume that only the more economically advantaged families have round-the-clock access to email in their homes. Additionally, approximately 70% of the students in his school speak a language other than English at home. When asked about providing ongoing or even periodic feedback to families about the performance of their students, Randall said,

Um, well, I do e-mail progress reports to the students whose parents have an e-mail address. This past year I was trying to, I would do it every week or every other week. It's real easy. You just mark the kids you want to send it to [a software program] that automatically does it. Parents appreciate it.

No parallel special effort was made to reach out to families of students without e-mail, nor did Randall express any recognition that e-mail may not be available in all households. This may explain why Randall considers these families "very unconcerned." If e-mail is his sole means of communication, then those without e-mail would seem to be silent, which might be reinforce his evaluation of the families as "unconcerned."

Continuing the conversation about the ways families influence placement recommendations, Randall explained his ideas about the impact of culture on student achievement in his classes.

Uh, as I said, I think it's primarily culture and expectations. Um, but I, I, one of the first things, because parents will always ask me what can they do, and I mentioned this before, and I have this on my blackboard, is just set high expectations, expect extraordinary effort. Um, accept no or few excuses. Praise every success, no matter how great or small. That's what parents can do. And, and I think, you know, for in some cultures, expectations are straight A's. And some cultures, expectations are passing [the course]. And, and if they're not passing, it's not the student's fault, it's somebody else's fault. Um, so it's, it, you know, I see it primarily as a cultural sort of thing.

Here, Randall fully placed culpability for student failure with the families of students, neatly sidestepping any responsibility himself. When I pointed out that educators are obligated to educate all learners, not just those who are easy to reach and teach, he replied,

I agree. I agree. But how do you go about educating a student who will refuse to do all the work? And who will not listen to what's going on in class? You know, that is the age-old question – how do you educate them? I don't know.

His agreement that we are expected to teach all learners, although repeated twice, is mitigated by his abdication of responsibility. Further, he frames it in an out-of-reach historical context, labeling this as an “age-old question.” When put into these terms, as “age-old,” he frames himself as an ordinary, committed educator, working against insurmountable odds. In this way, he protects himself from needing to exert any additional effort, given the foregone conclusions. His description of students who “refuse

to do the work” indicates that, as an educator, Randall has very little self-efficacy, according to Ashton (1984) who stated, “Teachers with a low sense of efficacy experience a sense of futility in working with students” (p. 29).

Further troubling about this statement is the idea that teachers like Randall often erroneously categorize/describe some students as refusing to work and unwilling to listen to what is happening in class. Again, this is a direct assignment of responsibility with the students, and a distinct lack of reflection, on his part, in considering how he might be failing to engage his learners. As the powerful giver of knowledge, he presents his instruction in one way—his way—and the students are expected to make sense of it. He is unwilling or perhaps unable to differentiate to meet the needs of the students in his care.

In further discussions about parental involvement and family communication, particularly with culturally, linguistically, and ability diverse families, Randall and I talked about families that had advocated for their children to be placed into the more rigorous mathematics course. He complained,

Like, we get kids in Algebra that don't belong. And I have a heck of a time getting them out of a class. I was only able to move one kid out this year, and I'm glad I... I got him out. But the rest of the class stayed. Fortunately, they all passed their [state standardized test]. It was good, but it was clearly the weakest Algebra class I've ever had.

In this passage, Randall presented a view into his particular evaluation of reality. The families had advocated for students to be in a more rigorous class. Randall had

worked to have the students demoted, but was not successful and had to “keep” the students. The students were ultimately successful on the state standardized test of Algebra. This class with a 100% pass rate is what Randall calls “clearly the weakest Algebra class I’ve ever had.” If it had been his choice, these students would not have been permitted to participate, and they would not have earned a mathematics credit towards graduation.

*Ashley.* Ashley, too, expressed negative ideas about the families of some of her students, categorizing them as forcefully aggressive and wanting to interfere. When asked if she sought the input of families, she flatly stated “Not at all.” Viewing the parents as adversaries, she continued, stating, “At the very end, it’s up to the parents, because, you know, if I said something and they don’t like what I say, well, it’s up to the parents. There’s nothing I can do about it.”

Curious about this relationship and how Ashley viewed it, I asked her if she proactively requested the input of families when making recommendations. Rather than focusing on looking ahead to course placements for the upcoming school year, Ashley instead focused on students currently in more advanced classes. Heatedly, she explained,

Oh yes, [I contact families] to let them know, you know what? Your child is failing. We need to get this child out of Algebra. And sometimes the parents say yes. Sometimes they say no. And what can you do when the parent says no? I wanted to move out of, out of my Algebra class, I teach two Algebra classes. I wanted to move three students who were doing poorly. They were totally clueless in my class. They didn't stay after school to get help. They didn't come on a



Saturday. I wanted to move them out of my class, because I knew the kids were really struggling. The parents said nope--I want my child in that class. That's it!

The vehemence with which Ashley described this situation gave indication of her frustration. Like Randall, rather than focusing her energy on how she might better meet the needs of the learners in her care, Ashley instead cast blame directly onto the students, calling them clueless and pointing out that the students did not stay after for extra help. In our conversations, Ashley did not offer any reflective examination as to why some of her students might not want to spend additional time with her.

Ashley was free with her criticism of students and their families. Further implicating the families of students, Ashley also explained:

Sometimes it is parent placement, too, and it shouldn't be that way. Because sometimes the parents don't know the results of, you know, putting a child in an honors class, or a math class, or an algebra class. They don't know it. So it shouldn't be up to the parents. It should be up to the teachers, because we know how our students, how well they do, or how poorly they are doing in class.

Unlike those central office staff members who emphasized that families know the children better than teachers, Ashley strongly asserted her own evaluations of the students were more accurate and objective than those of the families. "They don't know it."

### *Subjective Evaluation of Effort*

Another omniscient teacher attitude was illustrated was through the way the secondary mathematics teachers assess and evaluate their mathematics students. This idea

was neatly encapsulated in my pre-interview survey, where many participants checked “effort” as one of the primary factors considered when making placement recommendations. Because a teacher’s perception of student effort is a wholly subjective, nonquantifiable concept, I carefully explored what this term meant to each participant. Although each explained the measure in their own way and using their own terminology, consistent ideas permeated the rationales of the participants.

Although all 10 participants highlighted their commitment to their own personal evaluations of student effort, very little recognition was shown for the subjective nature of this appraisal. Instead, each teacher believed her or his own judgment to be an accurate encapsulation of the effort exerted by the students.

Several of the common “observables” mentioned when describing effort included discussion of homework completion. Students who regularly completed homework assignments were generally considered to be showing effort. However, no distinction was made between those students who completed homework independently, those who completed homework with the assistance of parents or tutors, and those who copied homework from peers. Students interested in exerting minimal effort (not really doing the homework) for maximum effect (better grades and chances at promotion) had the potential to skew the system by enlisting support from family or peers, effectively leading the teachers to believe their own effort was sufficiently evident.

*Becky.* Becky was enthusiastic in her use of effort as a way to evaluate students. She described two students who were failing her class because of her perception of their level of effort. Summarizing their fate, she says, “I have to fail them for the year because

they did nothing...But they passed the test.” The test Becky is referring to is the state standardized end-of-course test to measure whether students have mastered a satisfactory proportion of grade-level content objectives. Even though these two students learned the required material, they would not pass the course because Becky, in her omniscience, did not deem it appropriate.

Effort was also characterized as teacher perception of student desire to learn. Becky captured this idea, stating that the students she promoted “need to be highly motivated.” She described this as “the kid that wants to learn, and highlights the notes.” She described how highlighting the notes (handouts she prepared) was good evidence of student effort and therefore evidence for promotion. She went on to state,

Because many times I have students who really aren't the, the brightest ray of sunshine, but they put so much time and effort into their work that eventually they see success. They become successful students and I, a lot of times, I think that's my greatest accomplishment, that I show them that through hard work and perseverance anything can be done.

*Ashley.* One of the teachers with the strongest commitment to her own omniscience in the evaluation of effort was Ashley. To explain her thinking, she used an example from her teaching of mathematics.

Effort, well, you know, like Math 8, I have kids trouble in getting, trying to get the surface area of a pyramid. I explain to them that the pyramid is one of the hardest shapes, because they have to find the perimeter of the base, they, the uppercase D, they want to say, “Oh, that's the base.” It is not the base! It is the

area of the base! And they need to picture the pyramid, they need to think about the base of the pyramid, which is a square or a rectangle depending on if it is a square pyramid or rectangular pyramid, so I mean, you need to put effort into learning the material. If you're having difficulties, stay after school to get the extra help that you can't get in the classroom because, of, to, of course, the teacher cannot look at it there with you, you know, in the classroom, because of the other kids in the classroom. The teacher has to walk around and give, you know, to help everybody. So I always tell my students, "If you need me, stay after school. I'll help you." There are some kids who don't bother. That's what I call effort.

Ashley went on, giving voice to a student with effort, modeling a polite, respectful student. She mimicked,

Do you mind repeating what you just said? I'm sorry, I didn't get it. I, I was doing this when you said something, and I didn't get it. Yeah, they, you know, you see the participation. You see the effort. You see the interest in learning.

Some elements of observable behaviors that Ashley placed under the umbrella of effort included participation in afterschool or weekend support sessions. However, Ashley did not indicate that she understood that many factors may influence whether students could or did participate in these after-hours support sessions. No latitude was offered for working families, transportation challenges, childcare obligations, religious obligations, or simple family desires to spend nonschool time together. Scowling, Ashley stated,

I am here every Saturday, and I have the same kids showing up. And the ones who show up have good grades in my class. The ones who don't, those are the ones who are struggling, the ones with D's, D+'s, and F's. Those are the ones who should be here in my classroom. And they don't go. That's what I call making an effort.

In research around the idea of teacher efficacy, Ashton (1984) stated, "Teachers with a low sense of efficacy place the responsibility for learning on their students, and when they fail, they look for explanations in terms of the students' ability, family background, motivation, or attitude" (p. 29). Ashley fits this definition as a teacher with a low sense of efficacy.

*Christine.* Another behavior that Christine and other participants used to identify effort was whether students asked questions. Most participants presented this in a binary fashion: either the student asks questions or the student does not ask questions. There was very little explanation volunteered about the style of discourse—in other words, the type of questions asked, the manner in which the questions were introduced and stated, or how students notified the teacher that they had a question at all. However, teachers were explicit in talking about "rude" students who "interrupted" with "dumb" questions, purportedly intended to amuse the class. The consensus seemed to be that students posing questions was generally considered to be a positive behavior—unless the student posed the question in a way perceived to be inappropriate by the teacher.

Rather than exclusively examining whether students asked questions, Christine, instead focused on how students responded to questions. In describing a particular

student, Christine said, “She is, like, one of those shining stars, I mean, she, uh, doesn’t raise her hand for every question, but any time I ever ask her something, she always knows what’s going on.” Therefore, for some students, simply being prepared to respond to questions was evidence of acceptable effort.

*Sue.* Omniscience in evaluating student effort took the form of speed with Sue. Students who worked more quickly and completed assignments ahead of time were judged to be “trying harder” than those who turned in assignments on time or needed extensions. Sue said,

But I mean, if he moved anywhere at a greater speed than a snail it was amazing. I mean, it’s just... It’s just who he is and he just wasn’t mature enough to make the connection of, oh, if I study then I’ll do well.

In this example, Sue has conflated speed of assignment completion with not only maturity, but also the student understanding of the need to study. The student in this example was judged to show “poor effort” and weak work habits, and was not recommended for promotion to the more rigorous mathematics course.

This “need for speed” rather than a focus on student understanding is troublesome, in that it gives preference to a specific style of learning and performing. This conflation of speed with true understanding and learning is a strong example of omniscience.

*Randall.* When operating from an omniscient angle, flexibility is always a possibility. Several participants, including Randall, chose to invoke this flexibility in changing his own previously stated “rules” for determining recommendations for student

placement. Once Randall thought he recognized effort being demonstrated by a student, he was willing to make exceptions and grant grades not afforded to those students not perceived to be “trying.” Randall said, “If I see the effort, generally they’re going to get a passing grade. They’re going to get a C or higher, even if I have to adjust the grades.” Randall’s omniscience is evident in his willingness and ability to change grades, in defiance of school district policies.

### *Summary*

Those educators embracing the idea of omniscience expressed limited recognition of the systemic nature of the issue of student placement in mathematics courses. These educators considered their decisions to be based upon the unique characteristics of individual students—not groups of students—and to be accurate and appropriate. Any recognition of the recurring themes, particularly the theme of students with historically marginalized identities being selected for lower-track courses, was dismissed with a brusque wave of the hand and an attribution to student- or family-based deficiencies, shortcomings, or failings. Freire (2002) lamented this, stating,

How can I dialogue if I regard myself as a case apart from others—mere “its” in whom I cannot recognize other “I”s? ... How can I dialogue if I start from the premise that naming the world is the task of an elite and that the presence of the people in history is a sign of deterioration, thus to be avoided? (p. 90)

### Finding 2: Deciding with Students and Families

Throughout the course of any given day, teachers in every classroom make countless decisions, large and small. These decisions range from the selection of learning

objectives for daily lessons to choosing when and how to allow students to speak. Teachers decide whether to offer one more example before a quiz, or whether to allow a student to visit the school nurse. Similarly, teachers make decisions on a grander scale, which may include deciding whether students should be evaluated for additional, specialized support (like special education) or should be recommended for enrichment activities or programs. In short, teachers are required to make countless decisions, great and small, each day, and they wield great power.

The ways teachers approach these myriad decisions are as varied as the teachers themselves are. Some educators, imbued with the sense of omniscience described earlier, make all of their decisions from the heart or from the gut, following what they believe to be in the best interest of the child and the class or school at large. However, other educators are more attuned to the interactive nature of education. Using Moll's (1992) "funds of knowledge" approach, these more sensitive educators seek input from students and their families, obviously not for each small, day-to-day decision, but in larger, more significant decisions. There is power in making decisions, and while some teachers hold this power for themselves, others in this study have chosen to share it with the students and their families.

In writing about how the concept of power can have both positive and negative connotations, Dutton (Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kleiner, 2000) explained that the term is related to "possible" and "potent." She clarified further, stating:

In many cases, power (and its variants, like "empower") have developed connotations of one-directional action. Most people who say, for instance, "We



have to empower people” are subtly implying that the receivers have no power other than the power given to them, and that the internal powers that drive us as human beings are valid only when granted by external agents who possess knowledge, authority or control....Power from the outside (an individual, group or organization), especially when unseen and unacknowledged, often disconnects people from their potential power from within. (p. 211)

As in most educational institutions throughout the United States, the published policy of Saxon School District clearly places power for mathematics course decisions at the school level with classroom teachers and school personnel. The policy states that staff members (which include school-based personnel such as teachers, administrators, and school specialists) shall place students at the “levels” most appropriate for each learner “academically, socially, and emotionally.” In allowing for exceptions, the policy goes on to explain that these may occur only after notification of student families, but “the final decision shall rest with the school authorities.” This intentional use of the word “authorities” clearly locates power for this decision with the institution. Within this context, “authorities” could include a teacher, an administrator, a school specialist, or district-level personnel such as a superintendant or central office staff member.

However, contrary to this policy of school authorities making the decisions, every participant mentioned or described seeking the opinion of families, thereby indicating some effort towards locating power for making course decisions with the families of students and the students themselves. At first pass, this may seem to be in contrast to the previous section that focused on the omniscient mathematics teacher. However, upon

closer inspection, what superficially appears as a sharing of power with students and families is, in 7 of 10 cases, may be a nuanced incarnation of the omniscient mindset already described.

Freire (2002) succinctly captured three variations on the theme of collaboration between the school or school authority and the learner (or in this case, the learner's family). Freire explained:

Authentic education is not carried on by "A" *for* "B" or by "A" *about* "B," but rather by "A" *with* "B," mediated by the world--a world which impresses and challenges both parties, giving rise to views or opinions about it. These views, impregnated with anxieties, doubts, hopes, or hopelessness, imply significant themes on the basis of which the program content of education can be built. (p. 93)

The voices of the informants in this chapter seem to fall into Freire's category of "A with B," which is most empowering, and therefore, most desirable. However, at times, this apparent "A with B" seems to drift into "A about B" or even "A for B," while maintaining the veneer of the generous and more socially polite "A with B."

#### *Pseudo-power with Students and Families*

Several educators lent weight to the idea of listening to students and their families by superficially seeming to give power for course placements to them. However, upon closer examination, what was conversationally presented as power to students and families was instead a covert assertion of teacher power and, as in the last section, omniscience. In these examples, the educators indicated that although students and

families ultimately made the final course placement decisions, they, the teachers, either imposed or strongly influenced the decisions, sometimes in an attempt to make it seem as if students or families had reached the decisions themselves.

Although every participant spoke, often at great length, about the importance of including students and their families in the process of next-course decision making, 8 of 10 failed to describe an authentic inclusion of these voices. Instead, these eight participants used subtle and possibly coercive language to steer families and students into predetermined tracks usually under the auspices of the “best interests” of the students, with the teachers casting themselves as “caring.” This section details some of the thinking and rationalizations of these participants. As Noddings (2001) stated, “Children have been known to accept dreadful forms of coercion as caring” (p. 102).

Perhaps by giving the appearance of entrusting power to the students, these educators understood that student voices in the decision making process are what is expected, or is the “right” way to approach this decision. This might be considered a show, or a play, for the benefit of me, the researcher, in some variation of reactivity, wherein the researcher’s presence may, as Patton (2002) explained, “create a halo effect so that staff performs in an exemplary fashion and participants are motivated to ‘show off’” (p. 567). If this is the case, they are correct: I want students and their families to have a voice in this life-altering decision. However, what follows is not a true sharing of power, but rather, a nod to the idea, but with real power seated with the teacher. This corresponds to what Macedo and Freire (2001) refer to as a “pseudocritical” approach, stating,

The pseudocritical educator dogmatically pronounces the need to empower students, to give them voices. These educators are even betrayed by their own language. Instead of creating pedagogical structures that would enable oppressed students to empower themselves, they paternalistically proclaim: “We need to empower students.” This position often leads to the creation of what we could call literacy and poverty pimps: While they are proclaiming the need to empower students, they are, in fact, strengthening their own privileged position. (p. 108)

In the following section are examples of educators seeming to foreground the needs and desires of students and their families, while, in reality, asserting their own perspectives. This is not to say that the perspectives of the educators are invalid or of less importance, but what matters here is that the educators purport to value the voices of students and families, perhaps enacting, as Macedo and Freire (2001) asserted, a strengthening of their own privileged positions.

*Scott.* To frame the issue of locating power with families, Scott, a former high school teacher and current central office staff member, offered an overall impression of the situation in most secondary schools in Saxon School District, and set the tone for the bulk of responses around this theme. He said, “My experience as I travel around the county is that very few students and parents are included in the process of what courses they take.” This acknowledgement was shared with a tone and facial expression of disappointment. Indeed, this was borne out in this study, in that relatively few participants mentioned the involvement of families and students in the decision making process for course selection. Additionally, many of those who did mention including

students and families in the decision-making process did so with an apparent spirit of “false generosity,” in that although options were presented to families, the intentions and wishes of the school personnel were made clear.

Scott had explained that, when he was still a classroom teacher, before he was promoted to his central office position, “You had to contact their parents, because it was an expectation. You, you didn’t just move students. That’s my experience.” Scott offered a caveat, though, because the school he worked in was one of the most “high-income” schools not only in the school district, but in the entire United States. This aligns neatly with the work of Horvat, Lareau, and Weininger (as cited in Brantlinger, 2003), who noted “the propensity of affluent parents to be knowledgeable about school affairs and integrated into school functions and information networks. They control their children’s course and program choices and intervene in decisions regarding them” (p. 11). Scott explained,

It was, I know it was just because of the reflection of that community, you, you made an effort—you had to contact the parents. However, the parents are pretty good advocates at that school, in that area, so they would do a pretty good job of making sure that the kids were in higher level stuff.

In this passage, Scott clearly made a connection between family’s socioeconomic status, knowledge of how the school system works, and level of advocacy for students. He also referred to an increased feeling of accountability on the part of himself as the teacher to a demanding community. His explanation does not include any personal motivation or feeling of desire to contact parents, but rather, “it was an expectation.” He

thought there was no alternative option in the matter: “You had to.” Rather than “A with B,” this is instead an example of “A for B,” or “A as an instrument of B.”

Continuing in this vein of what Freire referred to as “the false generosity of paternalism” (Freire, 2002, p. 54), Scott described a form of “A for B” for determining the best course for the following year. In explaining his ideal situation for making placement recommendations for students moving from eighth-grade mathematics into high school, he offered this example.

We [school personnel] are going to invite as many students into their highest level as possible. We are recommending that your [incoming ninth-grade] student take Algebra I Part I [the lowest possible class] to shore up their foundation, based on this evidence. However, Algebra I is open enrollment, your student, yeah, you know, so you and your student make the decision on what course, what math course they should sign up for. Please put that at the bottom with your signature and, and we will schedule your child accordingly, would be my ideal way. Now I think something that you would need to do to make that happen is there would have to be an education program for the parents, that really, I don't know if that form would be enough for some parents, there would have to be some Web site or some contact information to make that happen in a better way. The parent has an informed decision to make.

This explanation, though purportedly family- and student-centered, is problematic. Rather than fully placing responsibility for selecting student course work with the family, or initiating a two-way dialogue, Scott described making a suggestion or,

as he called it, a recommendation for course placement—clearly a case of Freire’s “A for B” rather than “A with B.” Scott perceived a student’s family choosing to override his professional recommendation as challenging his power and his professional judgment. While this challenge is no issue for some families, there are families—particularly those with historically marginalized identities, including those not familiar with how the U.S. school system works—for whom this challenge would be too great, and they would be more likely to defer to Scott’s recommendation. Asserting a difference in opinion and disagreeing with a mathematics teacher is a daunting proposition for many people.

Scott faltered again in expressing unilateral commitment to locating power with families and students in his description of another teacher’s interaction with families. After naming her as a master teacher, someone to be emulated, he stated that when making her course recommendations, “she was also very good at keeping parents in the loop, and explaining on the way.” In other words, this to-be-imitated educator was not modeling genuine listening to families, but rather made an effort to keep the key stakeholders informed, or “in the loop.” While this is certainly admirable and worthy of holding up as an example, it falls short of authentically and fully locating power with families. Furthermore, this informing of families is spelled out as a requirement in the Saxon School District’s parent involvement policy. Because Scott chose to highlight this educator as a great example, it is unclear where he truly locates power, and whether this imperfect example illustrates a more teacher-centered stance for Scott, with a stronger bent towards “A for B” rather than the purported “A with B.”

In spite of Scott's this mixed message, where on the one hand he claimed to give power to families and students while on the other hand, foregrounding the choices of the teachers, Scott ultimately emphasized his commitment to the idea of involving families in making placement recommendations. He said,

I think that when that does happen, when the parents do get involved, it moves in the right direction, in my opinion. Where it's more random, I think it's where the parents, for whatever reason, aren't in the schools as advocates, whether it's their culture, or whether it's whatever reasons for keeping them, lack of knowledge or whatever it is that's keeping them from putting, getting, helping their students.

In sum, Scott made it clear that he recognized the value of family input into the process of determining best placement for students. In calling parent involvement "the right direction," Scott is unambiguous in his support. However, in generating reasons that families might not be proactive in making placement recommendations known, Scott lists only factors that involve the families themselves (culture, lack of knowledge) rather than any shortcoming or failing on the part of the school or school district. Although Scott is generally in agreement with a collaborative, "A with B" mindset, he still seems not quite clear about the role the school and educators might play in building this relationship.

*Becky.* In a parallel example, Becky, a classroom teacher with 16 years of experience in teaching Math 8, also voiced a bit of support of locating power with her student's families, although she, too, fell into Freire's "A for B" ideology without fully embracing "A with B." Becky explained a situation that was unlike situations described by others, in that in most situations, families communicated with the school or teacher to



advocate for moving their child into a more challenging course, Becky indicated that she was sometimes contacted by families who expressed caution at putting their child into the more rigorous, upper-level course. In other words, she claimed families contacted her with wishes to hold their students back, in lower-level courses. She explained,

I leave it up to them [the family] for the final decision. But I... I will tell them that I think they could do it [be successful in Algebra]. And I explain to them that I think you should put them in the challenging course because that will be simpler to drop back than it is going to be to try to move up if you find it too easy.

In this passage, Becky has explained a version of a contingency plan for students who may struggle. She expressed this idea of recommending students for a more difficult class, with the option to “drop back” with an air of concern and apparent compassion, but she did not seem to recognize the mixed message this explanation sent to students and their families. While superficially deeming the students appropriately prepared for challenging courses, she revealed her own hesitation and lack of confidence in students by explaining how “simple” it will be to be demoted to a less rigorous course if necessary. This built-in and overtly stated contingency for failure is troubling in that rather than simply listening to parents and their desires for their students, Becky has expressed what may be construed as low (or lowish) expectations. Students whose families received this explanation from Becky might be identified as “borderline” students, who have not met Becky’s standard as truly ready for success in Algebra.

Highlighting some of the complexity in the involvement of families in the academic placement of their children, Becky also talked about “what their sequence

would be expected to be if they decide to go into this class,” emphasizing that students could decide for themselves which course is the best choice. She continued, “Yeah, you want them to be the doctor or lawyer, but do they really want to be the doctor or lawyer?” This admission, that students have independent desire that may be incompatible with those of the teacher, is illustrative of Becky’s humility in her teaching—an ideal supported by the work of Apple (1995).

Few people who have experienced the levels of boredom and alienation among our students in schools will quarrel with the assertion that curricula should be more closely linked to “real life.” This is not the issue. What really matters is the question of *whose* vision of real life counts. (p. 337)

This convoluted stance carries opposing messages that could be summarized as the “you can do it vs. you can always drop back” policy. These messages, which might also be described as the “you can decide for yourself but here is my recommendation,” correspond to what Macedo and Freire (2001) referred to when they analyze and discuss the consequences of a breakdown in or corruption of the dialogic process. “Although some educators may claim that this process creates a pedagogical comfort zone, in my view, it does little beyond making the oppressed feel good about his or her own sense of victimization” (p. 108). Becky’s choice of words has normalized the idea that it is perfect acceptable to “drop back” if things do not go well. For Becky, failure is not only an option, but perhaps an expectation.

*Sue.* Sue also purported to foster an “A with B” stance, but in practice, she fell back to the “A for B” model. Sue acknowledged talking with her students and sharing

power with them in the decision, particularly in those cases where she was not clear about what was best. She said, “Um, if I'm unsure, um, as, how motivated a student is, then I'll have the conversation with the student and say, ‘What do you think you'll be able to handle?’” Sue’s position is similar to those of Scott and Becky in its “false generosity of paternalism”(Macedo, 1994, p. 178), in that Sue only called upon these parties when she, the person with power, was unsure, and needed additional evidence before imposing her decision. However, Sue also acknowledged that the process she used for course selection and placement had changed. Upon reflection about sharing power, she said,

It’s really weird. We used to have a better system to do that. You would sit down... pretty much the guidance counselors come in from the high school, and they give them [the students] the form that they fill their schedule in. Most of the kids just check Algebra I, and if they have questions, they’ll ask. Um, sometimes I do have conversations with them at that point. Any of them I’m concerned about. If I’m not concerned, then it goes home and the parent has to sign it.

So in the past, Sue’s students had the agency that best fits with “A with B” model, with students literally checking off the course selections they thought were most appropriate. Sue’s idea that this way was a “better [course selection and placement] system” may lend weight to her desire for the “A with B” model, but given her mixed messages, her current stance is not entirely clear.

*Pam.* Also indicating an occasional joint decision with students was Pam. Although she typically held the power herself, for difficult decisions, she said,

I ultimately talk to them [the students]. I ultimately talk to them, because part of it is how hard they are willing to work next year. Do you want to have two blocks of math? Would you think you can get it in one? Are you willing to, you know, step up in learning and actually figure this out? Some students are more motivated than others.

In Pam's explanation, she superficially gave power to students, but at root, she backed away from that idea and ultimately made the decision herself, based upon her evaluation of the student responses and her perception of their motivation. In other words, Pam has expressed a plan to interpret what students express about their own willingness to "step up," but perhaps without considering how students may respond one-on-one conversations with their teacher, how the student interpreted her initiation of the conversation, or how the student interpreted the tone of the questioning. Macedo and Freire (2001) would explain Pam's stance in this way. "While they are proclaiming the need to empower students, they are, in fact, strengthening their own privileged position" (p. 108). Like Scott, Becky, and Sue, Pam also fit into "A for B" while attempting to explain an "A with B" stance.

*Christine.* Rather than leaving course choices totally open to students, another classroom teacher, Christine, instead presented students with her recommendation, and sought their approval. After suggesting a particular course to selected students, one which would cause students to lose an elective class, Christine turned the focus back onto herself, unprompted, and described how she felt when students declined her suggestion.

I don't take that personally at all, you know. I say, "Here's the option. Here's what I would really like to see you do. Here's why I would really like to see you do this" because we also talk about, you know, here you're getting two math credits in one year, that gives you greater options to move forward in math, if you're just somebody who's taking a little bit longer to get into that math frame of mind.

She affirmed this further:

I mean the electives are so important for some kids, because they're the place that some kids can really be successful, that have a tough time in the more rigorous academic setting, and so I never get upset about kids choosing not to do it.

In stating, "I never get upset," Christine again fell back into a self-referential pattern, taking care to explain how she, the educator with power, felt about the process. Although Christine ultimately gave power for this decision to students, her framing of the options—with her recommendations made explicit—removed a level of true choice for many students, in that, if they chose to go against her recommendation, they challenged her power as the teacher. Again, as with those mentioned earlier in this chapter, Christine has symbolically offered power to students while maintaining true power for herself.

Christine offered another angle on her pseudocritical sharing of power with students. She attempted to describe how she worked to empower her students, but in truth, she was the one making the decisions. She said,

I don't want to recommend a kid for Algebra in February and then find out at the end of the year that the student really isn't ready. I'd rather recommend them for [Pre-Algebra, the lowest track], and then at the end of the year say, "Go on to

Algebra.” And I say generally, because, part of that depends on the kids, because some kids find the carrot of the Algebra incentive to work harder. Whereas some kids see the recommendation of [Pre-Algebra] and say, “Oh, there’s not anything for me to work for ‘cause this is where I’m going anyway.” So, figuring out which student is which is, uh, one of the challenges.

Christine’s use of omniscience, as in the previous section, in figuring out “which student is which” is part of the pseudocritical stance. It is almost as if Christine views this potentially life-altering decision as a puzzle, wherein she must decide what kind of motivation (carrot or stick) is most appropriate for each student.

*Randall.* Randall, earlier discussed as the epitome of an omniscient teacher, heartily adheres to the pseudocritical approach described by Macedo and Freire (2001). He outlined this strategy of “forcing the hands” of students quite neatly. In describing a week-long, preteaching situation, he said,

And part of my preview, I was teaching them how to solve quadratic equations and kind of blew their minds a little bit, but I wanted them to get some sense as to what they were getting into and I remember there were kids who decided after seeing that “maybe I’m not quite ready for....” I think that was the right decision to make.

He emphasized that he wanted to “weed out” undesirable students by having them self-select their withdrawal from the Algebra course. Ladson-Billings (1995), in discussing teachers with similar attitudes and backgrounds as those of Randall, commented how for White teachers, these undesirable students “are viewed as intruders

in the orderly, academically oriented classrooms” they envision (p. 141). Ladson-Billings went on to posit that for teachers like Randall, “the best that these students can do is to try to ‘fit in’ to the established order” (p. 141).

*Ashley.* In a similar vein, Ashley expressed her omniscient teaching attitude in the form of pseudocritical power with her students. She described how students “choose” not to be successful in her class. In a sarcastic tone, she described how student success is entirely within the control of the young adolescents in her care.

It depends on how far the child wants to go in life. Oh, they have their, oh, better things to do. One child told me, “I don't want to waste my afternoon coming after [school for help]...” That's the reality! They have other things to do. Better things to do. So, that's what I call effort, you know, learning the material. You want to learn, you want to be successful, get the help. Stay after school. See your teacher.

She did not take into consideration or acknowledge the many other factors that could influence student success or willingness or ability to stay after school to seek additional help or support. These factors might include transportation, childcare issues, work obligations, religious commitments, or even apprehension about one-on-one time with the teacher. Rather, she ascribed the lack of success simply to student choice. At no point did Ashley consider her own role in building trusting relationships with students or getting to know them at a more personal level.

*In Contrast: “Students and Families: The Decision Is Yours”*

In locating power with students and their families, educators with this stance show a clear positive regard for decision-making skills of adolescents, and also seem to

understand that the results of this decision are very personal. These educators have the potential to impact larger opportunities and decisions down the road. Claire neatly summarized this in stating, “Instead of us doing it to them, they will be part of it, and that's, that is where we need to go. That's where I've seen power in the classroom.” This giving-over of power to students and families is aligned with Freirian ideals of not only mutual respect and cooperation, but also conscientization, in that the students are not having education thrust upon them, but rather, are key players, with valid and robust agency. Education for these students is not something done to them, but rather something they may create and shape to their own needs. It is a case of “A with B” and not “A for B.”

In contrast to the 7 of 10 participants who made pseudo-empowering reference to honoring the voices of students and their families, there were two examples where participants seemed to genuinely cede power to students and their families in making this potentially life-changing decision. This aligns neatly Freirean ideals, with students and their families cast as “the people” in that,

The starting point for organizing the program content of education or political action must be the present, existential, concrete situation, reflecting the aspirations of the people. Utilizing certain basic contradictions, we must pose this existential, concrete, present situation to the people as a problem which challenges them and requires a response—not just at the intellectual level, but at the level of action.” (Freire, 2002, pp. 95-96)



Freire's emphasis on action as the result of what he referred to as "problem-posing" is fundamental. While 9 of 10 participants offered abstract, nodding reference to the desires of "the people," in abstract, general terms, few really considered these and made those wishes central to their ultimate decision. However, two central office staff members, Sam and Claire, consistently and genuinely indicated the inclusion of the desires of the students and their families in this decision about which course was best for the following school year.

*Sam.* A former high school mathematics teacher current central office staff member, Sam explained that the process for course selections began in the spring, well before the new school year began.

March or April is [when] students begin to sign up for what they want. So, kids usually have an idea of what's available for them, and for a typical eighth-grader, depending on what mathematics course that they're in, they have some options that they can take. Um, if they're in mathematics 8, they have two options: an Algebra I course and an Algebra I Part I course. So, really what it boils down to is a conversation between the teacher and the student, and hopefully at home as well, regarding what courses they would take, and hopefully that conversation would, would lead to what does the child want to do down the road.

In this excerpt, Sam acknowledged that students have a significant voice in deciding which course they will take next. By using the word *options*, Sam acknowledged students have a choice and a vote in this matter. Further, Sam suggested that students take a forward-looking stance, and keep in mind what they want in the

future. He also clearly advocated for placing power with families, stating, “Parents need to be advocates for their kids, and if the parent says, ‘I want my child in Algebra I as a ninth-grader’ then the school has to do it.”

This explicit willingness and, in fact, eagerness to listen to students and their families is an example of what Bourdieu (1991) would describe as a sharing of symbolic power. Bourdieu stated, “Symbolic power is that invisible power, which can be exercised only with the complicity of those who do not want to know that they are subject to it or even that they themselves exercise it” (p. 164). Sam has legitimated the view of students and their families and given them authentic weight, without his own voice, the voice of the teacher impeding or imposing.

Sam went beyond simply allowing students to choose courses. He gives voice to students, saying, “I want to take an Algebra I class, I’ll sign up for an Algebra I class. If they want to take a [Pre-Algebra] class, they would sign up for that.” He unambiguously gives this control to students, effectively reducing his own power as a teacher and decision maker.

As a central office staff member, Sam was acutely aware of the ways schools and teachers sometimes worked to exert power over the decisions of students. When asked about situations where the desires of families are overridden by schools and teachers, Sam said,

They have a right as a parent to have their child to go in that next course no matter what the school says and they have a right to do that, and that we need to make sure that those rights are available to all kids.

Again, Sam not only placed power with families, but firmly with students. However, in this passage, he also gave voice to the reality students and their families face: there may be resistance from schools. He emphasized that not only may students and families make their own decisions, but as stated three times in a single sentence, it is their right, which confers an inalienable weight upon this idea.

*Claire.* The only other educator in this study who strongly made a case for locating power with families and students was Claire, a former middle school teacher and current central office staff member. Claire worked closely with Sam, which may be a factor in why their views were similar. In talking with Claire about the “challenging cases,” in other words, those students for whom a clear-cut recommendation was not so evident, she explained how she made her recommendations when she was a classroom teacher.

I know that when that time came, those were the kids that a parent conversation was almost imperative. OK? I could say, you know, your child has these strengths and these areas where they have struggled. They've shown consistently this or that, or, if you give them the facts, you know, and you can say, they have worked hard for me this year. Knowing how high school classes are run, compared to middle school classes, I wanted to be sure that the parents understood that there was going to be a, a higher--I won't even say rigor necessarily, but it might have been rigor, um--a higher expectation for work load. There was going to be a faster pace perhaps, you know. These are all perhaps, 'cause you don't know who the teacher is, but the child may need additional support for staying after school, or

even, you know, if the parents were able, a tutor, or some sort of situation where they may need additional support.

The benefits are that they will go ahead and be accelerated and be on that track so they can get to this level and that's nice. The downside is it could be a bit of a struggle, and additional time and energy will have to be put into it. And I would just sort of have that conversation with parents, because at least they know, going in to it, like, if I just write on a piece of paper “Yup go,” they're going to be like “Oh, cool!” You know? The teacher’s cool; the teacher thinks they're ready, [therefore] they're ready! We're going to hit the ground running, but at least if they know that, and they can know that that extra support might be needed or it may not be perfect, they can make the decision.

Again, Claire emphasized that she valued the contribution of the families, holding their opinion superior to all other input. Here, she described families who are cautious about accelerating their students.

I've had some parents say, “You know, my child is in three sports, and they're [studying a] foreign language, and I think we'll wait--they don't need the additional stress.” And, and my feeling is, the parents know the child better than anyone, and they know what’s going on in their home lives, and they know, they really know. They hear the child at home, you know, how hard have they worked this year to get that grade. They know.

In this passage, Claire acknowledges the multiple facets of each student that the family has access to, emphasizing that “they know,” which she repeated multiple times,

underscoring her conviction that, as teachers, we only get to see a specific part of each student, while families have much deeper and broader insights than teachers might. Claire made it clear that she valued the perspectives of families, and embraced the essence of Freire's "A with B."

### *Summary*

All ten participants in this research claimed some form of understanding and fully supporting the need to include students and their families in the process of making next-course recommendations. Only two participants, however, expressed a nuanced and genuinely student- and family-centered approach to the process of making course recommendations, without imposing a power-based "suggestion." This sharing of power, rooted in carefully listening to the wishes and needs of students and their families, is invaluable. Bourdieu (1991) acknowledged the heavy and long-lasting influence these power relationships, and by extension course placements, might have on students. He explained,

The power of suggestion which is exerted through things and persons and which, instead of telling the child what he must do, tells him what he is, and thus leads him to become durably what he has to be, is the condition for the effectiveness of all kinds of symbolic power that will subsequently be able to operate on a habitus predisposed to respond to them. (p. 52)

### Finding 3: Counternarratives: They Will All Succeed

This research set forth to determine how eighth-grade mathematics teachers regard their students, and to identify what criteria the teachers use to make course

placement recommendations. This research also sought to explore how central office staff members viewed the same students and placement recommendations. The purpose of this section is to highlight the attitudes shared by the 4 (of 10) participants in this research who expressed a perspective yet unexplored in this research: the belief that students not only can succeed, but also *will* succeed. The educators in this section offer a counternarrative to those already described, in that they express no ambiguity: students in their care will progress, by whatever means necessary.

The four educators in this section expressed a strong belief that all students have the potential to succeed. As committed mentors, these individuals described the ways they actively sought to both identify and advance what Vygotsky (1978) described as the “zone of proximal development” for each student in their care. Vygotsky called this zone “the distance between the actual developmental level...and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (p. 86). By tailoring instruction to meet each learner in this zone of proximal development, these four educators ensured successful promotion for all of their students.

This level of individualized instruction (or mentoring), in tandem with the establishment of strong relationships with each student, is not something teachers may easily attain. Rather, this attention to detail and continuous willingness to adapt instruction for each student is a labor-intensive, highly personal exercise. Teachers with this stance have not chosen the easiest path. Instead, they have chosen the most honorable path.

The four participants in this research who espoused this strong and positive idea included two classroom teachers and two central office staff members. These individuals made known, in various ways, that they refused to permit their students to fail. For these educators, promotion to the next level of mathematics, which could be considered a unidirectional form of forward momentum, was the only viable option, and they were committed to doing whatever it took to prepare students for this success. This attitude and philosophy, which was expressed as a universal belief for all learners, offered an optimistic model for other educators in that these four did not “sort” which students should and should not succeed. The voices of these four educators, in various ways, echo the ideas and ideals espoused by Moses (Moses & Cobb, 2001), who stated, “The floor for all students must be this: When you leave middle school, you are ready to engage with the college preparatory sequence in high school” (p. 16).

In examining the responses of these participants, three main teaching philosophies emerged in the ways these educators talked about their commitment to success of and promotion for all learners. These three ideas, echoing extant research, were: (a) a sense of efficacy as a teacher; (b) the crucial need to hold high expectations for all students; and (c) the need for positive teacher-student relationships. Each of these stances served to contribute to the success of their students.

### *Efficacious Teachers*

Most teachers enter the field of education with some sense of optimism. Whether it is a faint glimmer or a blinding gleam, optimism and a sense that “I can make a difference” are hallmarks of those newly entering the profession. For many teachers,

however, this sense of hopefulness fades and may be replaced by ennui, indifference, or even pessimism with regard to some or all students in their care. Teaching is a complex and challenging career, and those who have somehow maintained or even increased this “can-do” sense of optimism are of great benefit to their students.

In writing about teachers’ belief in their own capacity to influence student achievement, Ashton (1984) highlighted eight characteristics of what she called *teacher efficacy*. These characteristics, or dimensions, as Ashton referred them, include ideas like a belief that the work is meaningful and important; the belief that all students can—and will—learn; personal responsibility for student learning; and an overall positive outlook on teaching, learning, and education in general. Taken together, these elements of efficacy—that is, a teacher’s belief they can successfully teach all learners—constitute an important facet in this research, in that teachers who expressed the idea that “they will all succeed” spoke about their own efficacy, although not in those terms.

*Scott.* As a former classroom teacher, it is clear that Scott saw himself as an efficacious educator. He explained,

In my own experience, the thing that I would hate the most is the teachers at the first day of school who would grab your class lists and say, “Oh, this one, he’s a pain in the neck. Oh, she’s terrible, she just wants to sleep all the time.” Don’t, no, don’t tell me those things, because they’re probably not true. They might have been true in your class, but I doubt I’m going to have those same issues in my class. You know, often times the students that I would have the more difficulty with would be the ones who were very compliant and who were very quiet, and



who thought that they could just as long as they stayed quiet and complaint, then they would make it through somehow. Those are the ones I would tend to disrupt and shake them up a little bit so that they would push themselves to achieve higher.

In this passage, Scott made clear that he was not only committed to forming his own evaluative opinions of students, but that he wanted to begin each school year with the assumption that all students would succeed. Furthermore, he was unwilling to allow any students to melt into the background. He faced his classes of learners with an eyes-wide-open, you-will-succeed stance designed to bring all students to success. He summarized his own sense of efficacy, stating, “It’s wrapped around a teacher’s confidence that they can teach a student, any student. I always felt very confident no matter who walked in, I could teach them. I don’t know if some teachers feel, or have, that confidence.”

*Becky.* Like Scott, Becky also seemed to insist that the students in her care could not fail, and she was committed to doing what it took to ensure their successful promotion. In reflecting upon her teaching philosophy, she said,

If you convince a kid they can do something, I think they’ll... If you believe in them, they will work up to your expectations and your bar as long as you hold that bar. If they’re having a bad week, a bad day, you reel them back in and they will come back to that level. And I think you have to give them the benefit of the doubt and let them see that they can be successful. If you constantly tell them,

“Well you can’t do this, oh, don’t worry about it, you’re not going to have to do this,” they’ll never achieve.

In this example, Becky has unequivocally taken on responsibility for the education of each student. She recognizes the power of her influence, and takes her assignment seriously and with deep conviction and commitment to success. Her sense of efficacy is clear.

### *High Expectations*

Many educators in U.S. schools would quickly cite “high expectations” as one of the foundations of their personal philosophies of education. However, interpretation of this term is as variable as the teachers are themselves. Some teachers interpret high expectations to mean that a rigid “way of knowing” and “way of being” is mandated, and any deviation from that norm is rejected, punished, or both. Teachers with this interpretation of high expectations would dismiss a Funds of Knowledge (Moll et al., 1992) approach, which builds on the unique strengths of each learner. Educators with this thin interpretation of “high expectations” might also choose to reduce expectations for some learners, based on a perceived ceiling to the students’ abilities or potential.

Other educators hold a more nuanced definition of high expectations. In tandem with a sense of efficacy, teachers with a more sensitive and inclusive interpretation of high expectations understand that although we want all students to reach the same high standards, some students may need different supports and scaffolds in attaining them. Teachers with authentically high expectations recognize that each student has walked a different path, but he or she is moving toward the same academic goals as all other

learners. These teachers recognize their role is to support the student in every way possible.

The value of high expectations for all learners cannot be underestimated. The National Council of Teachers of Mathematics, the largest professional organization for mathematics teachers in the United States, published “The Equity Principle” (2004), which “demands that high expectations for mathematics learning be communicated in words and deeds to all students” (§ 2). The educators in this section who expressed high expectations were clear about this.

*Claire.* Ladson-Billings (1995) contended that “students treated as competent are likely to demonstrate competence” (p. 137). Claire, in her overview as a former middle school teacher and current central office staff member, echoed this sentiment in offering this thought.

We know there are teachers out there who can help anybody succeed through their tenacity, you know, and, and, so instead of spending a lot of time thinking about the best way to place [in courses the next year] I wish we’d spend more time making the best way to teach, to reach all students.

Claire clearly expressed a desire for all students to be promoted and to progress, and her use of the word “know”--“we know there are teachers out there”--is a powerful indicator of her underlying beliefs. She thinks all students can be successful in the most challenging courses, given the right support, which may included tapping their funds of knowledge (Moll et al., 1992) or helping them develop their “social capital” (Bourdieu, 1986). Her lament around the idea of too much time focused on sorting students and not

enough time educating students is shared by researchers and activists like Moses and Cobb (2001). They stated, “Instead of weeding all but the best students out of advanced math, schools must commit to everyone gaining this literacy as they have committed to everyone having a reading-writing literacy” (p. 17).

Claire had more to say on this topic and explained further. To underscore her point, she explained,

Everybody can do math. Everybody can. You know, maybe not everybody’s going to do multivariable [calculus] in high school, but they probably don’t want to anyways. But the fact that we can’t get them through Algebra I in high school is what’s troubling. That’s truly the problem.

*Scott.* Scott, too, voiced the idea that all students can achieve success at the highest levels. As a former high school mathematics teacher and currently a central office staff member, he explained his perspective in thinking about the possibility of eliminating the lowest track from the range of choices, thereby raising the bar.

This is the right thing to do at this time. If you build it, they will come. If the expectation is that all students, the entering course in ninth grade is Algebra I, it will force us to look at what’s going on [in earlier grades]. I think that if you set that expectation, there might be grumbling, there might be backlash at first, but ultimately, we will all rise to the challenge and make it happen.

Scott’s stances are echoed by Jones (2004), who stated in a National Council of Teachers of Mathematics publication, “Effective culturally responsive teachers hold high expectations for all their students. They respect their students’ ability and competence by

giving them high-level intellectual tasks that require complex processing and critical thinking” (p. 145). Scott’s insistence that all students can access higher-level mathematics is in clear agreement with Jones.

*Sharon.* Sharon, a classroom teacher, struggled to recall an example, after eight years of teaching Math 8, of a single student she had recommended for the lowest track course. She consistently prepared all of her students for the most rigorous course, and she could not conjure a single memory of a lower-track recommendation. In a way, Sharon refused to participate in placement recommendations for her students. Although she was willing to talk through hypothetical situations and possible characteristics of students, she consistently returned to the idea that “just knowing when it comes to graduation requirements, you know, you don’t want them to start behind.”

In explaining the formation of her stances and her growth as a teacher, Sharon explained her relationship early in her career with another educator, also teaching Math 8.

He was someone that would take some risks when it came to pushing, pushing students into Algebra as eighth-graders, that you know, didn’t necessarily make “the checklist.” He was just like, “Well, I think these students can succeed. I think these students need to be shown, hey, I think you can do this, and I think this is the track that you belong in.” Most of the kids were very successful with it, because he was able to teach the class in a different way.

Sharon entered the teaching profession with a strong sense of efficacy, but she gives credit to this particular peer. With this teacher as a mentor, Sharon said,

He started the discussion of “How can we raise student achievement by looking at things differently?” The one thing we came up with is, we can’t just keep teaching them math. You have to get to know them a little more, as a student, and see, you know, well, what are your interests? What is going to motivate you to try to do a bit better? Have you ever had someone in your life say, “I think you could do this?” We knew that the student population that we had didn’t always have an adult in their life that could say that. Or maybe that adult in their life didn’t necessarily know what opportunities were out there for the child, and wouldn’t necessarily think to push their child.

Floden (2001), in his review of research by McLaughlin and Talbert, described what teachers tended to learn from their colleagues within their school buildings. He reported that “the teachers getting their students engaged in challenging work were supported by communities in their schools in which teachers shared ‘a commitment to examining and improving their practice’” (p. 12).

Sharon explained that in the Saxon School District middle school where she works, her mentor had pointed out that the students in the gifted program were predominately White or Asian, and mostly male. In various professional development opportunities throughout her career as a teacher, she noticed a glaring lack of focus on issues of race. To remedy this, she, along with her mentor teacher, developed a one-hour professional development session that raised questions about this disparity and sought to speak to this issue head-on. It was “something that we felt is never addressed. Why is

there an under-representation of students of color in advanced mathematics? What's being done? Is anything being done? And if nothing's being done, why not?"

Sharon, along with her mentor, were troubled by the disparities, and they took a risk in crafting their professional development session. Their sense of urgency for holding high expectations for all learners was profound. Building on this idea, Sharon explained,

You know, you could be the most accepting, friendly teacher in the world, and smile at every student that comes into your room, but are you pushing that student to achieve? And we can show them where the importance of math is coming into play, bringing in those real-world applications.

In creating and facilitating this professional development opportunity for peers, Sharon has shown her authentic commitment to high expectations for all learners, including her peers. Her willingness to reach out to other educators, in the name of serving students, speaks to her deep dedication to what Sleeter and Grant (2007) referred to as Multicultural Social Justice Education, in that she was willing (and eager) to challenge the status quo and move advocacy forward for all learners, including those with traditionally marginalized identities.

#### *Positive Teacher-Student Relationships*

The overall success or failure in school for students with historically marginalized identities often hinges on the nature and quality of the teacher-student relationships.

Oakes (2005) summarized this: "Positive classroom relations are something more than a nice accompaniment to learning. Good classroom relations enhance student learning" (p.

117). Ladson-Billings (1995) also espoused this idea, stating that teachers must have “the ability to cultivate and maintain strong interpersonal relationships” with students (p. 140).

Although every participant in this study made reference to their relationships with students, two participants in particular highlighted the rewardingly positive nature of these relationships. Both were classroom teachers.

*Becky.* In support of this commitment to positive student-teacher relationships, Becky described one of her current students. An African American male, this eighth-grade student already had a job, working at a local grocery store. Becky had been advised to “keep your eye on him” by the teacher from the year before. She explained, with tears in her eyes,

He needed a lot of support and a lot of just... constantly on him. I made sure he was in my [study hall]; I made sure he always had his homework done. I just had that personal connection with him more so than maybe some others. He still struggled throughout the whole school year, but his [state standardized test] score was phenomenal. He cried when I told him what [the result] was. And... I just said to him, “You just have to believe in yourself. I told you I knew you could do it, and obviously you can because you just proved it to yourself that you could, too.”

Becky gave more evidence of her strong commitment to student success in her story about another student. She explained,



I had another student who had, um, an F all year, and again, this was just, I, I knew she knew how to do this work, so something at home... I don't know. I just knew that, that I just thought in my heart, she could do it, too. And I forced her. "You need to come to the after school [study] sessions, all right? I really think you can do this. You can do it." And I ended up having another student constantly telling her, "See? You're not stupid. You can do this!" She, too, passed with a high proficient score.

Becky's two vignettes highlight her interpersonal connection with her students and underscore her willingness to get to know students as individuals. Because of her deep personal connections with her learners, she is committed to ensuring they all succeed and are promoted into the most rigorous mathematics course in the following year.

*Sharon.* In her research on the importance of "caring teachers" in education, Noddings (2001) emphasized that "the school is, for both teachers and students, a dwelling place... To feel safe, secure and cared for... gives children the courage to wander forth both physically and intellectually into new territory" (p. 104). With this same focus on ensuring all students feel safe, cared for, and able to progress to the next level, Sharon explained how she worked to ensure students succeed in her class.

I generally offer times to students after school, you know, especially if you can't access this at home or at home's not a great place to get these things done, you know... there's a space. After school for me isn't just "I'm gonna help you" or

“You have to be tutored.” After school could also just be a place to learn and a place to work.

Sharon’s description of her afterschool availability highlights that she recognizes that sometimes students may simply need a positive setting and atmosphere to accomplish the necessary work, and she is willing to create that space for her students. This creation of a positive classroom climate is supported by the work of Adelman and Taylor (2005), who stated, “Significant relationships exist between classroom climate and such matters as student engagement, behavior, self-efficacy, achievement, and social and emotional development” (p. 89) of students.

### *Summary*

In considering the various ways eighth-grade mathematics teachers view and make placement recommendations for their students, the four educators in this section appear to be the most beneficial to the learners in their care. Their commitment to their students and to “doing whatever it takes” to ensure student success is palpable. These four are role models.

Scott, Becky, Claire, and Sharon epitomize the best in the field, in that they express not only willingness but also an enthusiasm for supporting and nurturing all students. These teachers seem to have chosen to be present and available for all students.

These teachers, however, are human. It must be noted that three of the four educators described in this section have appeared earlier in this work, sometimes in a less positive light. This offers evidence that being a teacher is an endlessly complex and multifaceted undertaking, and these teachers, like many, hold a variety of viewpoints and

perspectives, perhaps with some on the rise while others wane. This may be a reflection upon the culture of teaching, which, like any culture, is not static, but rather, is in constant flux. In spite of their various and varying views, however, these four educators—Scott, Becky, Claire, and Sharon—deserve special recognition for their expressions of commitment to students.

In sum, the four educators described in this section each highlighted different portions of a “they will all succeed” ideology. Through the course of our conversations, however, each participant at least occasionally deviated from this message, but overall, he or she showed loyalty to the ideas described in this section. Each acknowledged, in some way, that this commitment to student success was not always simple or easy, especially given the pressures from other educators, particularly at the higher level or “receiving end” of the student placements. In spite of these pressures and occasional doubts and hesitations, though, the students in the care of these educators were prepared for successful promotion and thrived in their challenging courses.

The implications of this perspective, along with those shared in sections 1 and 2, will be discussed in chapter 6. Chapter 6 also includes recommendations for further study.

## 6. Summary, Discussion, and Conclusion

Scholars have been describing achievement gaps between White, middle-class heritage speakers of English and students with historically marginalized identities for decades. In an attempt to both understand and ameliorate these achievement gaps, many researchers have worked to identify issues in students, their families, teachers, curricula, instructional strategies or institutional practices that would lead to such profound differences in academic success.

In spite of the growing adherence to scientifically based practices in schools, there remain many domains where research is slow to influence practice, and the status quo is firmly in place. This loyalty to established traditions may be the case even when in direct opposition to decades of research findings. One of these areas that seems resistant to the incorporation of research is tracking and ability grouping of students, which has been widely researched and publicly commented upon for decades through the work researchers like Oakes (1990; 2005) and others (Oakes, Gamoran, & Page 1992; Oakes & Guiton, 1995; Oakes, Joseph & Muir, 2004).

Today, not only is the strategy of tracking and ability grouping given formal scrutiny as a part of teacher preparation programs, but it is also a topic of more informal conversation among concerned individuals. The research on tracking is abundant, accessible, and relatively uniform in message: tracking primarily benefits students in the

highest tracks, and those benefits are neither uniform nor guaranteed. More simply stated, tracking benefits the already privileged. As Oakes (2005) explains,

Tracking does not equalize educational opportunity for diverse groups of students. It does not increase the efficiency of schools by maximizing learning opportunities. It does not divide students into neatly homogeneous groups. It does not meet individual needs. It does not increase student achievement. Tracking seems to retard the academic progress of many students in low and average groups; it appears to foster low self-esteem among those same students...It appears to lower the aspirations of students who are not in the top group. (p. 40)

Why, then, does tracking and ability grouping persist, especially in the face of so much scientifically based research? This dissertation builds upon this wealth of earlier research and focuses on those who make many of the tracking and ability grouping decisions: the teachers. To this end, the following research question was addressed: How do educators make mathematics placement recommendations for those students moving from Math 8 into high school?

Within Saxon School District, these teacher-made tracking decisions are especially surprising for several reasons. Because Saxon School District offers teacher salaries and benefits that are among the most generous in the United States, schools in the district can be selective in hiring teachers, and as a result, competition for teaching positions in Saxon School District is strong. Any instructional vacancy typically has at least 10 applicants, with the most desirable instructional positions (primary grades) sometimes garnering as many as 100 applicants. Given this large pool of qualified

educators, administrators in Saxon School District have the freedom to thoughtfully select only the most qualified and desirable educators.

Additionally, due in part to its proximity to a large, urban center, Saxon School District has established partnerships with several institutes of higher education. These partnerships provide a wide range of opportunities for in-service teachers to participate in graduate-level coursework at a free or reduced cost as part of district-funded professional development opportunities. In some cases, Saxon School District even pays teachers a stipend for participation in graduate-level university coursework. This level of integration between Saxon School District and local institutes of higher education contributes to the overall advanced level of education among teachers in the school district, with the majority holding Master's degrees.

For these reasons, the teachers working in Saxon School District might be considered among the best in the United States. Not only have they attained at least the minimal certifications required under the regulations of the No Child Left Behind Act (United States Department of Education, 2001), but they are also well educated and work in an environment that is not only supportive of but also promotes ongoing professional development. Given these factors, this makes the issue of tracking and ability grouping in Saxon School District all the more surprising. How is it possible that in a school district so committed to providing a high-quality educational experience to all learners with such well prepared teachers that there exists such profound, non-scientific sorting, classifying and tracking of students?

This dissertation begins to answer this question, within the context of mathematics education and mathematics educators in Saxon School District. The results of this dissertation highlight the fact that in spite of so much evidence against the effectiveness of tracking, and in spite of the highly talented teaching staff, tracking persists, and is supported by the ways teachers view and evaluate their students.

Additionally, this study challenges the current paradigm of teacher certification and preparation. The idea that coursework and successful completion of assessments are enough to qualify individuals to become teachers is limited and inadequate. Every participant in this study had not only earned the requisite college degrees for state licensure, but had also passed through a rigorous screening process to be hired in a competitive, well-paying school district. In spite of these high standards, the highly qualified teachers in this study, who may be considered as representative of the best eighth grade mathematics teaching force at large, presented a range of perspectives, which included stereotypical ideas that may be damaging to students with historically marginalized identities.

This study suggests that although not condoned by the research community nor by Saxon School District policies, tracking occurs through the mathematics placement recommendations made by teachers for students. Based on the thoughts shared by teachers in this study, this tracking may or may not be based upon objective measures of what students know and are able to do. Instead, some mathematics teachers may choose to rely on their own, unique interpretations of how best to “sort” their students.

The goal of this research has been to illuminate some of the decision-making practices of teachers with diverse students in their care. Of particular interest were not necessarily the stated policies of the school district, but instead, the individual rationalizations and justifications, shared teacher-to-teacher. Because access to appropriately rigorous mathematics is essential, and because teachers hold much of the power in regulating this access, the voices of teachers were the focus of this study. Although in theory, policies and protocols exist to include the voices of students and their families in making placement decisions, this is not always honored, and teachers frequently hold great power in making course recommendations for their students. By extension, teachers thereby hold great power in determining when (and if) students complete high school, and with what level of mathematics proficiency and readiness for entry into tertiary education.

In interpreting the findings of this research, it is important to stress that no individual expressed a unilateral, 100% consistent adherence to any particular strategy or belief system in making placement recommendations for students. In fact, some participants expressed diametrically opposing opinions at different points in our conversations, appearing to contradict themselves. However, I believe this highlights the tension around the models in place for making course recommendations. There are no clear guidelines in place, and each teacher, to some degree, must interpret their own picture of the boundaries and borders, and act accordingly, with or without support or role models.



This multiplicity of perspectives, shared by each participant, hints at the complexity of issues around student achievement, advancement and promotion, and the whole “human” side of teaching and being a teacher. Yes, there exists a body of knowledge considered to be “best practices,” but these are all filtered through individual and community histories, life experiences, expectations, and worldviews of how the world should function. Wittingly or unwittingly, and for better or for worse, each teacher carries an imprint of her or his own family and community of origin, which may function as a kind of phantom compass, silently indicating a metaphorical “true North.” This grounding set of ideas and ideals, that provide guidance in determining what is right, good, beautiful and valued, may not only shift with the passage of time, but may also be significantly different from the “true Norths” others carry, which may lead to growth or perhaps conflict. It is in these intersecting visions, however, that true change can occur.

Teachers clearly hold power in making these decisions, and hold great responsibility in deciding how students’ education proceeds. The educators in this study expressed ideas around the themes of omniscience, placing power (and pseudo-power) with students and their families, and ensuring that all students succeed. The implications of these three decision-making stances and ideas for future research are discussed more fully in subsequent sections of this chapter.

#### The Omniscient Mathematics Teacher

Omniscience is defined as being all-seeing and all-knowing, or having infinite awareness, understanding, and insight. In making mathematics placement recommendations for students moving into high school, my findings in this study build

upon the work of Bourdieu (1999) and Freire (2002) in their descriptions of omniscient perspectives. The very act of tracking students may be a manifestation omniscience, in that, as Dewey (1900) stated, “The center of gravity is outside the child. It is in the teacher...” (p. 34). Most teachers in this study expressed at least some degree of this kind of omniscience in terms of knowing which courses were most appropriate for each learner in their care. Educators who expressed this idea sent the implicit message that they, as teachers, held ultimate power in making placement recommendations, and furthermore, their decisions, as educators, were correct and should override decisions of others. Although this stance may, at first pass, sound extreme, the frequency with which it was invoked made it quite commonplace, particularly in discussions about placement recommendations for students with historically marginalized identities.

The existence of this perspective of omniscience is problematic in two primary ways. First, there is a mismatch between the demographics of those with power (the teachers) and those without (the students and their families), which has implications for cultural reproduction of achievement and opportunity gaps. Second, the omniscient stance lends itself easily to symbolic violence, with those in power perpetrating aggression upon those with less status.

Most teachers in the United States are White, middle-class women who are heritage speakers of English (NCES, 2009a). Most students in the lowest tracks do not fit into these categories. By White teachers continually privileging White students through placement in academically advanced courses, the cycle of cultural reproduction continues, ensuring the systematic and ongoing marginalization (and privileging) of the

same students year to year. The result is that those with power maintain power, particularly in schools, where administrators also tend to be White, middle-class, heritage speakers of English.

Omniscience is a form of symbolic violence, wherein, in this example, educators use their power to make life-changing decisions for the students in their care. Educators wielding omniscience may use their power to maintain the status quo, and thereby perpetuate the nagging achievement gap that plagues U.S. education. Failure to address this blanket power will surely lead to a continuation of the same levels of access and achievement.

However, it must be made clear that the educators invoking omniscience have not independently arrived at this stance. These are not necessarily beliefs constructed from sinister or punitive mindsets. Rather, educators with this stance are the products of their own families, communities, cultures, histories, and school experiences. They learned this stance from others, who, in turn, learned it from earlier generations. The power associated with omniscience is something that is, in a way, inherited from generation to generation, unquestioned and unchallenged. It is my hope that this research will help educators begin this process of questioning and challenging, which may best occur as part of a comprehensive professional development program.

As a way to counteract or perhaps neutralize the effects of omniscient teachers, I suggest that state licensing agencies increase efforts to require course work to help promoted the ideals of positive regard and respect for all students. Although this is clearly not something easily measured or attained, I believe that for the benefit of all U.S.

students, teachers must be imbued with some form of this willingness to listen to and learn from students and their families. Lacking this, the status quo may continue, unimpeded.

For those teachers already working with learners, there is scant evidence to suggest that a receptive, nonomniscient stance can be generated or cultivated through professional development alone. Rather, it seems that meaningful personal experiences (which are, by definition, unique to each individual) are the primary means of changing these attitudes. For this reason, it is even more vital to carefully select and screen future teachers, to ensure they arrive in schools with the most beneficial stances possible.

This finding of a sense of omniscience in teachers is relevant in the short term in that all teachers in this study are currently teaching, with hundreds of students in their care. These attitudes, damaging as they are, will continue unabated unless something occurs to change or mitigate the circumstances. The implications are significant, in that for students assigned to these teachers, their life prospects may change dramatically.

In the long term, this finding of omniscient attitudes in teachers is relevant in that new teachers enter each school every year, and these more established teachers have the power to set the tone. As senior members of the mathematics departments, some of the teachers expressing omniscience are assigned as mentors to new teachers, and they have the power to pass along these damaging and exclusionary ideas by framing them as “normal.” This form of cultural reproduction, which institutionalizes exclusion and tracking, could be mitigated through thoughtful intervention by school administrators.

Just as with omniscience, most educators in this research made at least some passing reference to locating power for course decision making with students and their families. However, the way this was framed took two very different forms. In the first example, educators genuinely left the course recommendation open to students and their families, and they truly let them make the decision. In the second example, educators voiced the need to include input from students and their families, but tempered this with their own (potentially omniscient) suggestions. Everyone seemed to understand that students and their families need to have input, but the weight given to that input was variable.

This is important because it indicates that those educators in this study understand the value of including the voices of students and their families in making important decisions for students. This is cause for optimism in that it is a move away from omniscience and lends empowerment to those directly affected. Students and families who are empowered to “own” their educational experience are gaining life experiences that can lead to further empowerment or, if necessary, emancipation. These are valuable skills that may serve students in multiple ways throughout their lives.

The implications of lending pseudo-power to families are serious. In enacting this, educators are insulated from feelings of culpability, because in their own estimations, they have appropriately included families and students in the process. This level of comfort is not a catalyst for change, but rather may have the opposite effect: it may cement these practices and more firmly institutionalized them. It may become normal to pay lip service to including the voices of families and students while simultaneously

telling them exactly what should be done. This skewing of empowerment, which perpetuates the privileging of the opinions of those who already hold power, is questionable. As with omniscience, this stance keeps the focus of attention on the educators and not on the students and may lead to a subtle form of symbolic violence.

### They Will All Succeed

Of the 10 educators included in this study, four expressed the belief that the students in their care would be successful, no matter what. This nonnegotiable mindset had three facets: teacher efficacy, high expectations for students, and positive teacher-student relationships. Each of these facets represents an important implication for successfully meeting the needs of all learners.

A teacher's efficacy, or the belief in his or her own capacity to influence student achievement, is key in ensuring student success. Efficacious teachers demonstrate a level of personal commitment and accountability to their students not evident in other, less efficacious teachers. Teachers with a high sense of efficacy are reflective and thoughtful about their professional practice, and are willing to do whatever is necessary to guarantee the progress of their learners. Students of these teachers thrive, because the teachers are devoted to ensuring this happens. Learning of the efficacious teachers in this study is positive evidence that there exist many other, equally efficacious educators in the United States, all working to benefit students.

Holding high expectations for students is also very advantageous for learners. Although care must be taken to make certain that high expectations are appropriately communicated to each student, the notion of holding high expectations is widely

supported in the extant literature and in the formalized principles of professional organizations like NCTM. The evidence of high expectations held by participants in this study is heartening news in that this stance is one that may truly benefit students and help reduce or eliminate our achievement gaps.

Building positive teacher-student relationships is one of the cornerstones in ensuring students achieve success. As Ferguson (2007) explained, these positive relationships are built from a sense of community, where the teachers and students “care about, inspire, and motive each other (slide 16).” Finding evidence of teachers who espouse these tenets is powerful in that their existence lends a ray of optimism to the entire endeavor of public school education. If these educators truly believe what they expressed in this research, there is hope that other teachers may also equally adhere to or perhaps may learn to build strong relationships with students and their families, thereby broadening the range of choices for the students in their care.

This stance is clearly beneficial for students, and professional development around fostering this set of beliefs with all teachers would be ideal. Although this is a complex and deeply personal way of seeing the world and seeing students, it is clear that highlighting this stance and encouraging it in other teachers would be of benefit to all learners.

### General Implications

In addition to those detailed above, three additional general implications emerged. These may provide insight and guidance not only to those individuals in Saxon School

District, but they may also inform the work being done in other school districts with similar demographics and achievement gaps.

First, this research revealed that even in a school district such as Saxon with a highly regarded reputation for providing a strong educational foundation for learners, challenges still exist. Because Saxon School District is a well-paying, desirable school district in which to work, there are typically more applications for teaching positions than there are jobs, so those with the power to employ teachers in Saxon School District can be selective. Even with this ability to be highly selective, at least some proportion of the mathematics teachers employed in the school district are active participants in the tracking of students, based on subjective and idiosyncratic criteria.

Second, the participants in this research gave voice to differences between what mathematics teachers say and what they actually do with the learners in their care. For example, most teachers in this study used the phrase “student-centered” at some point in our conversations, but relatively few actually described student-centered decisions, and rather imposed their own beliefs and values. This level of disconnect between “saying” and “doing” is troubling, in that teachers perhaps know the right language to use to appease administrators and families, but act in defiance to these stated ideas and ideals.

Third, and perhaps most important, until the “underground” beliefs shared by teachers in this research are addressed and modified, I content that the existing achievement gaps in Saxon School District may continue. Simply hiring teachers that are highly qualified on paper may not be sufficient. If Saxon School District is to ever eliminate the achievement gaps, a different, perhaps more nuanced hiring process might



be implemented to determine which teacher-candidates may harbor detrimental ideas about which students can and should succeed. The ways teachers regard their students, particularly their students with historically marginalized identities, should be as central to hiring decisions as state and local certification.

### Questions for Further Research

One of the largest findings in this study was the overarching theme of omniscience. How, specifically, do teachers come to this sense of omniscience? What are the cultural, personal, familial, historical, and institutionalized factors at work to maintain or erode this? What kinds of leadership practices reinforce or strengthen these perspectives? And perhaps most important, how might these stances be mitigated? For example, how might teacher preparation programs work to “humble” teachers to the state where they question their decisions and seek counsel and input from families and students? How might in-service teachers learn to listen to and value the voices and input of students and their families? How might leaders model authentic incorporation of multiple perspectives? Answers to these questions are crucial if the goal of U.S. education is for all students—even those with historically marginalized identities—to achieve academic success.

In this study, only 2 of the 10 participants fully located power for mathematics course recommendations with students and their families. Both of these educators are central office employees, no longer in the classroom. This leads to several questions, including: How pervasive are these viewpoints among classroom teachers? What factors shaped the opinions of educators with regard to including the voices of students and their

families? Perhaps most important, how might we change the understandings and practices of classroom teachers to reflect this authentically inclusive stance?

In ensuring all students are successful, educators must, by design, exert a level of effort and commitment not always found in public school educators. How, then, do some educators arrive at this willingness and perhaps more strongly, this need to build community with their students? Was this desire something the educators learned in their own families and communities, or was it something they acquired through their teacher preparation program or through professional development? Were there touchstone events or turning points in the lives of these educators that opened their minds to the necessity for these relationships? How might these educators reach out to others in their professional communities to share these ideas? And finally, it may be enlightening to other educators to learn about the challenges faced by these “relationship” teachers—that is, what has been difficult for them in learning to build or in building relationships with students? Illumination of these questions may greatly contribute to the world of education as we currently know it.

### Conclusion

In summary, it is clear that there exists a multiplicity of perspectives around how best to meet the needs of all students in eighth-grade mathematics. Although nearly all teachers hold some form of teacher credential or certification, this, alone, is no guarantee of the individual’s willingness to work actively to ensure academic success for all learners, particularly as the population of the U.S. continues to diversify. Rather than serving as solid evidence of a teacher’s readiness for work with students, teacher

certification may instead symbolize a minimal set of qualifications that in no way represent the entire skill set and disposition necessary for effective work with all students. A teacher's personal views factor heavily in the quality of education each student receives, and this personal stance and perspective should be a consideration in entering the teaching profession.

Much of what we know as teachers is reflective of our personal histories, identities, and contexts. Although some of what we may have learned is detrimental to particular students and groups of students, it is clear that some educators have learned how to authentically validate, support, and educate each student in their care. Drawing on major findings from this study, I submit that from these optimistic and strong teachers, we may learn what forces shaped their stances and continue to spread their beneficial ideas.

Appendix A  
**MS Mathematics Teacher Survey**

Name \_\_\_\_\_

Preferred pseudonym \_\_\_\_\_

How many years have you taught Math 8? \_\_\_\_\_ At this school? \_\_\_\_\_

Degrees earned: \_\_\_\_\_

Majors/minors \_\_\_\_\_

Have you ever lived abroad? If so, where and for how long?

Do you speak a language other than English? If so, how fluently?

Which, if any, of the following factors do you consider when placing students in 9 <sup>th</sup> grade mathematics?		
I use this	My top 3 (labeled 1, 2, 3)	
		Asks questions
		Behavior
		Benchmarks
		Class participation
		Effort
		English proficiency (speaking, reading, writing, or comprehension)
		Family involvement/ contact
		Grades
		Homework completion
		Organization
		SOL results
		Special services (special education or gifted)
		Team consultation / consensus
		Work habits
		Other

Thank you!

## Appendix B

### Interview Protocol Jorge Osterling and Anita Bright Placement Criteria for Ninth Grade Mathematics Students

#### **Part 1 (of 2): Protocol for Teachers**

##### **Interview 1 (Teachers)**

I'm interested in learning about the process of student placement in ninth grade mathematics courses here at ##### school. Could you walk me through the general process for deciding which mathematics course is the best choice for each of your rising ninth grade students?

In your pre-interview survey, you indicated that ##, ## and ## [see pre-interview survey] were the top three factors you consider when deciding which mathematics course is best for each student. Starting with your number one choice, can you tell me a bit about why these factors are important to you?

How do you measure or evaluate each of the factors indicated in the previous question? [For example, if grades are noted as the most important factor, the follow-up question would be, "How do you determine grades?"]

Can you describe the attributes and characteristics of a student that's perfect for Algebra 1 in ninth grade? I'm not asking about a specific student, but rather, for the prototypical qualities that you look for to let you know a student will be successful in Algebra 1.

In a similar vein, can you describe the characteristics and attributes of a student that you know will be best suited for pre-Algebra? Again, I'm not asking about any specific students, but instead, just the general qualities you look for.

Do you ever have students that are difficult to place, those on the borderline between the two courses? What factors do you consider when making final placement decisions for these more complex, less clear-cut examples?

How do you know which factors to consider? How do you know which elements are more important or less important to consider?

If you had no restraints or restrictions on you from the school, community, central office, or anywhere else, would you place students the same way you do now, or would you do anything differently?

**Interview 2 (Teachers)**

In our last meeting, you described how you make the decisions in placing your students in mathematics courses in the ninth grade. You explained that ##, ## and ## were all important factors in your decision. Is that accurate?

Building from this, how do you think the people in central office (Mr. ## and Ms. ##) want students to be placed? Do their viewpoints match or work with the circumstances here at ## school?

*[If it has not yet been mentioned]* How does student level of English language proficiency fit into the decision making process? How do you assess these students? What kinds of education or support have you had in assessing and educating English language learners?

What kinds of feedback have you received about your placement decisions? Have you followed up on students, or have students, teachers, administrators or families contacted you later for updates?

Do you think the process for placement in ninth grade is relatively uniform here at ### school? Do you think it's about the same at other schools in the district? If not, why not? How do you feel about that?

**Interview 3 (if necessary) (Teachers)**

Any questions from Interviews 1 and 2 that we didn't have time for.

## **Part 2 (of 2): Protocol for Central Office Staff**

### **Interview 1 (Central Office Staff)**

I'm interested in learning about the process of student placement in ninth grade mathematics courses here in ### school district. Could you walk me through the general process for deciding which mathematics course is the best choice for each rising ninth grade student?

In your pre-interview survey, you indicated that ##, ## and ## [see pre-interview survey] were the top three factors you consider to be most crucial when placing each student. Starting with your number one choice, can you tell me a bit about why these factors are important to you?

How are the factors you mentioned in the previous question measured or evaluated? [For example, if grades are noted as the most important factor, the follow-up question would be, "How are grades determined? Do you think it's uniform in each classroom, at every school?"]

Can you describe the attributes and characteristics of a student that's perfect for Algebra 1 in ninth grade? I'm not asking about a specific student, but rather, for the prototypical qualities that let you know a student will be successful in Algebra 1.

In a similar vein, can you describe the characteristics and attributes of a student that will be best suited for pre-Algebra? Again, I'm not asking about any specific students, but instead, just the general qualities you look for.

Are there ever students that are difficult to place, those on the borderline between the two courses? What factors should be considered when making final placement decisions for these more complex, less clear-cut examples?

How closely do schools follow the guidelines/ recommendations you make? Do any schools do anything significantly different from what you (as central office staff) recommend?

How did this school district decide which factors to consider? Have you seen any shifts in importance of factors? How do you know which elements are more important or less important to consider?

If you had no restraints or restrictions on you from the schools, community, your administrators, or anywhere else, would you place students the same way you do now, or would you do anything differently?



**Interview 2 (Central Office Staff)**

In our last meeting, you described how you make the decisions in placing your students in mathematics courses in the ninth grade. You explained that ##, ## and ## were all important factors in your decision. Is that accurate?

*[If it has not yet been mentioned]* How does student level of English language proficiency fit into the decision making process? How should these students be assessed? What kinds of education or support do you provide your teachers in best meeting the needs of these learners?

What kinds of feedback have you received about your placement recommendations? Are schools and teachers generally receptive to your guidelines? Have you analyzed any statistics or collected anecdotal data to support the central office's recommendations?

Is the placement process relatively uniform here in ## school district? In other words, would the same student be assigned the same placement if she were at a different school? If not, why not? How do you feel about that? Do any changes need to be made? If so, how might the district make these changes?

**Interview 3 (if necessary) (Central Office Staff)**

Any questions from interviews 1 and 2 that we didn't have time for.

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## CURRICULUM VITAE

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