EXPLORING HOW HIGH SCHOOL SOCIAL STUDIES TEACHERS THINK ABOUT ACADEMIC RIGOR: A CASE STUDY

by

PETER ANDREW JONES

(Under the Direction of Sally J. Zepeda)

ABSTRACT

This qualitative study examined how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out while implementing instruction in these courses.

Using a constructivist lens, methods included interviews, classroom observations, and document analysis to construct meaning about rigor from the perspectives of the participants. The constant comparative method was used to analyze the data, resulting in the emergence of seven themes that cut across all four cases. Two of these themes gave insight about how the participants conceptualized the concept of rigor, while three themes were related to how rigor was implemented. The final two themes highlighted patterns about how the participants perceived the differences between College Preparatory and Honors classes.

The findings have implications for both future research and professional practice. Although teachers' perspectives about academic rigor add to the discussion of this elusive concept, there is a need for more widespread and diverse perspectives. The findings also suggest that school administrators should be aware of teachers' perceptions about rigor to support teachers and to provide for their professional development needs.

INDEX WORDS: Academic Rigor; College Preparatory Classes; High School; Honors Classes; Social Studies; Teachers' Perspectives

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DEDICATION

This dissertation is dedicated to the most important people in my life— my family. First, to my wife Shelley— this journey has been one we took together, and I would not have finished without you. I look forward to starting the next chapter of our lives together. Secondly, to my daughter Cassie— I hope that you will always love learning and the joy of discovery. During the five years it took me to complete my degree, I've watched you grow from a little girl to a fine young lady. And to my son Griffin— thank you for your late night hugs and for letting me use our computer for my homework. It's all yours now. Needless to say, I'm a very proud dad.

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Writing a dissertation is often referred to as a journey. For me, it was a journey that did not go exactly as planned. My goal was to finish before my 40th birthday and before my daughter started middle school. As I finally finish this work, I am 41 years old and my daughter is getting ready to start 7th grade. I almost quit on two distinct occasions, and on one of these occasions I remember telling myself, "I don't ever see myself going back." However, due to the help and support of a number of great people, I did go back and now I find myself finishing the journey. I will be forever thankful to those who helped me find my way.

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CHAPTER 1

INTRODUCTION

Accountability measures have created the conditions in which administrators are driven to find new ways to improve their schools in the face of increasing national and state standards (Bengtson, Zepeda, & Parylo, 2013; Normore, 2004; Zepeda, Bengtson, & Parylo, 2012). Some scholars and administrators have identified greater levels of educational "rigor" as one way of improving schools (Wagner, 2008b; Williamson & Blackburn, 2010b). However, while administrators may speak of increasing rigor or creating rigorous environments, there is little agreement as to the definition of the term rigor, its measurement, or how to implement rigor to make schools "more rigorous" (Blackburn, 2008; Wagner, 2006).

Meanwhile, many high schools continue to offer courses with titles such as "College Preparatory" and "Honors" with little distinction between the levels of rigor within these courses. If rigor is an aspiration to instill in the content, its sequencing, and the instructional strategies that set the levels of rigor apart in courses labeled as College Preparatory and Honors, administrators must strive to understand how teachers conceptualize rigor, and then implement it in their classrooms. Understanding these differences can support the work that school leaders engage in as they work with teachers especially surrounding instructional supervision, professional development, and monitoring the overall levels of rigor, perhaps in other courses that carry "similar" titles (e.g., essential, regular, accelerated, etc.). From such a view, school principals could be

more nimble in the types of supervision and professional development offered, and how to embed these as daily practices as they enact their roles as instructional leaders (Williamson & Blackburn, 2010b; Zepeda, 2011; Zepeda, 2012b).

Statement of the Problem

Despite numerous calls for rigorous coursework from many different entities, there is no consensus about what makes a course rigorous (Wagner, 2006; Wraga, 2011). With the repeated emphasis on making courses rigorous, there is also the implication that some courses are not rigorous. For supervisors and teachers, this ambiguity is problematic and makes it difficult for them to be able to comply with requests from federal, state, and local policymakers for schools to become more rigorous. If administrators are to be leaders in professional learning and are to be able to support the levels of staff development needed to improve levels of rigor suggested by as those such as Williamson and Blackburn (2010b), they would benefit from first gaining insights as to how teachers think about rigor. Likewise, if rigor is to be used as a tool for reform and as a way to close achievement gaps, supervisors must also understand how teachers implement rigor in classes (Wagner, 2008b). Without any clear guidance or consensus as to the nature of rigor, supervisors are left with many important questions. What does a rigorous class look like? What does a non-rigorous class look like? How do course titles such as College Preparatory and Honors fit into the discussion on rigor?

While there has been little guidance from policymakers about these questions, there has also been little investigation from the scholarly community as to how teachers view rigor. To assist administrators in providing effective supervision and meaningful professional learning opportunities for teachers, they need to seek to understand how

teachers view rigor and how they implement rigor in their courses. Likewise, if high schools continue to offer courses with differentiated titles, administrators would benefit from understanding how teachers implement rigor differently in these environments, if they do so at all.

Purpose of the Study

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses.

For this study, social studies teachers were the subject of inquiry for several reasons. First, because of the apparently complex nature of rigor, the researcher hoped to simplify data collection by observing this phenomenon in a familiar context. The researcher's training was in the social sciences, which allowed immediate familiarity with the curriculum, pacing, and assumptions of the courses that became the environments of this study. Secondly, the course offerings in the Social Studies Department comprise one of the core areas (along with science, language arts, and mathematics) in which all students take required coursework in the state of Georgia. Because of the large number of students taking courses in social studies, there was an ample pool of teachers who fit the selection criteria.

Background of the Study

The call for more rigorous classes in high schools has come from many sources. Policymakers (No Child Left Behind Act, 2001; U.S. Department of Education, 2010), scholars (Blackburn, 2008; Wagner, 2008b), and special interest groups (Achieve, 2007; ACT, 2007), have identified problems with the lack of rigor in many schools, and collectively they have called for many solutions on how to increase the level of challenge for students in hopes of better preparing them for life beyond high school.

Policymakers

One of the most famous and influential calls for more rigorous schools came with the publication of *A Nation at Risk* in 1983. The report by the National Commission on Excellence in Education (1983), a group established by President Ronald Reagan, cited a lack of high academic expectations in the form of the relatively small amount of time students spent on school and its related tasks, the decreasing levels of homework teachers assigned and students completed, and the low levels of minimum standards held by most school systems. Among the many suggestions to address these deficiencies, the National Commission recommended that "textbooks and other tools of learning and teaching … be upgraded and updated to assure more rigorous content" (National Commission on Excellence in Education, 1983, p. 28). The report also called for a curriculum that would "provide students with programs requiring rigorous effort in subjects that advance students' personal, educational, and occupational goals" (National Commission on Excellence in Education, 1983, p. 26), and the framers of the report made a plea for parents to encourage their students to take more demanding coursework. Despite these

recommendations, there were no definitions for "rigorous" or "more demanding," which continued to leave these decisions up to schools and school systems.

In addition to calling for more rigorous instruction, *A Nation at Risk* also prompted a greater sense of urgency toward educational reform, and is often seen as a catalyst for the standards movement in the United States (McGuinn, 2006; Vinovskis, 2009). Several other calls for rigor, often connected to standards, emerged in the years following its publication. For example, in 1994, the U.S. Congress passed the Goals 2000: Educate America Act, which not only repeatedly referenced rigorous standards, but also defined eight educational goals for the United States. The third of these goals, which outlined Congress's vision for student achievement, stated that "all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter" (Goals 2000: Educate America Act, 1994, p. 7). While the law provided no working definition for "challenging subject matter," in a Goals 2000 progress report published in 1996, the U.S. Department of Education reported that several states had developed standards that were more challenging. The standards developed in Vermont were labeled "world-class," Delaware developed "high standards" that were "internationally competitive," and Texas changed its standards so they were "rigorous and focused on the knowledge and skills that students should demonstrate" (U.S. Department of Education, 1996, pp. 4-5).

Building on Goals 2000, Congress continued to push rigor in schools by passing the No Child Left Behind (NCLB) Act of 2001. Signed into law by President George W. Bush in early 2002, NCLB not only called for increased rigor in schools, but this law also created higher levels of accountability for schools, sanctioning those that did not meet

standards established by states and approved by the federal government. The law called for states to create challenging academic standards that "contain coherent and rigorous content" (No Child Left Behind Act, 2001, p. 21), and required them to describe how their academic program "provides for rigorous and objective evaluation of progress" (p. 140). NCLB specifically identified mathematics and the sciences as areas in which states should pursue partnerships that assist them to "develop more rigorous mathematics and science curricula that are aligned with challenging State and local academic content standards" (p. 219). Policymakers used the words "rigor" or "rigorous" no less than 29 times throughout the law, and yet they did not define the terms, or give states further guidance on how to produce "rigorous" standards and coursework.

While NCLB certainly changed the landscape of American education, the calls for rigor have not stopped. In recent years, the Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) have worked to develop a set of Common Core State Standards with 48 states. The CCSSO and NGA Center describe the standards as having "rigorous content and application of knowledge through high-order skills" (Common Core State Standards Initiative, 2013, ¶ 4). There is no guidance as to how the content found in the standards is rigorous; nonetheless many states have chosen to adopt the standards.

The federal government has also called for rigor by providing financial incentives to states to implement more rigorous coursework. In 2009, Congress passed the American Recovery and Reinvestment Act of 2009, which included a Race to the Top fund for which states could apply. In the invitation to states, the U.S. Department of Education outlined the criteria by which states would compete for funding. Included in these

criteria, were references to increasing rigor, including a call for more rigorous courses in science, mathematics, and technology (U.S. Department of Education, 2010). The most specific call for rigor in these guidelines was for states to show that high schools were:

> Increasing rigor by offering opportunities for students to enroll in advanced coursework (such as Advanced Placement or International Baccalaureate; or science, technology, engineering, and mathematics courses, especially those that incorporate rigorous and relevant project-, inquiry-, or design-based contextual learning opportunities), early-college high schools, dual enrollment programs, or thematic learning academies that prepare students for college and careers, including by providing appropriate supports designed to ensure that low-achieving students can take advantage of these programs and coursework. (p. 33)

In addition to these calls for rigor, the guidelines for funding also made numerous references to assessments that were rigorous and comparable across classrooms, but the United States Department of Education did not give any guidance as to what these terms related to rigor meant.

Meanwhile, states continued their own pursuits of rigor. For its part, the state of Georgia made very few references to rigor when outlining its Georgia Performance Standards. Policymakers seemed to equate the word rigor with "work" when they suggested to parents that the performance standards "explain the level of work (rigor) that allows a teacher to know 'how good is good enough'" (Georgia Department of Education, 2010, ¶ 3). In July 2010, the Georgia Board of Education voted to adopt the Common Core State Standards, accepting the call for rigorous content. In addition to rigorous standards, Georgia has also changed its focus on accountability. In 2012, the

federal government granted Georgia a waiver from the accountability measures outlined in NCLB. The state created its College and Career Ready Performance Index (CCRPI), which now measures how well schools are performing. The Georgia Department of Education (2013b) suggested that college and career readiness means "that all students graduate from high school with both rigorous content knowledge and the ability to apply that knowledge" (¶ 3). Georgia also made the bold statement that Advanced Placement (AP) classes that have a curriculum developed by The College Board, "guarantee rigor in our classrooms" (Georgia Department of Education, 2013a).

Scholars and practitioners

The calls for rigor not only come from policymakers, but also from scholars and practitioners. Some scholars believe that calls for a more rigorous schooling experience began in the 1930s with the work of John Dewey and Leta Hollingworth, who both called for higher standards for their students (Matusevich, O'Connor, & Hargett, 2009). Along with the reports from the 1980s, such as *A Nation at Risk*, individuals such as Theodore Sizer also called for reform through rigor. In *Horace's Compromise*, Sizer (1992) suggested an educational program focused on intellectual skills, including "a process of rigorous, thorough self-questioning" (p. 117). Sizer and his associates continued this work through the Coalition of Essential Schools, which identifies its purpose as "creating and sustaining personalized, equitable, and intellectually challenging schools" (Coalition of Essential Schools, 2013).

More recently, scholars have called for increased rigor due to shortcomings discovered in research, and the connection of academic emphasis to student achievement (e.g., Licata & Harper, 1999; Matsumura, Slater, & Crosson, 2008; Matusevich et al.,

2009). In an examination of 100 public schools in North Carolina, Matusevich et al. (2009) found that schools were operating at Level One of their rigor rubric, indicating the lowest level of rigor. Likewise, in an examination of elementary school classrooms, Matsumura et al. (2008) found the level of academic rigor lacking. In a study of healthy school environments, Licata and Harper (1999) found that academic emphasis was the only element to make a significant contribution to healthy organizational environments. Bower and Powers (2010) found, at times, the implementation of differentiated instruction prevented some students from coming into contact with rigorous instruction.

Special Interests and Other Organizations

While scholars and policymakers have called for increases in rigor, special interest groups have also pushed their agendas and funding toward promoting more rigorous schools (e.g., Bridgeland, DiIulio, & Morison, 2006; Hechinger Institute, 2009; International Center for Leadership in Education, 2010). Organizations such as the Gates Foundation have provided grants to schools that align themselves with the goals of the foundation. In 2006, the Gates Foundation released the report, *The Silent Epidemic: Perspectives of High School Dropouts*. Written on behalf of the Gates Foundation by Bridgeland et al. (2006), this report found that two-thirds of students responded that they would work harder if more was demanded of them, and that schools did not provide them enough academic support. The report also recommended that educators "build a school climate that fosters academics" and called for teachers to have "high expectations for their students and try different approaches to motivate them to learn" (Bridgeland et al., p. 7).

Another high profile organization pushing for rigor in schools is the International Center for Leadership in Education. The organization is perhaps best known for its rigor-relevance framework, which can be used by schools to examine curriculum, instruction, and assessment. The framework uses a four-quadrant grid to assess rigor in these three areas during the planning of curriculum or during its implementation in the classroom (International Center for Leadership in Education, 2010).

The Hechinger Report, funded by Teachers College Columbia University, is also a purveyor of information pertaining to rigor. Describing itself as a non-profit news organization*, The Hechinger Report* has an area of its website devoted to rigor, and this organization has published a 32-page document entitled *Understanding and Reporting on Academic Rigor: A Hechinger Institute Primer for Journalists.* The document contains several stories written by the organization about rigor, its definitions, and its applications (Hechinger Institute, 2009).

In addition to these groups, numerous other entities have used the Internet to push their positions on rigor. Organizations such as the Pathways to College Network, America's Choice, the National High School Alliance, and the Fordham Institute have all recently released reports or articles about rigor in schools. Likewise, these organizations have ties to the standards movement, including the Common Core State Standards. While policymakers, scholars, and practitioners continue to grapple with rigor, these outside organizations continue to publish information to attempt to sway policymakers and the American public to support rigor in schools.

Research Questions

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor" and how they implemented rigor in their classrooms. Because of the widespread use of differentiated course titles in high schools, this study also examined the differences in how these teachers thought about rigor in College Preparatory and Honors classes, the two areas in which most high school students complete their coursework. Thus, this study examined the following research questions:

1. How do high school social studies teachers conceptualize academic rigor?
2. How do high school social studies teachers implement rigor in their classrooms?
3. How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor?

By investigating these questions, this study sought to capture the voices of high school teachers regarding their thoughts about rigor. This research employed a case study design to examine four high school social studies teachers who teach at one high school in Georgia.

Conceptual Framework

The research in this study was conducted through an interpretivist lens. Specifically, this study was framed by constructivism as described by Lincoln and Guba (Guba & Lincoln, 2005; Lincoln & Guba, 1985; Lincoln, Lynham, & Guba, 2011). According to Lincoln et al. (2011), the aim of constructivism is "to understand and interpret through meaning of phenomena (obtained from the joint construction/reconstruction of meaning of lived experience); such understanding is

sought to inform praxis (improved practice)" (p. 106). This definition implies that the ontological stance of constructivism is one of relativism, or the belief that multiple realities exist. Likewise, these realities are co-constructed socially by those in the setting and those who are studying it. Embedded within the constructivist paradigm is an axiological belief that the inquiry is value-bound, or that the inquirer's beliefs influence the inquiry (Lincoln & Guba, 1985).

The focus of this study was on the thinking and actions of teachers with regard to academic rigor. Specifically, this study examined how teachers conceptualize and implement rigor, a concept that has no clear definition in practice or in the academic literature on rigor. Thus, using a constructivist stance allowed the researcher and teachers involved to co-construct knowledge about rigor specific to the context of the research site (Guba & Lincoln, 2005). Likewise, this co-constructed knowledge led to insights that will hopefully improve practice through rigor.

This study also relied on the work of Blackburn (2008) to inform this constructivist framework. Specifically, this study examined rigor through the three dimensions of academic rigor outlined by Blackburn (2008): the expectations that teachers hold of students, the support that teachers offer their students, and student outcomes involved from rigorous work. These dimensions of rigor were foci for the interviews and observations conducted during this study, serving as a framework in which to pose questions about rigor to aid in the construction of knowledge about this concept.

Significance of the Study

The importance of this study is twofold. First, the study will hopefully contribute to the existing literature on academic rigor. Specifically this study hopes to fill another related gap in the literature involving the thoughts of high school teachers about rigor. The existing literature on rigor generally focuses on definitions developed outside of high school classroom settings (Blackburn, 2008; International Center for Leadership in Education, 2010; Wagner, 2008b). While these conceptualizations of rigor are valuable to the academic community, the voices of teachers themselves have largely been absent from these discussions about rigor. This study sought to tap into the thinking and practices of high school social studies teachers as an attempt to add their voices to the discussion about rigor, which may bring new insights as to how rigor operates in a high school setting.

Second, it is hoped that the findings from this study can provide administrators a glimpse into the thoughts of teachers practicing in the field. As implementers of educational policy, administrators often find themselves between the policymakers and those who implement the policies at the classroom level. When policymakers call for "more rigor," it is important for administrators to know what "more rigor" means from a teacher perspective, and whether those thoughts align with what the policymakers expect. If there is no such alignment, the results from the policy may not be what policymakers intended, and could create schools that are less effective. Likewise, by attempting to understand the current thinking of teachers, administrators may be able to better assist them during instructional supervision, thus becoming more effective supervisors.

Zepeda (2011) suggested that professional development supports the voices of teachers. This study sought those voices, which hopefully can be used to inform professional development and instructional supervision centered on rigor. Likewise, this study examined rigor in College Preparatory and Honors classes with the hope that administrators may have greater insight as to the nature of these classes, which may assist them in planning instructional programs and professional development while simultaneously gaining insights about what supervisory practices might support teachers and the pursuit of rigor.

Assumptions of the Study

The researcher assumed that the teachers involved in this study had some familiarity with the term rigor. This assumption was made first because the term rigor is widely used in the field of education. Second, the district in which this study was undertaken has a propensity to use the term rigor in discussions about coursework, and the system has identified a rigorous curriculum as one of its goals and priorities. Thus, while the researcher had ample evidence to assume that teachers would be familiar with the term rigor, it was possible that at the onset of the study this understanding might not be the case.

Definition of Terms

Each school district has a large level of control over the titles of its courses, and thus there is great potential for variance across school districts. For the purpose of this study, the definitions of College Preparatory and Honors will come from the district in which the study was conducted. While the focus of this study was on these two levels, the district also offers Advanced Placement and gifted courses. Because the types of courses

offered in a school is an element in a school's context, and because Advanced Placement and gifted courses were discussed by some of the participants during the study, they are also defined here as an additional reference.

College Preparatory – A course in which the baseline curriculum is taught. This is the "lowest level" at which students can study a subject in the district in which the study took place.

Honors – The district defines these courses as, "coursework designed at an advanced level or pace for students who excel in that content area."

Advanced Placement (AP) – Courses developed by the College Board. The district defines these courses as "rigorous, college-level coursework taken in high school." In addition to earning high school credits, students taking AP courses can earn college credits by scoring high enough on an AP tests administered in the spring of each school year.

Gifted – The district also has a gifted program in which students who qualify by meeting gifted testing criteria can take courses with a "gifted" designation (e.g., Gifted World History). Gifted courses are described as, "accelerated and rigorous coursework for students who qualify for gifted education services." These courses may be AP courses and are also offered as non-AP courses.

Limitations of the Study

This study is limited by the fact that it focuses on four social studies teachers working in one high school in Georgia during a particular time period. The researcher chose to "zoom in" on this type of teacher for practical reasons, which also impacted the viewpoint through which the findings were constructed. It is possible that social studies

teachers think differently than those working in other departments. Likewise, social studies teachers in the high school in which the study took place may think differently than those in other high schools that may have conditions that are different from those in which they currently work. It is also possible that high school social studies teachers think differently than middle school and elementary school teachers who teach social studies. Finally, this study is limited to the boundaries of the particular school year in which it took place. It is possible that these same teachers may think differently about rigor in the future. Furthermore, it is possible that their thinking about rigor has changed over the course of their careers.

Overview of the Research Procedures

This study was a qualitative case study. Yin (1994) suggested that case studies "are the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context" (p. 1). The research questions involved in this study all focused on "how" teachers conceptualize and implement academic rigor. Rigor is certainly a contemporary phenomenon that needs further investigation due to the lack of a common understanding of the term, and lack of research on how teachers conceptualize rigor and implement it in their classrooms, which are very much real-life contexts. The investigator does not control how teachers think, and thus does not control events that might arise due to these thoughts.

In an effort to examine teachers' thoughts on rigor from as many angles as possible, the researcher used multiple data steams as a form of triangulation. During the course of the study, the researcher gathered data from participants by using qualitative

interviews, classroom observations, and artifact analysis. The researcher also kept a log to track insights, analysis, and reflections about data as it was collected and analyzed. The data were analyzed using the constant comparison method, which yielded a number of themes from each case, which were then used to construct a cross case analysis. The themes that emerged from the cross case analysis became findings.

Organization of the Dissertation

Chapter 1 of this dissertation serves as an introduction by explaining the background of the study, the statement of the problem, and the research questions. It also outlines the significance of the study, provides an overview of the research procedures and the conceptual framework, and defines several terms that are used throughout the remainder of this work. Chapter 2 provides a review of the existing literature on rigor, and also examines the literature surrounding related concepts such as support and expectations.

Chapter 3 presents an overview of the research methods and procedures that the researcher used to conduct this study. Chapter 4 contains the findings of this study, including the cross-case themes that emerged from the data analysis. Chapter 5 presents some concluding thoughts, including suggestions for future research involving rigor, and some implications for practicing administrators and policy makers.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. Taking these two lines of inquiry into consideration, this study examined the following research questions:

1. How do high school social studies teachers conceptualize academic rigor?
2. How do high school social studies teachers implement rigor in their classrooms?
3. How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor?

With these questions in mind, this chapter includes a review of the literature related to rigor and also the literature surrounding Honors and College Preparatory coursework.

Because there is little consensus on the meaning of rigor, the literature involving rigor is somewhat limited with several existing gaps that scholars have not yet explored. These limitations in the literature hold especially true with regard to empirical studies involving rigor. Thus, the review of the related literature will focus on how rigor has already been defined, examined, and measured. Other common threads throughout the literature on rigor, such as student engagement and focusing on higher level thinking, will

be examined. Likewise, because the definition of rigor developed by Blackburn (2008) is so central to this study, the components of student support and expectations that teachers hold of students will also be explored. Finally, embedded within the literature involving these elements are suggestions as to how students can demonstrate rigorous work.

In an effort to examine rigor from as many perspectives as possible, this chapter also explored the literature on a number of related concepts such as academic emphasis (Murphy, Weil, Hallinger, & Mitman, 1982), academic intensity (Adelman, 1999; Adelman, 2006), and academic optimism (Hoy, Tarter, & Hoy, 2006). While rigor might be seen as existing within a classroom, these concepts seek to capture rigor on a more global level such as found in a school. Finally, while the literature on rigor is the main thrust of this chapter, because part of this study examined teachers' thoughts about rigor in Honors and College Preparatory classes, the literature on course titles and tracking is briefly examined.

Rigor Defined

While the term "rigor" is widely used to describe a demanding academic curriculum, some such as Wraga (2011), argued that the term rigor was inappropriate for describing an academic curriculum, and should be replaced. Adelman (2006), suggested that "the word 'rigorous' is somewhat of a misnomer since a course requiring a high concentration of intellectual effort can be presented in a relaxed manner with comparatively low standards for success" (p. 27). Nonetheless, "rigor" and "rigorous" are commonly used in scholarly writing and in the mainstream media, but Wagner (2006) suggested that there was no common definition for the terms. Although there is no consensus on a definition for rigor, definitions typically fall into two camps: relatively

narrow views that rigor is defined by the quantity of work expected of students; and broader views of the construct that include the quality of work expected, the types of tasks performed, and the level of thinking demanded of students. Wagner (2008b) referred to these two definitions of rigor as the Old World rigor and the New World rigor.

Old World rigor

Old World rigor was based on the premise that information was not readily available, and thus emphasized memorizing facts and having correct answers. This school of thought suggested that the more information students could "cover" or memorize, the better prepared they were for life after school. The findings from several studies indicated that rigor could be viewed as a measure of the quantity of work teachers expected from their students. For example, Wyatt, Saunders, and Zelmer (2005) measured academic rigor as the number of hours studying outside of class time, and the amount of homework college professors assigned to students. In a critique of colleges and universities in the United States, Arum and Roksa (2012) rated rigor by how many pages of writing and reading were completed by students, as well as how many hours students spent studying. Wyatt (2005) found that when rating how rigorous online courses were, university students responded that they had to complete significantly more work than they would in a traditional course. These notions suggested that students perceived that it was the quantity of work asked of them, and not the type of tasks assigned, that made courses rigorous.

Some believed that requiring students to take more coursework led to a more rigorous experience (Horn & Kojaku, 2001; McCormick, 1999). The Southern Regional Education Board (2009), through its High Schools That Work initiative, partly defined its

rigorous academic core by the number of courses it required, as well as the number of books students read in English and Science classes. This method of identifying rigor by the number of course credits earned seemed to echo the thoughts of McCormick (1999), who defined a rigorous high school curriculum as one in which students earned at least three credits in mathematics, science, and social studies while earning at least four credits in English.

Horn and Kojaku (2001) defined a rigorous high school academic curriculum as one in which students earned four credits in English, three credits in a foreign language, four credits in mathematics (including pre-calculus or higher), three credits in science (including biology, chemistry, and physics), three credits in social studies, and one credit in an Advanced Placement (AP) course. Wagner (2008b) suggested that these types of calls for more coursework have been institutionalized via the value placed on Carnegie units by schools. Carnegie units, also referred to as course credits, represent one year of work in a subject, and many high schools have a minimum number of units in each subject area that students must complete to earn a diploma.

New World rigor

New World rigor has been based on the current state of industrialized society, where information is readily available and relatively easy to access in nearby libraries and on the Internet. This type of rigor relies on students asking effective questions, for as Wagner (2008b) suggested, "it's no longer how much you know that matters; it's what you can do with what you know" (p. 111). Strong, Silver, and Perini (2001), for example, viewed rigor as building capacity in students to "understand content that is complex, ambiguous, provocative, and personally or emotionally challenging" (p. 7). In a study on

reading and mathematics classes, Matsumura et al. (2008) defined rigorous instruction as providing students opportunities to meaningfully discuss content with their peers, and encouraging students to develop mathematical connections between concepts. Washor and Mojkowski (2007) believed that rigor "involves deep immersion in a subject over time, with learners using sophisticated texts, tools, and language in real-world settings and often working with expert practitioners" (p. 85).

While some viewed rigor as interacting with academic content more deeply (Matsumura et al., 2008; Washor & Mojkowski, 2007), others viewed content as a way to teach skills or to explore complex mental processes (Matusevich et al., 2009; Smart, 1995). Perhaps the most concrete definition of New World rigor came from Wagner (2008a), who defined New World rigor as an education that included skills he found to be vital for success in the 21st century workforce: critical thinking and problem solving; collaboration and leadership; agility and adaptability; initiative and entrepreneurialism; effective oral and written communication; accessing and analyzing information; and curiosity and imagination.

Matusevich et al. (2009) identified a rigorous education as one in which students are involved in risk-taking and experimentation. Smart (1995) defined rigor as involving students' thinking, the meaning they make from instruction, their ability to ask effective questions, the quality of responses they gave to questions, and the personal connections they make during their learning. Blackburn (2008) believed that rigor involved "creating an environment in which each student is expected to learn at high levels, each student is supported so he or she can learn at high levels, and each student demonstrates learning at high levels" (p. 16).

Some scholars saw these New World types of rigor manifesting themselves through assessments and classroom instruction. For example, Cooper and Garner (2012) outlined rigorous assessments as those that required evidence of understanding, and stimulated deep thinking. Likewise, others believed that rigorous assessments focused on questions that required critical thinking, or more specifically, the higher levels of Bloom's Taxonomy (Moore & Stanley, 2010). Jackson (2011) suggested that rigorous instruction, rather than teaching students to memorize, instead promoted an environment where students created their own meaning, and applied what they learned to solve real world problems. While many of these definitions of rigor are complex, others believed rigor simply refers to an ethic possessed by students that focuses on striving to do the best they can (Wilcox & Angelis, 2011).

Elements of Rigor

The New World/Old World framework seems to be in line with Lowyck and Ellen (1993), who suggested that learning environments should shift from knowledge-transmission models to environments that promoted knowledge-construction. Because the purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor" and how they implemented rigor in their classrooms, it was important to examine the literature about the elements that have often been thought to be parts of rigor.

If it is believed that there has been a paradigm shift from information being difficult to obtain, to that of information being accessible in some cases in a matter of seconds, supervisors and teachers should move their focus from Old World rigor and more toward New World rigor. Benbasat and Zmud (1999) stated that rigor involved "the

correct use of methods and analyses appropriate to the tasks-at-hand" (p. 5). If the tasks-at-hand involved preparing students to participate in an information-rich society where skills to manipulate information were vital, the existing research on rigor suggests that supervisors and teachers focus on student engagement, high expectations, promoting higher levels of thinking, and offering students high levels of support.

Student engagement

Like rigor, student engagement is a complex concept and is a term for which there is not a universal definition. However, there is little disagreement that student engagement is a critical aspect of successful schooling and of promoting a rigorous classroom environment (Williamson & Blackburn, 2011). While student engagement is complex and has multiple dimensions, supervisors and teachers can use a number of strategies to promote student engagement, and thus, improve academic rigor.

Scholars have generally agreed that there were cognitive, affective, and behavioral components to student engagement. Appleton, Christenson, and Furlong (2008) summarized the cognitive domain as consisting of elements such as self-regulation, learning goals, and investment in learning; the affective domain as consisting of components such as interest, identification, belonging, and positive attitude about learning; and the behavioral domain as consisting of elements such as positive conduct, effort, and participation. Riggs and Gholar (2009) suggested that there was also a conative domain, which included components such as willpower, courage, and conviction.

Student engagement can be seen as a range of student behaviors. Marzano (2007) equated engagement with students being on-task and participating in instructional

activities. He conceded that motivational elements were important, but they were very complex and difficult to measure. Others believed that engagement involved much more (Antonetti, 2009; Blackburn, 2008). Antonetti (2009) differentiated between on-task behavior and engagement. While students could be on-task by simply completing the assigned task, he believed that students were authentically engaged when they were involved in lessons that promoted a personal response from students, included clear/modeled expectations, provided emotional and intellectual safety, involved learning with others, provided a sense of audience, allowed students choice, provided authenticity or variety, and were authentic. Newmann, Wehlage, and Lamborn (1992) indicated that by tapping into students' needs to be academically competent, developing a sense of school membership, and providing authentic work, teachers could promote greater levels of engagement.

Despite the complexity of student engagement, research indicated that there were strategies and behaviors that tapped into the four domains of engagement. Generic strategies included allowing students to discuss subject matter in small groups, allowing for group responses instead of individual responses, and allowing students to write responses in journals (Williamson & Blackburn, 2011). Marzano (2007) suggested teachers could increase student engagement by having high energy levels, providing students puzzles or games, providing lessons that allowed a personal connection, providing mild pressure to students, and bringing some level of controversy and competition to the classroom. Riggs and Gholar (2009) believed that lessons must be "personally relevant, appropriate (to students' developmental level), authentic (intellectually intriguing), challenging yet safe (without fear or potential for

embarrassment), collaborative, flexible (providing students a number of ways to demonstrate learning), and adaptable (offering appropriate options)" (p. 21).

Promoting higher levels of thinking

Many of the strategies that lead to higher levels of student engagement also promote higher levels of thinking. While scholars and practitioners at times have labeled classroom activities as rigorous, this may be because they have been more easily observable than levels of thinking. However, activities themselves do not necessarily lead to rigor. Rather, it is the objective of the activity that leads to a rigorous experience for students (Anderson et al., 2001). Part of providing rigorous instruction is to promote higher-level thinking, which "signifies challenge and expanded use of the mind; lower-order thinking signifies routine, mechanistic application, and constraints on the mind" (Newmann, 1992, p. 63). Supervisors and teachers can focus on using taxonomies, questioning, and specific strategies to promote higher-level thinking.

Perhaps the most well-known taxonomy is Bloom's Taxonomy, which has six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. Table 2.1 provides a basic description of each level.

Table 2.1

Levels of Bloom's Taxonomy and basic descriptions

Bloom's Taxonomy Level	Description
Knowledge	Recalling information; remembering facts
Comprehension	Basic understanding of information; can restate information without relating it to other material
Application	Use information to solve problems

Bloom's Taxonomy Level	Description
Analysis	Breaking down information into parts and finding relationships between parts
Synthesis	Putting together parts to form a whole; creating new information from existing parts
Evaluation	Making judgments about information; determining worth

(Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956)

Tasks using the first three levels of Bloom's Taxonomy are often seen as lower-level thinking, and those using analysis, synthesis, and evaluation are often seen as higher-level thinking (Moore & Stanley, 2010). While Bloom's Taxonomy has continued to persevere in today's schools, it has been through revisions since its initial creation in the 1950s. Perhaps the most influential revision to Bloom's Taxonomy for today's teachers is that of Anderson et al. (2001). Likewise, Marzano and Kendall (2007) created the New Taxonomy of Educational Objectives, which has similarities to Bloom's Taxonomy. While Marzano and Kendall referred to Bloom's Taxonomy as a framework for examining thinking, they stated that their New Taxonomy is a theory of how human thought operates.

The Anderson et al. (2001) revision of Bloom's Taxonomy was a two-dimensional framework, which included a cognitive process dimension and a knowledge dimension, that when combined, created a taxonomy table. The cognitive dimension included six categories: remember, understand, apply, analyze, evaluate, and create. There are basically two differences between these categories and those found in Bloom's Taxonomy: the categories in Bloom's Taxonomy (Bloom et al., 1956) were nouns, where

as Anderson et al. (2001) changed the words in their categories to verbs; and in the Anderson et al. (2001) revision, they reversed the top two categories, moving create (synthesis in Bloom's Taxonomy) to the top level, and moving evaluate (evaluation in Bloom's Taxonomy) to the second highest category. Brief descriptions of the cognitive dimension of the Anderson et al. (2001) revision of Bloom's Taxonomy can be found in Table 2.2.

Table 2.2

Cognitive dimensions of the Anderson et al. revision of Bloom's Taxonomy and descriptions

Cognitive Dimensions	Description
Remember	Recalling information; retrieving facts from memory
Understand	Construct meaning from instruction (e.g., lecture, textbooks, technology)
Apply	Follow a procedure to solve problems
Analyze	Breaking down information into parts and finding relationships between parts
Evaluate	Making judgments about information; determining worth
Create	Putting together parts to form a whole; creating new information from existing parts

(Anderson et al., 2001)

These categories were on a continuum, with "remember" being the least complex mental process, and "create" being the most complex process.

The knowledge dimension of the Anderson et al. (2001) revision of Bloom's Taxonomy contains four categories: factual, conceptual, procedural, and metacognitive. These items are also on a continuum from the most concrete (factual) to the least concrete (metacognitive). By placing instructional objectives into the intersection of these two dimensions (cells), Anderson et al. (2001) created a taxonomy table, which can be found in Table 2.3.

Table 2.3

Taxonomy table created by Anderson et al.

	Cognitive Processes					
The Knowledge Dimensions	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual						
Conceptual						
Procedural						
Metacognitive						

(Anderson et al., 2001)

Using this taxonomy table, teachers could tailor their instruction to various levels of thinking. Likewise, teachers could construct objectives based on the levels of thought they wished to target, and breadth of knowledge they wished to explore.

More recently, Marzano and Kendall (2007) produced their New Taxonomy of Educational Objectives, which they described as having "significant differences in structure" from the Anderson et al. model "that manifest as significant differences in how

the two taxonomies might be used by educators" (p. 19). The taxonomy has three systems of thought, which act on three knowledge domains. The three systems of thought are hierarchically ordered from the highest to lowest levels: the self-system, the metacognitive system, and the cognitive system. The cognitive system can be further divided into four separate levels (from highest to lowest): knowledge utilization, analysis, comprehension, and retrieval. Thus, the New Taxonomy is a six-tiered framework, which is outlined in Table 2.4.

Table 2.4

The New Taxonomy and basic descriptions

Self-System	
Examining importance	Is the knowledge important to the individual? a) Is it a basic need? b) Does it help achieve a personal goal?
Examining efficacy	Does the individual believe he/she has the ability, power, or resources to use the knowledge to accomplish something?
Examining emotional response	Does the knowledge or task invoke an emotion in the individual that motivates him/her to engage in the task?
Examining overall motivation	Does the combination of importance, efficacy, and emotional response provide enough motivation for the individual to engage with the knowledge or task?
↓	
Metacognitive System	
Goal specification	The individual forms goals relative to the type of knowledge encountered.
Process monitoring	The individual monitors how well he/she is

Metacognitive System	
Process monitoring (continued)	performing tasks related to the knowledge (e.g., Is she spinning a pottery wheel fast enough to form a pot in art class? Is she correctly looking up information from a table?).
Monitoring clarity	The individual monitors how clear the information he/she has learned is to him/her.
Monitoring accuracy	The individual monitors the accuracy of the information he/she has learned.
↓	
Cognitive System	
Knowledge utilization	Using knowledge to complete a new task (making decisions, solving problems, experimenting, investigating)
Analysis	Extending or elaborating upon knowledge that has been comprehended, which results in generating new knowledge
Comprehension	Translate information to preserve most important parts and get rid of non-important parts; translated information is stored in permanent memory
Retrieval	Recall information or execute a procedure

Note: The arrows connecting the systems indicate the hierarchical nature of the New Taxonomy. If the self system engages, then the metacognitive system engages, and finally the cognitive system engages. (Marzano & Kendall, 2007)

According to the theory embedded within the New Taxonomy posited by Marzano and Kendall (2007), when individuals are presented with a new task, they evaluate the task with the self-system. If they decide not to engage in the new task, individuals continue with their current tasks. If individuals decide to engage in the new

task, they abandon their current tasks, and the metacognitive system begins working with the new task, and finally the cognitive system engages.

The other aspect of the New Taxonomy involves three knowledge domains: the domain of information, the domain of mental procedures, and the domain of psychomotor procedures. As the self-system, metacognitive system, and cognitive system engage they operate on these three domains, which are described in Table 2.5.

Table 2.5

Knowledge domains and descriptions

Domain	Description
Domain of information	Declarative knowledge that is hierarchical (highest to lowest): - Principles (cause-effect, correlations) - Generalizations - Time Sequences - Facts - Vocabulary terms
Domain of mental procedures	Procedural knowledge, or how to do something; organized hierarchically (from highest to lowest): - Macroprocedures (highly complex, multiple components) - Tactics (general rules for completing a task, but have no specific order) - Algorithms (specific steps performed in a particular order) - Single rule (small procedure with no follow up steps; e.g., if X happens, then perform Y)
Domain of psychomotor procedures	Physical procedures, organized hierarchically (from highest to lowest):

Domain	Description
Domain of psychomotor procedures (continued)	- Complex combination procedures (use of multiple simple combination procedures) - Simple combination procedures (use of multiple foundational abilities) - Foundational physical abilities (developed without formal teaching; e.g., manual dexterity, strength)

(Marzano & Kendall, 2007)

As with other taxonomies, teachers could use the New Taxonomy during planning and instruction to increase the level of thought expected of their students.

The strategies associated with student engagement overlap with both the revised taxonomies. For example, many of the strategies call for connecting students' interests to course content and making it relevant to their lives. These strategies would fit nicely into the concept of the self-system. Marzano and Kendall (2007) explained that the self-system is the highest level in their taxonomy because "it controls whether or not a learner engages in a new task and the level of energy or motivation allotted to the task if the learner chooses to engage" (p. 18). Newmann (1992) identified six dimensions fundamental to developing a thoughtful classroom: limiting the number of topics so the teacher was able to explore them in depth, teaching lessons that built on one another, giving students adequate time to think and respond, asking students questions requiring higher-order thinking, modeling thoughtfulness, and asking students to explain their answers. In classrooms where students were more thoughtful, Newmann (1992) found students to be more engaged.

In addition to taxonomies, there have been other efforts to describe levels of thinking culled from various sources. For example, Norman Webb published a series of

monographs describing a concept that he called Depth of Knowledge (Webb, 1997; Webb, 1999). Webb (1997) developed Depth of Knowledge as a way to check for alignment of expectations for students and assessments in science and mathematics. Webb (1997) described expectations as "what students should know about mathematics and science and what they should be able to do with that knowledge," and he described assessments as tools "used to gauge student achievement in science and mathematics and to indicate whether the expectations are being achieved" (p. 4). Webb (1999) outlined four levels of Depth of Knowledge (from least complex to most complex): recall (level 1), skill/concept (level 2), strategic thinking (level 3), and extended thinking (level 4).

Hess, Jones, Carlock, and Walkup (2009) summarized Webb's Depth of Knowledge (DOK) as a way of combining the complexity of the task and the complexity of the content. Hess et al. (2009) described the four levels of Webb's DOK in the following manner:

> Recall & Reproduction — Recall a fact, term, principle, or concept; perform a routine procedure.
>
> Basic Application of Skills/Concepts — Use information, conceptual knowledge; select appropriate procedures for a task; perform two or more steps with decision points along the way; solve routine problems; organize or display data; interpret or use simple graphs.
>
> Strategic Thinking — Reason or develop a plan to approach a problem; employ some decision-making and justification; solve abstract, complex, or non-routine problems. (DOK-3 problems often allow more than one possible answer.)

> Extended Thinking — Perform investigations or apply concepts and skills to the real world that require time to research, problem solve, and process multiple conditions of the problem or task; perform non-routine manipulations across disciplines, content areas, or multiple sources. (p. 4)

Hess (2006) created a "rigor matrix" by combining Bloom's Taxonomy with Webb's DOK. The rigor matrix was designed to measure the complexity of educational tasks, and it has been used in some states to evaluate tasks such as tests, quizzes, and student work (Hess et al., 2009).

Questioning was another method of increasing the levels of thought during a lesson. By using questions aimed at the higher levels of taxonomies, teachers could promote higher-level thinking. Ciardiello (1998) identified four types of questions that aligned with levels of thought: memory questions, convergent thinking questions, divergent thinking questions, and evaluative thinking questions. These types of questions can be seen as a continuum much like those developed by the seminal work of Bloom et al. (1956) and Marzano and Kendall (2007), with memory questions requiring the lowest level of thinking, and evaluative thinking requiring the highest cognitive operations. However, as Williamson and Blackburn (2010b) suggested, the answers that students provided, and how teachers handled them are just as important. If teachers accepted low-level answers, or answered the questions for students, it would defeat the purpose of higher-level questions.

In addition to using taxonomies, tools such as the rigor matrix, and questioning, there are other ways for teachers to increase levels of thinking in the classroom. For example, Strong et al. (2001) believed there were five disciplines that promoted higher-

level thinking: inquiry (conducting research and investigation), knowledge acquisition (using pre-existing knowledge to make sense of new knowledge), problem solving, communication about work, and reflection on work. Thus, while higher-level thinking is complex, there are many strategies teachers can employ to promote thoughtfulness in their classrooms.

High expectations

While promoting higher-level thinking, teachers striving for rigor should also create an environment in which there are high expectations. Researchers have studied the role of expectations in schools since Rosenthal and Jacobson published their seminal work *Pygmalion in the Classroom* in 1968, with most studies finding the role of teacher expectations on student achievement as significant (Marzano, 2007). While a seemingly simple concept, teacher expectations were multi-faceted, and improving rigor depended on teachers making their expectations explicit while making conscious efforts to provide high expectations for all students.

The term "high expectations" is vague, and there is little agreement as to a universal definition. One way of thinking about high expectations involves expecting students to perform above minimum standards, especially those defined by standardized tests (Wilcox & Angelis, 2011). Those who had defined expectations in such a way believe that while these assessments may be required of students, tests should not define the level to which they learn (Newmann, Bryk, & Nagaoka, 2001; Whitaker, 2004). Many of these tests are minimal competency tests, and those with high expectations insist on exceeding the minimal requirements demanded by them.

Another way of conceptualizing high expectations involves clearly communicating learning goals to students. Weinstein (2002) suggested that teacher expectations could have a self-fulfilling prophecy effect. Thus, if teachers did not believe students could handle a rigorous environment, they would probably not succeed. The undesirable results from these kinds of negative expectations are known as Golem effects; positive expectations result in Galatea effects, or positive outcomes (Babad, Inbar, & Rosenthal, 1982). Thus, if teachers wished their students to be successful when they challenged them with high-level thinking and engaging activities, it was necessary for teachers to communicate their beliefs to the students so that they could be successful at these tasks.

In addition to explicitly explaining high expectations to students, teachers communicate expectations in other ways. For example, a teacher's tone of voice and body language could be ways he or she expresses expectations. By providing positive emotions, such as smiling and making eye contact, and exhibiting high energy with all their students, teachers convey messages of high expectations (Marzano, 2007). Teachers can also call on students to provide answers to questions, or contribute to class, even if they are reluctant to engage in classroom discussions (Blackburn, 2008; Marzano, 2007). Perhaps the most important part of this process is persisting with students who answer incorrectly. By providing guidance to the correct answer, instead of moving on to another student, teachers promote a climate of high expectations for all students.

Blackburn (2008) also suggested that teachers must be persistent in requiring their students to complete work. Allowing students not to turn in assignments communicates low expectations. Teachers should select meaningful assignments, and make sure the

students complete the work. This may involve not giving a student a zero for an assignment when they do not turn it in. Instead, students may be required to complete the work during other times of the school day, or after hours. By requiring students to finish assignments, teachers send messages that the work is important, and that they will not allow students to ignore them.

Student support

When teachers hold students to high standards, and require that they engage in more complex mental tasks, students need high levels of support from the teachers as well. House (1981) suggested that "support" falls into four categories: emotional, instrumental, informational, and appraisal support. Mercer, Nellis, Martinez, and Kirk (2011) summarized these categories in the following way:

> Emotional support includes feelings of empathy, concern, and trust. Instrumental support consists of direct intervention by spending time with someone and providing assistance, materials, and help. Informational support is providing someone with verbal directions, advice, or suggestions. Appraisal support consists of providing someone with affirmation and evaluative feedback. (Mercer et al., 2011, p. 324)

For teachers to provide a rigorous environment, Blackburn (2008) stated that they need to offer students high levels of support. Research has suggested that there are multiple ways teachers and schools can accomplish this objective (Marzano, 2007; Williamson & Blackburn, 2010b).

Many aspects of emotional support overlap with affective aspects of teacher expectations. For example, providing a positive classroom atmosphere is an essential

aspect of emotional support for students (Danielson, 2007; Stronge, 2007). In addition to using positive emotions, Williamson and Blackburn (2010b) believed teachers could help to foster an emotionally safe environment by using positive and encouraging language. Teachers could also provide emotional support by demonstrating their affection for students. Engaging in activities such as meeting students at the door each day, and attending their students' extracurricular activities are relatively easy ways in which teachers can show their affection (Marzano, 2007).

In addition to providing emotional support, teachers could also give students instrumental support. This form of support is closely related to Vygotsky's Zone of Proximal Development, which has been defined as "the difference between what a child can do independently and what he or she can do with scaffolding or support" (Riggs & Gholar, 2009, p. 9). Scaffolding could be applied at two levels: the macro, or "designed-in" level, and the micro, or contingent level (Sharpe, 2006). Teachers could design some scaffolding for students during the planning process. Examples of these types of macro-level scaffolding could include: analyzing students' abilities and interests, planning appropriate activities, and establishing the proper sequencing of learning tasks. Micro-level scaffolding occurs when teachers assist students during classroom tasks. Examples of these kinds of tasks would include: chunking information, using graphic organizers, and providing students reading guides (Blackburn, 2008). Offering their time during activities such as after-school tutoring is another example of how teachers can offer instrumental support (Blackburn, 2008).

Marzano (2007) suggested that teachers could provide informational support by providing an appropriate amount of dominance, or clarity of purpose and guidance.

Dominance is related to expectations in that teachers must clearly let students know what they expect, and exert control over the classroom. Chiu and Tulley (1997) found that students preferred this Confronting-Contracting approach of classroom management, in which the teachers expected students to show adult-like behaviors, while the teachers acted as guides or consultants. Thus, for teachers to offer informational support, teachers must create meaningful relationships with their students.

Teachers could provide appraisal support by giving verbal or written feedback to students. Feedback comes in two forms: informational feedback, which is designed to give students feedback on their progress or competence, and controlling feedback, which measures students against external standards. Deci and Ryan (1991) found that the proper use of informational feedback was more likely to foster self-motivation than using controlling feedback. Using controlling feedback often has the opposite effect. In addition to being attentive to the types of feedback that they give students, Brookhart (2008) suggested that teachers also need to be aware of four dimensions of feedback: timeliness (returning papers in a timely manner, immediate oral feedback), amount (commenting on strengths and weaknesses, limiting feedback to main points), mode (written, oral, demonstrations), and audience (individual vs. group feedback, individualized comments).

Efforts at Measuring Rigor

If supervisors and teachers are to develop strategies to improve classroom rigor, they will need a method to measure it. Given the complexity of rigor, it is not surprising that few scholars and practitioners have attempted to measure the construct. Matusevich et al. (2009), who created a "rigor rubric" to help educators in North Carolina measure

rigor in gifted classrooms, has engaged in some of the most promising work on measuring rigor. The rigor rubric measured rigor in three different domains: curriculum, instruction, and assessments. Matsumura et al. (2008) also used rubrics in an attempt to capture rigor in elementary level reading and mathematics classrooms in which the following areas were measured: rigor of instruction, rigor of the discussion, rigor of the curricula/task materials, rigor of lesson activity, and rigor of expectations for student learning.

While these studies imply the use of taxonomies to measure levels of rigor in classrooms, others explicitly use them to evaluate the level of difficulty that students face in their classes. Näsström (2009) suggested that Bloom's Taxonomy could be useful in evaluating standards, and for ensuring that they were aligned with teaching and assessments. Gray and Sams (2010) used Bloom's Taxonomy as the centerpiece of their "walkthrough to increase instructional rigor." They developed a walkthrough form that gives teachers feedback on the level of rigor present during classroom visitations. Based on Bloom's Taxonomy, the form focused on the levels of instructional strategies such as questioning, and the tasks that students were performing during the visitation. Zepeda (2012a) developed several tools for classroom observations based on Bloom's Taxonomy. The tools allow an observer to use Bloom's Taxonomy to categorize questions asked by teachers and students by scripting the questions asked and then identifying their level in Bloom's Taxonomy by either checking a box or writing the name of the level next to the question.

Blackburn (2008) also developed a self-assessment rubric for teachers to gauge their progress toward rigor in the following categories: high expectations for learning,

support and scaffolding, demonstration of learning, level of student engagement, motivational elements, and overall class culture. To assist leaders with observing rigor during classroom observations, Williamson and Blackburn (2010a) created four tools to gather data on teacher expectations, the support teachers offer students, and how students demonstrate work. The tool for expectations examined the level at which teachers asked questions and the student answers that the teachers accepted. The second tool guided the observer to gather data on scaffolding methods, such as chunking data and using graphic organizers, which teachers used during instruction. The third and fourth tools were created to gather data on student demonstration of work, and involved looking for indicators of student engagement and talking to teachers about student engagement.

While these efforts have attempted to measure rigor inside the classroom, generally in the form of classroom observations, McKenzie, Taghavi-Khonsary, and Tindell (2000) examined rigor through a psychological perspective. They administered the McKenzie Personality Questionnaire-Shortened Version (MPQ-SV), a survey which contained factors of neuroticism, extraversion, superego and dissimulation, to 110 university students. The results of the study indicated that as students progressed through school and took more difficult courses, there was a positive correlation between neuroticism and achievement (McKenzie et al., 2000). McKenzie et al. (2000) concluded that this neuroticism-superego interaction, called the Furneaux Factor, could be used to measure the difficulty of courses, and perhaps their rigor.

Rigor Beyond the Classroom

In addition to rigor, three other constructs, academic intensity, academic press (also referred to as academic emphasis) and academic optimism, have been valuable in examining educational environments. Adelman (1999) used academic intensity as a variable in a quantitative study used to predict college completion, which divided students into 40 levels of academic intensity based on the coursework they had taken in high school, and Adelman found academic intensity to be the most important pre-college predictor of degree completion. The study was replicated in 2006, and pared down the students into 31 levels of academic intensity, with the same findings. Adelman (2006) found the highest of these levels included students who possessed the following characteristics:

- 3.75 or more Carnegie units of English
- 3.75 or more Carnegie units of mathematics
- highest mathematics of either calculus, precalculus, or trigonometry
- 2.5 or more Carnegie units of science or more than 2.0 Carnegie units of core laboratory science (biology, chemistry, and physics)
- more than 2.0 Carnegie Units of foreign languages
- more than 2.0 Carnegie Units of history and social studies
- or more Carnegie Units of computer science
- more than one Advanced Placement course
- no remedial English; no remedial mathematics. (Adelman, 2006, p. 58)

While finding that some students far surpassed these levels, Adelman (2006) found that 95% of the students possessing these characteristics completed a Bachelor's Degree.

While academic intensity might be seen as Old World, with its emphasis on how many units students complete, academic press and academic optimism might be seen more as New World. While some scholars, such as Bower and Powers (2010), saw rigor and academic press as synonymous, others suggested that academic press examined the educational environment with a wider lens. Murphy et al. (1982) defined academic press

as “the degree to which environmental forces press for student achievement on a schoolwide basis” (p. 22), and they identified the key environmental forces as school policies, practices, expectations, norms, and rewards. Hoy et al. (2006) identified this construct as “academic emphasis,” and defined it as “the extent to which a school is driven by a quest for academic excellence” (p. 427). Thus, academic press could be viewed as an essential element of healthy school climates and cultures (Shouse, 1996). Alig-Mielcarek and Hoy suggested that academic emphasis was so powerful that it has a greater impact on student achievement than instructional leadership (as cited in Hoy et al., 2006, p. 427).

Building on the concept of academic emphasis, Hoy et al. (2006) expanded the lens even further to define a construct called academic optimism. Academic optimism included academic emphasis, but also involved two other elements: collective efficacy and trust. Collective efficacy refers to a teaching staff’s aggregated belief that students could, indeed, learn at high levels (Hoy et al., 2006). The element of trust involves the degree to which a teaching staff trusts parents to support them as they increase the levels of academic emphasis. High levels of trust, combined with high collective efficacy and high levels of academic emphasis, lead to higher levels of student achievement (Hoy et al., 2006). Thus, the construct of academic optimism could be tied to levels of student achievement.

Rigor from a Teacher Perspective

Because the purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized “academic rigor” and how they implemented rigor in their classrooms, the sparse literature on how teachers conceptualize rigor was

valuable in initially framing this study. In perhaps the most valuable study of this kind to date, Bower and Powers (2010) conducted a microethnographic study in one elementary school to investigate how teachers and administrators defined rigor and how they thought rigor was operationalized in the classroom. In this study, Bower and Powers (2010) interviewed five elementary school teachers and two elementary school administrators, and reported their findings about rigor in four themes: Higher Order Thinking and Real World Application; Accountability; Collaborative Planning; and Differentiation.

While Bower and Powers (2010) focused their study on teacher perspectives in an elementary school, Crowe, Hyun, and Kretovics (2005) examined their own thoughts about rigor during their first year of teaching in a university setting during summer school. Each author defined rigor from their own thoughts and reflections, using New World terminology such as "higher level thinking," and terms from Bloom's Taxonomy such as "lots of analysis, synthesis, evaluation (and application)" (p. 8). They also reported challenges with maintaining rigor during summer school because of the compressed format, but found that having dialogue about rigor with each other was valuable as they navigated their courses (Crowe et al., 2005).

The Literature on Course Titles and Tracking

The third research question addressed in this study was: How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor? When school districts use course titles such as Honors and College Preparatory, they create a system of curriculum differentiation, or tracking (Carey, Farris, & Carpenter, 1994; Oakes, 1985; Slavin, 1993). Tracking, also known as streaming or leveling, is a practice used by high schools to place students in

classes based on criteria such as their past academic achievement, test scores, and teacher recommendations (Loveless, 1998; Slavin, 1993). A related term is ability grouping, which is a practice used by teachers to form homogeneous groups within a classroom for differentiated instruction (Loveless, 1998). Some scholars believe that tracking in high schools is based on the level of academic rigor present in each course, with courses such as Honors classes being more rigorous than College Preparatory classes (Burris & Garrity, 2008; Loveless, 1998).

Tracking in the United States began in the early 20th century, largely as a response to large waves of immigrant students entering schools (Hallinan, 2004; Oakes, 1985). Over time, the process of ability grouping became ingrained in the culture of schools, becoming what Oakes (1985) called a tradition in American schooling. However, by the 1970s, there began a series of calls for students to have access to rigorous coursework, which ignited the so-called "tracking wars" that raged throughout the 1980s and into the 1990s (Hallinan, 2004; Loveless, 1999; Steinberg, 1993). During this time, one side of the debate proposed detracking, or moving students into more heterogeneous groups for instruction, while the other side suggested that tracks remain.

While both sides of the tracking wars provided numerous arguments for their causes, their arguments are best summarized by Slavin (1993), who suggested that the arguments of both sides had remained largely unchanged since the 1930s. The advantages and disadvantages, which Slavin (1993) distilled from Turney (1931), are listed in table 2.6. Slavin (1993) also stated that two other disadvantages, which arose after the 1930s, should be added to this list; these are listed as disadvantages #5 and #6 in table 2.6.

Table 2.6

Advantages and disadvantages of tracking

Advantages of tracking	Disadvantages of tracking
1. It permits pupils to make progress commensurate with their abilities.	1. Slow pupils need the presence of the able students to stimulate them and encourage them.
2. It makes possible an adaptation of the technique of instruction to the needs of the group.	2. A stigma is attached to low sections, operating to discourage the pupils in these sections.
3. It reduces failures.	3. Teachers are unable, or do not have time, to differentiate the work for different levels of ability.
4. It helps to maintain interest and incentive, because bright students are not bored by the participation of the dull.	4. Teachers object to the slower groups.
5. Slower pupils participate more when not eclipsed by those much brighter.	5. Ability grouping discriminates against minority and lower-class students.
6. It makes teaching easier.	6. Students in low tracks receive a slower pace and lower quality of instruction than students in the higher tracks.
7. It makes possible individual instruction to small slow groups.	

Note: Disadvantage #5 and #6 were added by Slavin (1993); he attributed the rest of the advantages and disadvantages to Turney (1931). (Slavin, 1993, pp. 75-76)

While there were no "winners" in the tracking wars, some suggested that schools did adapt, becoming less rigid in their tracking methods by giving students more choices and allowing students to have more mobility between tracks (Hallinan, 2004; Loveless, 2009). However, the existence of what Oakes (1985) called informal tracking, or efforts

by staff to guide students into classes they thought were most appropriate, still lingers in many schools. Loveless (1998) found that many schools allowed parents to override teacher course placement decisions, and students had a much greater degree of decision making in regards to the courses in which they enroll.

Like the advantages and disadvantages of tracking, studies on tracking have produced varied findings. In *Keeping Track: How Schools Structure Inequality*, a seminal work on tracking, Oakes (1985) studied the phenomenon in 25 middle and high schools. Included in her findings, Oakes (1985) found that tracking served as a form of social reproduction, with the students possessing lower abilities being exposed to a lower level curriculum, and thus having limited opportunities upon graduation. Likewise, teachers in the lower tracks tended to have lower expectations for these students, and spent less time instructing them because they were seen as less enthusiastic toward learning. Oakes (1985) also found that tracking made a profound impact on students' attitudes about themselves:

> High-track students reported more positive self-perceptions not only in the academic areas (e.g., "I'm proud of my schoolwork" and "I'm good at math") but generally as well (e.g., "I'm pretty sure of myself") which seems unrelated to specific school activities. Students in the low-track classes had the most negative views of themselves both academically and generally and the lowest expectations for their educational futures. (p. 143)

Other studies conducted before and after *Keeping Track* produced similar findings (Gamoran & Berends, 1987; Ireson & Hallam, 2001; Rosenbaum, 1976). In a meta-analysis of 29 tracking studies, Slavin (1993) concluded that tracking has no impact on

academic achievement for any group, and given the possible negative social repercussions for students, suggested schools strongly consider detracking.

Burris and Welner (2005) conducted a study of a suburban district in New York that detracked its students by offering the highest levels of curriculum to all students and found that achievement gaps narrowed. Only 32% of African American or Hispanic students who started high school before detracking earned Regents in 2000, while 88% of white or Asian American graduates earned Regents diplomas during that year. Three years later, 82% of African American or Hispanic students who had progressed through the detracked high school earned regents diplomas, while 97% of white or Asian American students earned the diploma.

While these studies about tracking seemed to indicate that removing tracking was beneficial, there are other studies that showed that tracking helped students. Kulik (1992) conducted a meta-analysis of tracking studies and concluded that tracking programs generally come in three different forms, which:

> (a) group students by aptitude but prescribe a common curriculum for all groups;
>
> (b) group students by aptitude and prescribe different curricula for the groups; and
>
> (c) place highly talented students into special enriched and accelerated classes that differ from other classes in both curricula and other resources. (p. xv)

Students in the first program benefitted marginally from tracking, while those in the second program benefitted more and the students in the program containing highly talented students benefitted greatly (Kulik, 1992; Kulik & Kulik, 1992). The findings also indicated that there were no ill effects on students' self-esteems (Kulik & Kulik, 1992). As a result of these findings, Kulik (1992) and Kulik and Kulik (1992) suggested that

detracking would be very harmful to the American education system. These concerns are similar to those voiced by Rees, Argys, and Brewer (1996), who conducted an analysis of the National Educational Longitudinal Study of 1988 and found that high achieving students who were detracked saw their achievement scores fall by approximately 8.4%.

More recently, Duflo, Dupas, and Kremer (2009) conducted a study of 121 elementary schools in Kenya where they found similar benefits of tracking. Students in 61 randomly selected schools were placed into classes based on prior academic achievement, and in the other 60 schools, students remained heterogeneously mixed. All students in the tracked classes benefitted from the arrangement, scoring 0.18 standard deviations above their non-tracked counterparts (Duflo et al., 2009). Interestingly, Duflo et al. (2009) also indicated there seemed to be an impact on teachers as evidenced by improved attendance rates and a seemingly greater level of effort by those teachers working in the schools with tracking.

Lovelace (2009) conducted a study of 128 middle schools in Massachusetts, a state in which a great deal of detracking had taken place. Interestingly, the schools detracked in almost all areas with the exception of mathematics classes. Students in schools with more track levels had significantly more pupils performing at the advanced and proficient levels on the mathematics portions of the Massachusetts Comprehensive Assessment System test and fewer students at the needs improvement and failing levels (Lovelace, 2009). These differences were not found in the other subject areas, which were largely detracked. Lovelace (2009) also found that high achievers performed at higher levels in tracked schools than those taking coursework in more heterogeneous

classes. Given these findings, Lovelace (2009) advised schools and policymakers to be cautious when considering detracking.

Chapter Summary

The first two research questions explored in this study were: 1) How do high school social studies teachers conceptualize academic rigor?; and 2) How do high school social studies teachers implement rigor in their classrooms? There have been numerous efforts to define (Blackburn, 2008; Wagner, 2008a) and measure (Matusevich et al., 2009; Williamson & Blackburn, 2010a) academic rigor, but scholars have come to little consensus about the nature of rigor. Academic rigor is composed of several other complex parts, such as high level thinking, student engagement, and student support, which make its study additionally complex. The number of empirical studies on academic rigor was also relatively low, despite the widespread use of the term "academic rigor." This was especially true in regards to the investigation on teachers' thoughts on rigor, with only the Bower and Powers (2010) study of elementary school teachers serving as a study that investigated how teachers conceptualize rigor and implement rigor in their classrooms. Thus, there are many gaps in the rigor literature which needed to be explored, especially in regard to academic rigor in high schools.

The third research question addressed in this study was: How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor? When districts use course titles such as Honors and College Preparatory, they engage in a form of curriculum differentiation, or tracking (Oakes, 1985; Slavin, 1993), which some scholars also equate to differentiation in levels of rigor (Burris & Garrity, 2008; Loveless, 1998). While there have been "tracking wars"

fought for decades about this practice (Hallinan, 2004; Loveless, 1999), scholars and practitioners have not come to a consensus about how tracking impacts students. Likewise, there has been little empirical investigation as to teachers' thoughts about rigor in these different courses.

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. This chapter provided a review of the literature on rigor, its components, and tracking. Chapter 3 provides an overview of the methods used to conduct the study, including information about the setting of the study, how data was collected, and how data was analyzed.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. Thus, this study examined the following research questions:

1. How do high school social studies teachers conceptualize academic rigor?
2. How do high school social studies teachers implement rigor in their classrooms?
3. How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor?

Given the nature of these lines of inquiry, the researcher chose to use a qualitative case study as a vehicle with which to investigate teachers' thoughts on these topics.

This chapter provides an overview of the research design and methodology used in the case study. An overview of the rationale for the use of a qualitative case study is presented and then a profile of the setting and a description of the participants. The data collection methods, including interviews, observations, and document analysis used in the study are reviewed. Next, details about the data analysis methods, including attempts at increasing the trustworthiness of the data and a general overview of the methods used

in the study, are examined. The final section of the chapter provides information about how the researcher acted ethically while conducting the study.

Design of Study

Rationale for qualitative methods

Denzin and Lincoln (2011) suggested that qualitative researchers "study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them" (p. 3). The goal of this study was to investigate how teachers think about academic rigor (a phenomena), and how they ultimately implement rigor in their classrooms (natural settings). Thus, this view of qualitative inquiry's aim matched the task of investigating how high school social studies teachers conceptualized rigor and implemented it in their College Preparatory and Honors classes.

Some of the characteristics of qualitative research were useful to explore further this fit between qualitative methods and the exploration of academic rigor. Merriam (1998), for example, outlined five key characteristics of qualitative research. The first was that qualitative research focused on how people construct meaning of their worlds. As this study explored how high school social studies teachers conceptualized and implemented rigor, it in fact sought to contribute to the understanding of how teachers give meaning to the term "academic rigor" and how that conceptualization impacts their practices.

The second characteristic of qualitative research was that the researcher serves as the primary method of gathering and analyzing data (Merriam, 1998). The goals of the study made using quantitative instruments, such as surveys or questionnaires less effective than qualitative methods such as interviews and observations. Trying to

understand how teachers conceptualized a construct such as academic rigor necessitated open ended questions. Likewise, observations in the field brought a more robust understanding of rigor than if it were studied in a laboratory setting. Merriam (1998) suggested that this kind of fieldwork is the third essential characteristic of qualitative inquiry.

Because there were few studies about how teachers conceptualize rigor, and no universal definitions of the term, there were few, if any hypotheses to test. Thus, an inductive approach to research was more appropriate for investigating this topic, which was consistent with the fourth characteristic of qualitative research (Merriam, 1998). Patton (2002) explained that an inductive approach often starts with general observations and moves toward examining patterns and building categories, rather than starting with a hypothesis and then testing to see if it holds true. The fifth and final characteristic of qualitative research was that it is richly descriptive (Merriam, 1998). This study sought to understand how teachers think about academic rigor, and thus data such as detailed quotations from interviews, observations, and documents further framed the meanings gained from the data. This rich descriptive data were instrumental in attempting to construct meaning about rigor.

Type of qualitative design

This study was a qualitative comparative case study. Yin (1994) described case studies as an ideal method by which to investigate "how" or "why" questions, and for when the researcher is investigating a phenomenon in a real-life context. The research questions in this study all focused on "how" teachers conceptualized and implemented academic rigor, and thus a case study was an appropriate method for this inquiry.

The phenomenon explored in this study was academic rigor, and it was explored in social studies teachers' classrooms, which are real-life contexts.

Scholars have suggested that cases are bounded systems, or that some sort of boundaries exist that delineates the case (Merriam, 1998; Stake, 2000). In this study, a case was defined as social studies teachers at Edgewater High School who taught both College Preparatory and Honors classes. Thus, there were a limited number of teachers who fit these criteria, and the number of teachers who fit the criteria could vary from year-to-year depending on the school's master schedule based on student enrollment patterns and other variables that are involved with building a master schedule that is balanced. For example, during the semester in which this study took place, there were four teachers who met these criteria, and thus there were four cases. However, because the student population at Edgewater could change, or social studies courses could be distributed to teachers in different ways, the number of teachers meeting the selection criteria could change from year-to-year. Because of this fluid nature of teacher assignments, this case study was also bound by context and time.

The goal of comparative case studies "is to discover contrasts, similarities, or patterns across the cases" (Campbell, 2009, ¶ 1). Yin (2003) suggested that these types of case studies involve a form of replication where the researcher uses the same procedures on multiple cases. Because the research on teachers' thoughts about academic rigor is so limited, this study sought to first investigate academic rigor by examining each of the four teachers (or cases) individually to address the research questions. The same procedures were used to investigate each case. However, to determine if there were any overarching themes between the cases, a comparative case design was used.

The individual cases were compared to examine the data for similarities, differences, and patterns across cases.

Conceptual Framework

The research in this study was conducted through an interpretivist lens. Specifically, this study was framed by constructivism as described by Lincoln and Guba (Guba & Lincoln, 2005; Lincoln & Guba, 1985; Lincoln, Lynham, & Guba, 2011). According to Lincoln, Lynham, and Guba (2011), the aim of constructivism is "to understand and interpret through meaning of phenomena (obtained from the joint construction/reconstruction of meaning of lived experience); such understanding is sought to inform praxis (improved practice)" (p. 106). This definition implies that the ontological stance of constructivism is one of relativism, or the belief that multiple realities exist. Likewise, these realities are co-constructed socially by those in the setting and those who are studying it. Embedded within the constructivist paradigm is an axiological belief that the inquiry is value-bound, or that the inquirer's beliefs influence the inquiry (Lincoln & Guba, 1985).

The focus of this study was on the thinking and actions of teachers in regards to academic rigor. Specifically, it examined how teachers conceptualize and implement rigor, a concept that has no clear definition in practice or in the academic literature on rigor. Thus, using a constructivist stance allowed the researcher and teachers involved to co-construct knowledge about rigor specific to the context of the research site (Guba & Lincoln, 2005). Likewise, this co-constructed knowledge led to insights that will hopefully improve practice through rigor.

This study also relied on the work of Blackburn (2008) to inform this constructivist framework. Specifically, this study examined rigor through the three dimensions of academic rigor outlined by Blackburn (2008): the expectations that teachers hold of students, the support that teachers offer their students, and student outcomes involved from rigorous work. These dimensions of rigor served as foci for the interviews and observations conducted during this study, serving as a framework in which to pose questions about rigor to aid in the construction of knowledge about this concept.

Background of the Study

Setting

The site of the study was Edgewater High School (a pseudonym), which was a school situated in a large suburban district in Georgia that served over 165,000 students and was located approximately 40 miles from a large metropolitan area. The first reason that this site was chosen was because it allowed the researcher easy and continual access to the study participants. To conduct research at this site, the researcher sought permission from the school's principal, who granted the researcher permission to conduct the study. In addition to ease of access, Edgewater was also large enough to provide an ample pool of social studies teachers who were teaching College Preparatory and Honors level courses simultaneously. Edgewater had a diverse student body of approximately 3000 students, 44% of whom received free or reduced lunch. The race and ethnicity breakdown of the student body of Edgewater High School is reported in Table 3.1.

Table 3.1

Racial and ethnicity breakdown of Edgewater High School's student body

Race/ethnicity	Percentage of student body
Asian*	12%
Black/African American*	25%
Hispanic or Latino, *any race*	21%
Multiracial, *two or more races**	5%
White*	36%

**Not Hispanic or Latino*

Note: These values do not add up to 100% due to differences in rounding.

Edgewater High School was also home to approximately 150 teachers, 19 of whom worked in the Social Studies Department.

The overall time period planned for data collection was 12 to 15 weeks near the beginning of an academic semester. During this time, the researcher gathered data in classrooms while actual instruction took place, and also conducted interviews with teachers at times when they were not in class with students. Because of the ease of access to this site and the study participants, the researcher had a great deal of flexibility if more time was needed.

Sampling strategy

Criterion sampling was used to select the participants for this study. The criteria were as follows: 1) the teacher must have taught in the Social Studies department; 2) the teacher must have taught both College Preparatory and Honors courses in the same subject (i.e., United States History, Economics, etc.); and 3) the teacher had to agree to

participate in the study. Those who met these three criteria made up the cases to be studied.

For this study, social studies teachers were the subject of inquiry for several reasons. First, because of the apparently complex nature of rigor, the researcher hoped to simplify data collection by observing this phenomenon in a familiar context. The researcher's training was in the social sciences, which allowed immediate familiarity with the curriculum, pacing, and assumptions of the courses taught in the classrooms of the teachers in this study. Secondly, the course offerings in the Social Studies Department comprise one of the core areas (along with science, language arts, and mathematics) in which all students take required coursework in the state of Georgia. Because of the large number of students taking courses in social studies, there was an ample pool of teachers who fit the selection criteria.

Data Collection

This study primarily used data collected from three sources: participant interviews, classroom observations, and the examination of documents. The researcher also used field notes collected during observations and interviews as a source of data. These methods provided multiple data sources to examine teachers' beliefs and practices surrounding academic rigor. Table 3.2 outlines activities used for gathering and analyzing data during this study.

Table 3.2

Research activities used during study

Research activity	General description	Timeline
Initial semi-structured interviews	Each teacher participated in a 45-60 minute interview about their thoughts about rigor, support, and expectations	4-5 weeks
Gathered documents from teachers	Each teacher provided copies of tests, syllabi, and student assignments for analysis	Provided at time of interview
Classroom observations	Each teacher was observed twice for 50 minutes; one observation took place in a College Preparatory class and the second was in an Honors class	4-5 weeks
Follow up interviews with teachers about observations and documents	Each teacher participated in an interview that provided details on questions that arose out of classroom observations and/or document analysis	4-5 weeks

Using multiple qualitative methods also served as a form of triangulation, which served as a way of improving data quality.

Interviews

To address the first research question regarding how teachers conceptualized academic rigor, the researcher conducted semi-structured individual interviews with each participant using an interview guide. Patton (2002) suggested that this approach allows the interviewer more freedom to "build a conversation within a particular subject area, to

word questions spontaneously, and to establish a conversational style but with the focus on a particular subject" (p. 343). The interview guide used open questioning, a technique designed to elicit rich detailed responses (Roulston, 2010). The following are examples of the "open" nature of the items on the interview guide: 1) "Describe a rigorous classroom." 2) "Discuss the role of expectations in the classroom." and 3) "What does support look like?" The full protocol used for these interviews can be found in Appendix A. These interviews lasted between 45 and 60 minutes each.

There was also a second round of interviews with each participant following classroom observations. The nature of these interviews was also semi-structured, with questions varying with each participant depending on the data collected earlier in the study. Merriam (1998) suggested that a general list of questions or issues can be used in semi-structured interviews, giving the researcher flexibility as to the wording and order of the questions. The goal of these interviews was to clarify any data the researcher collected during the first interviews, during the classroom observations, and through document analysis (e.g., tests, syllabi, student assignments) to try to seek understanding about the mental processes teachers used during instruction, classroom activities, or during the construction of the documents.

Observations

In addition to participant interviews, the researcher conducted classroom observations in each participant's classes. Merriam (1998) stated that an observation is a "particularly helpful strategy for understanding ill-defined phenomena" (p. 96) and also pointed out that an observation can serve as a reference for later interviews. Because of the lack of agreement as to the meaning of "academic rigor," observations and

subsequent interviews were useful sources of data to help understand how teachers implemented rigor in their classrooms, which was the focus of the second research question. As the researcher observed actual lessons that the participants taught their students, these observations were non-participatory in nature.

The researcher conducted two observations of each participant. The first observation took place in a College Preparatory class, while the other was conducted in an Honors class. The observations were paired, so the researcher conducted both observations during the same day. The observations lasted approximately 50 minutes each, or the rough equivalent of a full class period. Data were gathered using a tool developed by Zepeda (2012a), which focused on teacher questioning and student responses to questions. The tool allowed the researcher to capture the wording of the questions, and then rate the level of Bloom's Taxonomy at which the teachers asked the questions. Blackburn (2008) suggested that the level of responses students provide and that are accepted by teachers are as important as the questions that teachers ask. Thus, the researcher added a column to the tool to not only allow the researcher to capture the responses given by students, but also rate the level of Bloom's Taxonomy at which the students responded (Zepeda, 2012a). The tool used to collect data during classroom observations can be found in Appendix B. The researcher also recorded field notes during the observations, and expanded the field notes after each pair of observations was complete. The field notes gathered from classroom observations served as the basis for some of the questions in the second interviews.

Document analysis

Merriam (1998) pointed out that "documents of all types can help the researcher uncover meaning, develop understanding, and discover insights relevant to the research problem" (p. 133). As another aspect of data triangulation, the researcher examined two of each teacher's unit tests, one from a College Preparatory class and one from an Honors class. Likewise, the researcher examined course syllabi from each level of course. Finally, student assignments from each teacher's College Preparatory and Honors classes were analyzed.

The analysis of the participants' documents included a two-step process. The researcher coded the documents and compared the documents used in College Preparatory and Honors level classes, making notes about any differences. Using these reflective notes, the researcher sought further meaning from the documents by asking for clarification during the post-observation interviews with the teachers who generated or used the documents in question. Sample questions included: 1) "Which question on this test is most rigorous? What makes it so?" 2) "Explain your process of constructing a test." and 3) How would you explain the differences between this College Preparatory test and this Honors test?" The data from observations and artifact analysis were used to address the second and third research questions about how rigor was implemented and whether there was a difference in how teachers conceptualized the implementation of rigor in College Preparatory and Honors classes.

Field Notes

The final data source for this study was the collection of field notes gathered by the researcher during observations and interviews. During this study, the researcher

sought to take notes that were as descriptive as possible. Bogdan and Biklen (2003) described descriptive field notes as the researcher's effort to capture what happened in the field as objectively as possible. The researcher also kept reflective notes during this study. Reflective notes are used to "speculate about what you think you are learning, what you are going to do next, and what the outcome of the study is going to be" (Bogdan & Biklen, 2003, p. 114). These reflective notes often served as the basis for follow up questions during the second round of interviews with the participants.

During interviews and observations, the researcher primarily used field jottings to record data that were gathered during interviews or observations (Bernard, 2006). These short but descriptive notes were designed to capture data involving aspects of the study such as the physical setting, dialogue, accounts of particular events, and depictions of activities (Bogdan & Biklen, 2003). After the interviews or observations, these notes were expanded to add more details so that they could be coded and analyzed. The researcher then made reflective notes to preserve thoughts about the data and further avenues to pursue.

Data Analysis

The goal of qualitative analysis is for the researcher to transform data into findings (Patton, 2002). By collecting, analyzing, and interpreting the data, the researcher worked to convey the meanings of the data collected from the participants of this study. The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor" and how they implemented rigor in their classrooms. Given this purpose, it was necessary to use an inductive approach to data analysis in an attempt to seek meaning from the data. Generally this approach

involves beginning with specific data and building toward general patterns. In this process, "categories or dimensions of analysis emerge from open-ended observations as the inquirer comes to understand patterns that exist in the phenomenon being investigated" (Patton, 2002, p. 56).

In this study, the researcher gathered specific data from interviews, observations, document analysis, and field notes. The data for each case was then analyzed using the constant comparative method (Boeije, 2002; Glaser, 1965; Maykut & Morehouse, 1994). Categories, or themes, within each case emerged through this analysis, which resulted in individual case findings. The researcher then conducted a cross-case analysis, comparing each case with the other cases. Cross-case categories emerged out of this analysis, resulting in cross-case findings that highlighted themes that emerged across cases.

Constant Comparative Method

Transcripts, field notes, and other data were coded and then analyzed using the constant comparative method (Boeije, 2002; Glaser, 1965; Maykut & Morehouse, 1994). As Glaser (1965) noted, "the constant comparative method is concerned with generating and plausibly suggesting (not provisionally testing) many properties and hypotheses about a general phenomenon" (p. 438). In this case, this study explored the phenomena of academic rigor as conceptualized and implemented by high school social studies teachers.

The researcher gathered data through interviews, observations, document analysis, and field notes. The first stage of analysis involved taking the specific data gathered from the participants and breaking it up through a process of coding. As data were collected, the researcher transcribed and later coded the data using open coding.

Open coding involved examining each line of data and providing it a descriptive code, or label (Strauss & Corbin, 1990). Lincoln and Guba (1985) referred to this process as unitizing the data. Table 3.3 depicts an excerpt from the first stage of the data analysis for one of the participants, Barry Randis.

Table 3.3

An example of open coding of data from Barry Randis

Raw Data (from interviews, observations, and document analysis)	Open Code	Code Properties
… look at the broad scheme here, what's the content, so we do that stuff and I really try to push them on analyzation… (Randis, interview 1)	Bloom	The participant makes reference to a taxonomy, such as Bloom's Taxonomy; reference to a cognitive process; reference to levels of thinking

Open coding was used with the data from the initial interview with Randis. The code "Bloom" was applied to a piece of data in which the participant made a reference to "analyzation." Analyzing is one of the features of taxonomies, such as Bloom's Taxonomy, that are used to classify levels of thought.

After this first stage of coding was complete, the researcher then conducted a second stage of analysis designed to reorganize this data into categories or themes for each case. This involved axial coding, or grouping similar codes together into categories or themes (Strauss & Corbin, 1990). Maykut and Morehouse (1994) suggested that using "looks like" and "feels like" criteria is a way of developing these categories. As the researcher examined each unit of data, it was compared to other units of data. If the data were similar enough (i.e., it "looked like" or "felt like") to an existing unit of data, the researcher added the new data to the existing category. If the data were different from all

existing codes, a new category was created. This process resulted in a number of categories or themes within each case. Table 3.4 depicts an excerpt from the second stage of the analysis for Randis.

Table 3.4

An example of axial coding of data from Randis

Open Code: Bloom Code Properties: The participant makes reference to a taxonomy, such as Bloom's Taxonomy; reference to a cognitive process; reference to levels of thinking		
Data from interviews	Data from observations	Data from document analysis
… look at the broad scheme here, what's the content, so we do that stuff and I really try to push them on analyzation… (interview 1)	Reference to analysis of Martin Luther King, Jr. letter and "Twitter dig" during classroom observation (CP classroom observation)	In the landmark case of Engel v. Vitale the US Supreme Court ruled that school prayer was unconstitutional because it violated… (test item, identified as "rigorous")
I just gave them a blank copy of the letter without any type of a context clue or a context paragraph and they had to analyze it and interpret it and try to find a deeper meaning (interview 2)		Examples of World War I "video game" projects; students had to examine event, and answer Who? What? Where? When? Why? (artifact)
It has to do with... school prayer and these references and inferences, and the students have to come back and know and understand which of them is in the Constitution. (interview 2, description of why question on test is rigorous)		
… projects are usually a good rigorous assessment (interview 1)		
Axial Code: Rigor involves analysis and synthesis. Theme: Implementing rigor involves analysis and synthesis.		

Because the data analysis was ongoing during this study, the researcher began to notice that the code "Bloom" had been applied to several pieces of data from Randis. All these instances were grouped together through axial coding. The common theme emerging from the data involved the cognitive processes of analysis and synthesis. Thus, the coding resulted in the theme: Implementing rigor involves analysis and synthesis.

The final stage of analysis involved comparisons across cases. Having developed several categories within each case, the researcher then compared categories between cases. Again the researcher used "looks like" and "feels like" criteria to guide this process. Several cross-case categories emerged from this comparison, resulting in cross-case findings. Figure 3.1 illustrates the final stage of data analysis.

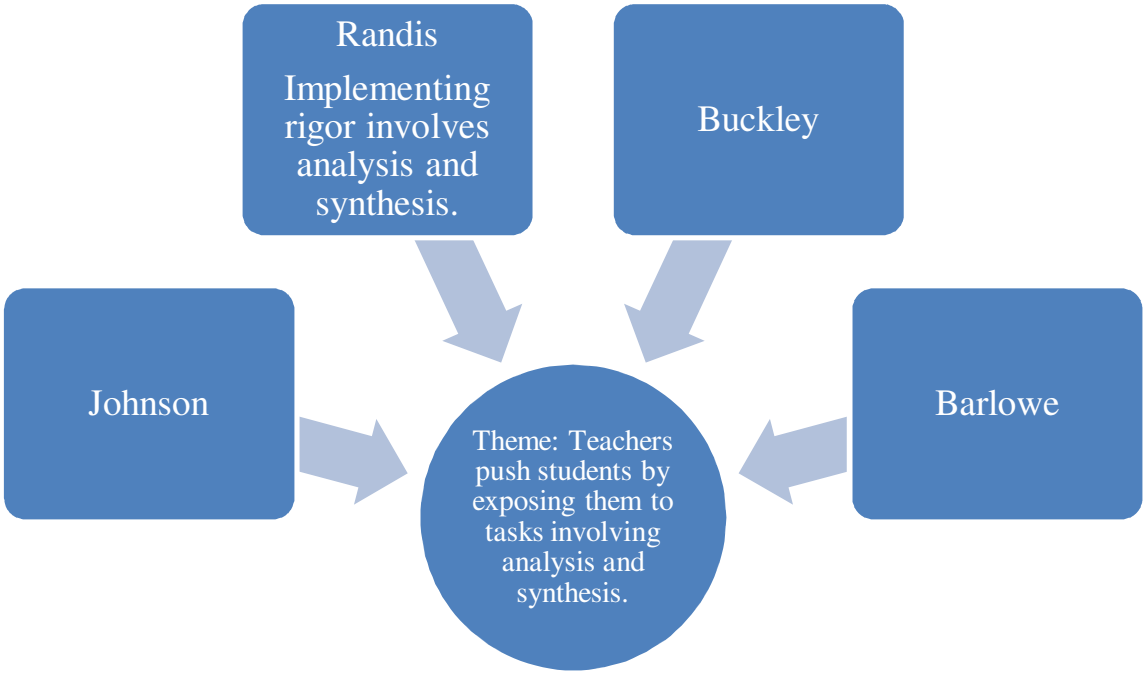


Figure 3.1

An illustration of the final stage of data analysis

In the cross-case analysis, the constant comparative method was used to look for patterns across cases. In this example, the theme emerging from the Randis case was

compared to themes that emerged from the other participants, resulting in a cross-case theme: Teachers push students by exposing them to tasks involving analysis and synthesis. The cross-case themes that emerged during the analysis were considered findings. More information about the findings from this study is presented in Chapter 4.

Data Trustworthiness

Lincoln and Guba (1986) proposed four concepts to move toward trustworthiness in qualitative data: credibility (roughly associated with the positivist concept of internal validity), transferability (roughly associated with external validity), dependability (roughly associated with reliability), and confirmability (roughly associated with objectivity). Several efforts were made to establish trustworthiness in the data throughout this study, with focus primarily on credibility and dependability.

To address credibility, this study used triangulation of data sources, in which data were collected from interviews, observations, and document analysis. This use of multiple sources within qualitative methods served as a check for consistency, and thus was an effort to strengthen the credibility of the study (Patton, 2002). Merriam (1998) suggested that triangulation of this sort also strengthens dependability. Throughout the study, the researcher also periodically discussed the data with both the participants and a peer who worked at the research site. These two strategies, member checking with the participants and peer debriefing, have been identified as ways to strengthen credibility (Lincoln & Guba, 1986; Merriam, 1998).

In addition to these efforts to address credibility, there was also attention paid to transferability. Scholars suggest that using thick descriptive data will strengthen transferability (Lincoln & Guba, 1986; Merriam, 1998). The interview protocol used

open-ended questions, which have been shown to yield more descriptive answers (Roulston, 2010). These questions were reviewed by peers, and modified to be more open ended, before being tested in a pilot study. In the field test of the interview protocol, the researcher used the interview protocol with three teachers. During these interviews, several probes that elicited very descriptive answers emerged. Likewise, after the interviews, the researcher asked the teachers questions about the clarity of the interview protocol. This input, as well as the probes that emerged during these pilot interviews informed the final interview protocol that was used in this study.

Reflexivity and Ethical Considerations

Patton (2002) suggested that "qualitative inquiry may be more intrusive and involve greater reactivity than surveys, tests, and other quantitative approaches" (p. 407). With this in mind, the final section of this chapter first explains how the researcher was situated within this study. This section serves as an exercise in reflexivity or a statement of self-awareness where the researcher takes ownership of his own perspective (Patton, 2002). This process was important to this study because "the integrity of one's interpretation is tied directly to reflexivity" (Markham, 2008, p. 266). The second portion of this section outlines the ethical considerations the researcher made while conducting the study, including considerations of the benefits and risks to the participants and how the researcher protected the participants.

Reflexivity

The researcher has been an educator since he began as a teacher in 1995. After teaching high school students from the lowest remedial levels to the highest Advanced Placement levels for ten years, the researcher became an assistant principal in hopes of

improving the quality of education students receive. Throughout his career, the researcher developed a belief that most schools generally do not challenge students enough to properly prepare them for their lives beyond high school. Thus, the researcher spent much of his professional time examining classrooms with the hopes of assisting teachers to improve their instruction through rigorous practices. The researcher believed that high schools need to be more rigorous, and had to be conscious of this belief so it did not interfere with efforts to collect accurate data during this study.

Being a school leader provided the researcher access to the classrooms and materials needed to conduct this study. However, as a practicing administrator, the researcher also had an interest in helping teachers and improving schools. Because of being situated in this manner, the researcher had to be conscious of this dual role – one of administrator and one of researcher. Patton (2002) suggested that during qualitative research "it is common for interviewees to ask for advice, approval, or confirmation" (p. 405). The researcher was conscious of this throughout the study, and attempted to remain focused on the purpose of the study by purposefully assuming the role of a researcher rather than that of an administrator.

Ethical considerations

Because of the researcher's position as an assistant principal, there were also special ethical considerations made to ensure the safety of the participants during this study. The first consideration involved minimizing the risks of the participants. While this study did not bring material benefits to the participants, it is hoped that they benefitted from the discourse with the researcher and any reflection on practice they may have experienced during the study. As far as risks are concerned, the interviews took up

some of the participants' personal time either during their planning periods or some time outside of school hours. The researcher was mindful of this and worked with the participants to minimize the impact this lost time might have on their own professional effectiveness and wellbeing. However, because the researcher did not ask teachers to deviate in any other way from their normal professional responsibilities, there were no significant risks for those involved in this study.

The second consideration involved ensuring that the participants' identities and responses during the study were kept confidential. Any identifying information gathered during the study was removed, and pseudonyms were used for all participants and the location of the study. Transcripts, notes, and other data were stored electronically on a password protected computer. The researcher only discussed each participant's data with the participant, and with the peer with whom the researcher debriefed. The findings were also shared with the researcher's doctoral dissertation committee.

Chapter Summary

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. This chapter provided an overview of the research design and methodology used in this study. Specifically, the data collection methods and analysis techniques used in this study were explained. Chapter 4 provides an overview of the findings that

emerged from the data gathered during this study using these data collection methods and analysis techniques.

CHAPTER 4

FINDINGS

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. Thus, this study examined the following research questions:

1. How do high school social studies teachers conceptualize academic rigor?
2. How do high school social studies teachers implement rigor in their classrooms?
3. How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor?

Given the nature of this line of inquiry, the researcher chose to use a qualitative comparative case study as a vehicle with which to investigate teachers' thoughts about rigor.

The goals of comparative case studies are "to discover contrasts, similarities, or patterns across the cases" (Campbell, 2009, ¶ 1). In this study, cases were defined as social studies teachers at Edgewater High School who taught both College Preparatory and Honors classes. This study had four teachers who met these criteria and who agreed to participate in the study. During the course of the study, the researcher gathered data from participants through qualitative interviews, classroom observations, and artifact

collection. The data were analyzed using the constant comparison method, which yielded a number of themes that cut across cases.

This chapter first presents an overview of the context in which the study took place, including profiles of Edgewater High School, Edgewater's Social Studies Department, and the four participants who participated in the study. Next, the chapter includes the findings and analysis of the data, which was derived from participant interviews, classroom observations, and document analysis.

Profiles of the School and the Social Studies Department

Edgewater High School

The site of the study was Edgewater High School, which was a school situated in a large suburban district in Georgia that served over 165,000 students and was located approximately 40 miles from a large metropolitan area. Edgewater had a diverse student body of approximately 3000 students, 44% of whom received free or reduced lunch. The race and ethnicity breakdown of the student body of Edgewater High School was: 36% White, 25% African American, 21% Hispanic or Latino (any race), 12% Asian, and 5% Multiracial. Edgewater High School was also home to approximately 150 teachers, 19 of whom worked in the Social Studies Department.

Students at Edgewater High School were typically enrolled in six classes, five of which were approximately 50 minutes in duration. Students' fifth period classes were longer, each being comprised of a 50 minute class, an advisement time where students could get additional academic help or counseling services, and a lunch period. Students were enrolled in a curriculum at three different levels, which were (from lowest level to highest level): College Preparatory, Honors, or Advanced Placement (AP). Students who

were identified as gifted could also take some courses specifically designed for gifted learners. These courses required teachers to hold special training designations commonly known as gifted endorsements.

Edgewater's Social Studies Department

The Social Studies Department at Edgewater High School included 19 teachers, 18 of which worked full time. A full time teacher's schedule consisted of five classes and one planning period, while a part-time teacher's schedule was comprised of three classes. Four of the department's teachers were female, and all 19 teachers were White. Overall, the Social Studies Department was a veteran staff, with the average years of teaching experience being 17.5 years.

Two department chairs provided leadership for the Social Studies Department. The department was also made up of several course teams, which were collaborative groups comprised of teachers who taught the same subject. These groups met periodically to plan collaboratively, to create common assessments, and to discuss any ongoing issues related to their subject areas.

Participant Profiles

Frank Barlowe

Frank Barlowe was in his 11th year of teaching. He had been at Edgewater High School for seven years, and previously taught at a middle school for the other four years. Barlowe held a Bachelor's Degree in Social Science Education, a Master's Degree in Social Studies Education, and Specialist in Education Degree in Gifted Education. He was certified to teach all Social Studies courses in Georgia, held a gifted endorsement, and was also trained to teach Advanced Placement (AP) US Government and Politics.

During the study, Barlowe taught two classes of College Preparatory World History, one class of Honors World History, one class of College Preparatory Political Systems, and one class of Honors Political Systems.

Harold Buckley

Harold Buckley was in his 15th year of teaching. He had been at Edgewater High School for 10 years, and spent the other years teaching at another high school. Buckley held a Bachelor's Degree in Social Science Education, a Master's Degree in Health Studies, and a Specialist in Education Degree in Pedagogy of Coaching. He was certified to teach all social studies courses in Georgia. During the study, Buckley taught two classes of College Preparatory World Geography, two classes of Honors World Geography, and one class of College Preparatory Economics.

Alan Johnson

Alan Johnson was in his 25th year of teaching. He had been at Edgewater High School for 14 years, and spent the previous years teaching at several different high schools. Johnson held a Bachelor's Degree in Economics, and he completed post baccalaureate work to earn a second degree in Social Studies Education. He was certified to teach all social studies courses in Georgia. Johnson also held a gifted endorsement, and received training to teach AP Macroeconomics. During the study, Johnson taught two classes of College Preparatory Economics, one class of Honors Economics, and two classes of AP Macroeconomics.

Barry Randis

Barry Randis was in his third year of teaching, and he had been at Edgewater High School for all three years. Randis held a Bachelor's Degree in History, a Master's

Degree in the Art of Teaching, and he was also enrolled in coursework to complete a Master's Degree in History. He was certified to teach U.S. History, World History, and Political Science. During the study, Randis taught two classes of College Preparatory U.S. History, one class of Honors U.S. History, and two classes of College Preparatory World History.

Teachers' Conceptualizations of Academic Rigor

Two cross-case themes emerged from the data involving the first research question: How do high school social studies teachers conceptualize academic rigor? The first theme was "Academic rigor is pushing students' thinking outside their comfort zones so they can grow." The second theme was "Before rigor can occur, there must be a lower level foundation on which to build." Each of these themes is presented along with relevant data to illustrate the findings.

Academic rigor is pushing students' thinking outside their comfort zones so they can grow

When asked to describe the nature of academic rigor, the participants often described an environment in which students were "pushed" or "challenged" to think at higher levels. For some participants, this pushing or challenging meant thinking at higher levels on Bloom's Taxonomy. Some also felt like challenging students to do more meaningful work leads to more rigorous experiences.

Buckley perhaps captured this sentiment most succinctly when he described how his thoughts about rigor had changed over the course of his 15-year career:

> I think when I look back at what I used to think rigor was… it was doing a lot of stuff. Like keeping my kids constantly doing things. I think as I've gotten more

> into my career I've learned that rigor is really about pushing kids to think on their own. Like it doesn't have to mean that they're doing more stuff, they have to be doing more meaningful stuff.

Buckley further elaborated on this "pushing" by suggesting that rigor is "really just trying to push them to not just memorize things." Instead of focusing on memorization, he believed that the goal of a rigorous class should be to push students to synthesize information into a "greater story." Buckley stated that "in Social Studies I think the most important thing is the story. You know, it's putting all the pieces together to one big story."

To create rigorous classes, other participants also suggested that teachers must continue to push or challenge students to complete tasks that involve higher levels of thinking. For example, Barlowe defined rigor as "how academically challenged a student is in the classroom setting." Likewise, Randis stated that "rigor is defined as trying to create an environment of higher thinking." When speaking about rigor, Johnson echoed these sentiments by asking "are you challenging a student?" Johnson elaborated on the idea of challenging a student by stating that "the new type of rigor is that students have a ton of information at their fingertips right now. How can we get them to sift through it, apply it, and use it?"

The participants often felt that students become too comfortable in the lower level tasks such as "memorizing." Randis suggested that teachers must find ways to tell if students are too comfortable, and then to push them:

> Once you see a class start to you know, easily offer up those prearranged question and answers, then I think a teacher can press a little bit more and then you start to

> see a little bit more of that, um, academic rigor take place… which would be like a higher thinking, really, where they're starting to get a little more complex questions and answers and asking questions in return… it becomes a general dialogue.

Likewise, Johnson stated that in his experience, high school students can get comfortable taking multiple choice tests filled with low-level questions. He stated that to be more rigorous, tests should have many different types of questions designed "…to push them out of their comfort zone a little bit." Barlowe echoed these sentiments when he suggested that the role of a teacher in a rigorous classroom often involves "trying to make sure that they're [students] not resting comfortably," and that rigorous classes challenge students in ways "they may not be comfortable with."

By taking students out of their comfort zones, the participants believed that they could help students grow, or become more sophisticated in their thinking. Johnson suggested the process of pushing and challenging students to create rigor is much like training for a race:

> I use this analogy all the time. I was a distance runner, and most of my life I was a coach. If I was to do the same workout over and over and over again, I'd get tired of it… and I would not progress. So I have to "up it" each time… to improve.

Some participants believed that growth was part of the expectations teachers should have for their students. This was illustrated when Buckley described how he conveys his expectations to students by stating that his expectations "are high for my students. I tell them that, and I say 'when you come in here, you're here to do something. You're here to grow. You're here to get better.'"

Throughout the interviews Randis shared student projects that illustrated this growth phenomenon. He charged students with creating a World War I video game or movie case where the students had "to take a topic and answer basic questions… who, what, where, why." Some students simply used bullet points to answer these questions, but Randis suggested that he saw others go beyond this and "kind of grow because they'll lay it out right here in some kind of narrative epic battle." Randis suggested that this type of project created opportunities for students to grow because they had a chance to synthesize information and "come up with unique, original ideas."

To help students grow in this manner, the participants felt that they must first find out where students were in their thinking and behaviors, and then push them beyond that level to grow. This sentiment was illustrated when Johnson described what rigor meant to him:

> …rigor pretty much means are you challenging a student? Once you get the idea of where they're at… what their knowledge is… then can you step it up a little bit? Can you move them in their thought process not to just memorize something, but to say, 'Okay, now can I apply this?'

Johnson at times referred to the process of determining where students were in their knowledge and thinking as finding a "baseline."

The concept of finding a baseline played out during observations in Johnson's classroom. During the study, the researcher conducted a classroom observation of one of Johnson's Honors Economics classes, during which the students read a magazine article about oil and Johnson engaged students in a classroom discussion. When observing Johnson's College Preparatory class the same day, the students did not read the article or

have the discussion. When asked about the difference in approach, Johnson stated that he had gauged where the students were with regard to their readiness for the task. Johnson indicated that the students were not yet ready to read the article and to have a discussion. However, Johnson stated that a few days later they were ready, and thus, he was then able to challenge students to think at higher levels using the article.

Other participants also shared that to promote rigor, teachers had to monitor students' behaviors to find out where students were in their thinking, and when to challenge them. Randis, for example, suggested that he sought to find a "baseline" of where students were in their thinking by monitoring class participation. He suggested that if students were actively asking questions during class and showing a strong "work ethic," this was when he knew "to push more," and also shared that, "I usually get pretty good results when I'm able to push more."

Buckley suggested that he tries to find each student's "starting point" and encourage his or her growth from there. Buckley illustrated the starting point idea through his description of the differences he perceived in the writing abilities of students enrolled in College Preparatory and Honors classes:

> I think the biggest thing I can see the difference in is the writing ability a lot of times. But I still want to see their growth, you know, in both groups. You know, you're just not starting at the same point with those people. I mean, with any two students really. So, to me it's not really about anything other than growth. Like if you came in here and couldn't write a sentence, and by the end you can write a paragraph, then we've done something. And if you come in here and you can

write 6 pages, we might need to tone that down… how can I get this done in a page and a half, but still convey myself?

Barlowe also thought that teachers must recognize that students are in different places in their thinking and abilities. This feeling about his own classes was illustrated when Barlowe stated that he wanted to "challenge them and make sure that every student is getting the most of out of their learning environment, but I also do have to recognize that they're on different levels."

Before rigor can occur, there must be a lower level foundation on which to build

When asked about the nature of academic rigor, the participants often described prerequisites necessary for academic rigor to occur. For some participants, this meant exposing students to basic social studies content before asking them to think more deeply about certain topics. Others suggested that students had to learn basic skills such as note taking and organization before they could engage in higher level tasks. By laying these lower level foundations, the participants believed they could then use a "building" process to create a more rigorous classroom atmosphere.

The participants often felt that before they could push students to think at higher levels, they needed to first expose them to the social studies content at lower levels. Barlowe referred to this phenomenon as "initial acquisition of knowledge" or "knowledge acquisition." When asked to describe knowledge acquisition, Barlowe stated that knowledge acquisition often involved lower level tasks such as note taking, defining terms, and reading passages from the textbook. When asked to give an example of knowledge acquisition relative to a post World War I lesson observed during the study, Barlowe described knowledge acquisition by stating that "we did some note taking about

the end of World War I… and then I had students look through their books to identify some of the major themes after World War I." It was only after these "foundational" tasks that Barlowe then engaged them in some higher level activities.

Buckley felt that lower level tasks were necessary "grind work" to lay a foundation for more rigorous work. For example, when describing the preparation for a classroom discussion on Israel and Palestine, Buckley talked about having to do "the kind of grind work of explaining the issues and making your students listen and really get the facts first, but I think by doing that you can really expand their ability to think for themselves." According to Buckley, grind work could involve tasks such as note taking and "identifying places on a map." Likewise, Buckley felt that part of his role in creating a rigorous environment involved gauging his students' prior knowledge about a topic. Buckley described an example of a less rigorous foundational lesson as "giving them notes and they should be paying attention and asking questions, and giving me any prior knowledge they have about things."

Johnson talked about a similar approach and suggested that students must first learn "the basics" before being challenged or pushed. For example, when describing the work necessary to prepare students for a rigorous project, Johnson stated that "after you introduce the concept, they show on a quiz or whatever that they understand the basics… then you branch into the project." Johnson also felt that teaching students to organize themselves before getting into more complex topics helped students to be more successful when the class became more rigorous. Johnson's thoughts on organization were evident when Johnson talked about working toward "end goals" such as projects, unit tests, and the state End of Course Test (EOCT) in Economics. Johnson explained that

he tells students, “you have to organize your notes, you have to organize yourself… you’re organizing yourself for the end goal.”

Like the other participants, Randis also used strategies such as note taking as part of a “process” to prepare students for more rigorous work. However, he also felt that teaching students how to take notes was important as well. In an attempt to support students in this type of learning, Randis used note packets, which were general outlines of the material he wanted the students to learn and as a way of helping students learn to focus on the most important aspects of their notes. For Randis, teaching the students to take notes was an important part of working toward rigor, as illustrated when he stated that “getting them to start to categorize things on their own is always a process. You know, do packets, and then work into diagrams, into charts, and then having them make their own chart, and then on to general note taking.”

The participants suggested that these less rigorous tasks were an important part of “building” toward rigor. Buckley felt that these less rigorous tasks were a necessary part of an ongoing process designed to get the most out of students when he shared:

> You've got to have your... not to say lax days, but you have to draw back some days and really keep it from becoming constant, constant pushing. I don't think that's healthy for... especially for immature younger kids. I think they need to be pushed and then come back and find center again. And then be pushed again, and I think you get more growth that way.

Thus, for Buckley, promoting a rigorous environment involved balancing the lower level activities that students were perhaps more comfortable with those activities designed to push students out of their comfort zones.

The "building" process also involved taking less rigorous tasks such as note taking and defining vocabulary, and asking students to do more incrementally difficult tasks instead of pushing them to complete a higher level cognitive task immediately. During a classroom observation, Buckley used an electronic presentation software package called Prezi as a platform to present his notes. When asked about why he presented notes in this manner, he stated that it allowed him to "add rigor to the lesson." Buckley elaborated by suggesting that Prezi allowed him to embed video and audio clips for students during notes, which "draws them to some prior knowledge that they already had of the topic you're talking about, which might get them to engage in the class a little bit further."

During the course of the study, Barlowe gave his students the task of "illustrated definitions," which he identified as a process of taking a lower level activity and changing it slightly to make the activity more rigorous. This activity required students to first define designated vocabulary terms, and then they had to "create some kind of illustration or symbol" that showed some level of understanding of the concept being defined. Barlowe stated that compared to a regular vocabulary activity where students might "be just writing down what the book says," his illustrated definitions activity was designed at a "higher level where they have to apply knowledge."

According to Johnson, building toward rigor could also happen on assessments. Johnson described how he implemented rigor on a unit test by including true/false questions where students had to correct any false answers. While true/false questions were generally lower level questions, Johnson suggested that designing questions where students had to correct questions made them "more rigorous" because they had to ask

themselves, "Okay, what's going on here? Is this fact, fiction… opinion?" By creating opportunities for students to analyze questions further, Johnson believed he could push them more during assessments.

Some participants also suggested that teachers could move toward rigor more broadly by implementing lower level tasks that built incrementally across grade levels. Randis, for example, designed his note packets differently for his World History classes, which were taken by sophomores at Edgewater High School, and U.S. History classes, which were taken by juniors. While he designed the 10th grade packets "literally point by point… slide by slide," Randis stated that the packets for 11th grade students are more about "big ideas." By doing so, Randis believed he could "transition" students to a more rigorous environment across grade levels by helping guide them to identify "what they're supposed to look for and write about."

Johnson also held a more "macro" view of building toward rigor—one that cut across course levels. For example, Johnson suggested that "you want College Preparatory kids, as time goes on, to move closer and closer to what Honors [students] would be… and with your Honors that they would be moving towards an AP level." By building incrementally across a course, Johnson believed that when students finished the course, they would have "moved their thought processes," and be ready to then take the next level course.

How Teachers Implement Rigor in Their Classes

Three cross-case themes emerged from the data involving the second research question: How do high school social studies teachers implement rigor in their classrooms? The first theme was "To promote academic rigor, teachers act as

facilitators." The second theme was "Teachers build rigorous environments that are based on trust, intellectual safety, and meaningful interactions." The third theme was "Teachers push students by exposing them to tasks involving analysis and synthesis." Each of these themes is presented along with relevant data to illustrate the findings.

To promote academic rigor, teachers act as facilitators

As the participants discussed academic rigor, one of the areas on which they focused was on teacher behaviors. Specifically, the participants consistently spoke about how teachers tended to be more directly involved with students by guiding them more closely in lower level foundational work. However, to increase rigor in their classes, the participants often spoke of "stepping back" from this direct role into one as a facilitator. According to the participants, by assuming the role of facilitators, teachers allowed the students to become more self-guided in their work, while the teacher's role changed to one of providing support and guidance.

When asked about the role of the teacher in a rigorous classroom, Randis replied, "facilitator… if you want a one word description." Randis believed that as a history teacher, he first needed to "be a serious historian" that was familiar with the most recent scholarly works in the field. Likewise, Randis believed he needed to be proficient with the most effective and "diversified" teaching strategies. Randis stated that being adept in both historical content and pedagogy was important because he believed as a facilitator he serves as "the middle man between information and student."

To exemplify his role as a facilitator, Randis described his role in a "Civil War lab" he used with his U.S. History classes. Randis first introduced students to basic facts about the Civil War through lower level activities such as lecture and note taking. Once

students had a basic understanding of the topic, Randis then had a day where he and other teachers "brought in reproduction articles or artifacts so kids could get a 'hands on' experience and feel things." While students explored these artifacts, Randis answered their questions and in turn asked the students higher level thinking questions to link the artifacts back to the content of the course. Randis explained that by both answering student questions and then asking them higher level questions, he could work toward his goal of having students "understand a soldier's environment in the Civil War and the things they're in contact with and what they use."

Johnson also felt that one way to implement rigor in his classes was to become a facilitator. In many instances, Johnson stated that his teaching role was more direct when the students were first learning new content. However, as time went on, Johnson felt he could "drop back" and let the students engage in "real world" problem solving. Johnson described the dropping back idea when he stated that:

> If a topic is brand new, and they're struggling, you have to take center stage. But... there's a point where you have to move off, and be more of a facilitator and walk around. You can delegate and have people in a group activity or whatever, and you must have kids you can trust. They can facilitate within the group. And it takes some time to find students who can do that. But, basically you know when you have to be central, and when you have to fade back and let them do it a little bit. This is important because they're going to have to do work independently in the real world. And that's one thing that Economics has taught me a lot. That's what I'm getting at. As a facilitator... you know, when do I take center stage, when do I drop back and be a facilitator? Because it's tougher... it's more rigorous if you

look at it... if you facilitate and let them solve the problem. You're there to help them out, but you're not going to be their helicopter parent to come in and do all that.

Johnson thought the role of a facilitator was to "guide" students to the answer. By asking probing questions and acting as a sounding board to get students thinking at higher levels, Johnson believed that students would eventually have what he called an "ah-ha moment" when they arrived at the solutions without his direct influence. However, Johnson also stated that it was a challenge to determine just when to step back and assume the role of facilitator, and then when to step back to the forefront to instruct students more directly. Johnson credited his 25 years of experience in assisting him to know when to change roles, but acknowledged that he still "messes up sometimes."

Like Johnson, Barlowe also described the role of the teacher as constantly "evolving" to promote different levels of rigor. Barlowe used two terms to describe the changing roles of a teacher – "sage on the stage" and "guide on the side." Barlowe stated that during lower level "knowledge acquisition" activities he is typically "much more involved," a role that he designated as "sage on the stage." In the "sage on the stage" role, Barlowe explained that he often involved students in tasks such as taking notes or reading from the textbook. However, once Barlowe felt like students had the initial knowledge they needed to pursue higher level activities, he switched roles to a "guide on the side." As a "guide on the side" Barlowe acted as a facilitator to "clear up any questions" students had, and also posed questions to encourage students to think at higher levels.

As an example of how the dual role of "sage on the stage" and "guide on the side" played out in Barlowe's class, Barlowe described an activity from his World History

class involving the study of philosophy. As the "sage on the stage," Barlowe first exposed students to a group of philosophers through a "knowledge acquisition" lesson involving a lecture. After the initial lower level lecture, Barlowe then changed roles to the "guide on the side" by breaking students into small groups and asking them to compare the new philosophers students were learning about to Greek philosophers that the students had learned about earlier in the semester. Barlowe suggested that asking students to compare philosophers from different cultures encouraged them to "make judgments… so you can work your way up the higher order thinking scale." While students compared philosophers inside their small groups, Barlowe circulated around the room and asked students guiding questions to spur deeper discussion. By exposing students to different perspectives, Barlowe believed he could facilitate more rigorous discussions in class.

Buckley also saw facilitation as a way to increase rigor in the classroom. Buckley stated that he typically exposes students to factual information through a lecture as part of the preparation to engage students in more rigorous tasks such as a class discussions or debates. While Buckley felt like he was engaged in more direct instruction during the lecture, he saw himself as a facilitator during discussions. By asking questions, Buckley felt that he could help make students realize the complicated nature of many current social or political issues, and he could also guide the discussions to make them more relevant to students' lives. By facilitating discussions about questions for which there was not "a clear cut solution," Buckley felt like he could increase rigor in his classes and encourage students to think critically.

Relevance was an important part of rigor for Buckley. As part of his role as facilitator, Buckley stated that his goal was to make sure that Social Studies was

"meaningful" to students. Buckley suggested that "everything in the classes I teach… everything should be relevant to the big picture of the world. Everything we learn should be something to which you can apply in your own experiences in life." To illustrate the importance of relevance, Buckley described a lesson about Gross Domestic Product, a topic he felt students often saw as "boring." Despite this belief held by students, Buckley suggested that by facilitating a meaningful discussion, he was able to get his classes to understand why a student's relative lost his or her job, or why the students purchased different products.

To further illustrate his role as facilitator, Buckley also reflected on a class discussion he facilitated in World Geography about AIDS:

> You know we did this story in Geography about AIDS in Africa the other day. And it's about a bunch of horrible statistics. And you put that in perspective of 'OK, you don't live in that, you know? What if you did? Like, what do you think about the kids that are? What do you think about their future compared to your future?' It brings great discussion. I think that's the relevance… to get students to think, 'This is real. This isn't just some storybook.'

By asking guiding questions, Buckley felt that he could facilitate a more meaningful discussion, which encouraged students to think at higher levels. Buckley also felt that by being "pushed" in this manner, students were encouraged to take action and became more involved in these real world problems. For example, Buckley described one student who went on a mission trip to Africa, and came back to tell him, "Hey, you know… what we talked about in class was real. You know, I saw it."

Teachers build rigorous environments that are based on trust, intellectual safety, and meaningful interactions

While discussing rigor, the participants regularly referred to several environmental factors conducive to rigor. While the participants suggested that rigor involved pushing students out of their comfort zones, they also believed that to implement rigor, teachers first had to create environments that made students feel safe taking intellectual risks. To foster safe and trusting environments, the participants first worked to develop positive relationships with their students. Likewise, the participants also worked hard to implement rigor by making the content of their courses meaningful for students so that the students could make connections in class to their own lives.

When talking about implementing rigor in his classroom, Barlowe felt that before teachers could push students out of their comfort zones, students must first feel like they are in a safe and trusting environment. According to Barlowe, if students felt like they could be embarrassed or ridiculed during classroom interactions, they would not take the risks necessary to engage in higher level thinking. Barlowe suggested that "students have to first feel more comfortable in the classroom. Once that's done, then it will open them up to being more accepting of rigor."

To nurture a sense of comfort in class, Barlowe made efforts to offer students the support they needed when they responded to questions incorrectly, or did not perform well on assessments. Barlowe stated that "in a rigorous classroom students are challenged in ways they may not be comfortable with. You have to let them know that failure isn't necessarily a bad thing. You've got to support them." As part of supporting students, Barlowe felt that he had to give them additional chances to be successful on assessments

or during class discussions. For example, when a student responded incorrectly in class, Barlowe tried to lead them to the correct answer through questioning. Barlowe stated that he often asked students questions such as "How did you get to that point?" By asking questions to encourage students to analyze their own responses, Barlowe felt that he could lead them to the correct response, which built their confidence and made them more trusting of the teacher.

Barlowe also felt like teachers had to give students additional opportunities to learn content with which they struggled on tests. According to Barlowe, additional opportunities for students might involve allowing them to complete test corrections, or meeting with students one-on-one to review the test. Barlowe suggested that as part of the process of building trust, teachers should regularly engage in "self-analysis." When explaining self-analysis, Barlowe stated that if many students were struggling with a concept in his course, perhaps he did not convey the information clearly. If that was the case, Barlowe stated he and the students would "revisit that particular area and figure it out together." By being willing to admit his own shortcomings, Barlowe believed that he could build trust with students.

Johnson also felt that teachers had to build trust with students before pushing students to complete more rigorous tasks. Part of building trust for Johnson was providing models of test questions in class. For example, if Johnson planned to ask a higher level thinking question on a test, he stated that he would first model a similar question during class. Johnson explained modeling rigorous work by stating:

> I'll probably use a sports allegory. A good coach tries to simulate the game as much as possible. Situations in a game... whether it's football, basketball, soccer,

> whatever... you try to simulate the situation that the team is going to be in to so that they feel the pressure, you have to stretch the muscles, all that stuff. That's what I'm trying to do with rigor.

By modeling higher level tasks with his direct support, Johnson felt that students would learn how to complete these tasks in a non-threatening environment. After building students' confidence by supporting them during class, Johnson felt students were then more comfortable engaging with more rigorous questions on their own later. Johnson felt that this would build trust with the students.

To build a trusting environment, Buckley believed that he must convince students that his courses are not solely about earning grades. Instead, Buckley stated that he wanted his students to be focused on mastering the content of his courses. One way that Buckley tried to do this in class was through "test corrections." After students completed an assessment, Buckley often allowed them to go back over the standards with which they had difficulty, and then answer similar questions to see if they could score a higher grade. Buckley explained that this helped build an environment of trust in his class by stating that:

> I just try to encourage the students to go back over the material and learn it. That's the key… that's the important thing at the end of the day. I think that also goes a long way with building a rapport with the kids. I think that goes a long way toward getting students to trust you. They realize that this isn't really about the grade necessarily… it's about getting the concept we're studying, and then being able to get that grade at the end.

Buckley suggested that once he developed an environment of trust in which the students were more concerned about mastering concepts than their grades, he could then push them to think at higher levels and to take more risks in class. Buckley believed when students thought at higher levels and they were willing to take risks, the class became more rigorous for all students.

Like some of the other participants, Randis also allowed his students to perform test corrections. Randis explained his method of test corrections as one in which students had to "explain why their answer was wrong and what the correct answer is and turn those in to me." While Randis typically asked students to complete multiple choice questions on his assessments, students were often required to turn in their test corrections in essay format. Randis suggested that teachers had to "realize when the assessment is hurting students" and then "offer them support to overcome their difficulties" with assessments. By changing question formats for test corrections, Randis felt he could help students show mastery of the content in a different manner, and thus build their confidence. By supporting students through processes like test corrections, Randis believed he could give students a "comfort zone" with their grades, which would "build trust" with his students, and allow them to "face more rigorous assignments with greater confidence."

While building a trusting environment was part of implementing rigor, the participants also believed that building personal relationships with students was a vital part of preparing them for rigor. Building personal relationships with students involved both getting to know students personally and also trying to make the content more meaningful and relevant for students. The participants believed that becoming closer to

students and showing them that the content of their courses had meaning would allow students to become more comfortable, and thus more likely to engage in rigorous tasks.

At the beginning of each school year, Barlowe explained that he begins to form personal relationships with his students in his World History classes by using a timeline assignment. Barlowe asked the students to complete "timelines of their lives where they share some moments that they're comfortable in sharing." As the students presented the timelines to the class, Barlowe made note of "some of the highlights… or things that make each student unique." Later in the semester, Barlowe revisited these highlights from students' timelines by bringing them up in one-on-one conversations. Barlowe described students' reactions by suggesting that recalling important events from their lives "opens them up" and makes students realize that he cares about them. Barlowe stated that the timeline activity was one way that he tried to "make connections between the learning, the content, and students' lives."

Buckley also believed that to implement rigor effectively in his classes, he needed to attempt to create close relationships with his students. Buckley summarized this feeling by stating that his goal was to "show students that I care about my job, and that I care about them." When exposing students to rigor, Buckley stated that some students "play the game of 'I'm not going to do this,'" which he described as an unwillingness to engage in higher level thinking because of a fear of failure. However, Buckley felt that "if I have a good relationship with students and they know I care, most of them will get on board." For Buckley, "getting on board" meant that students not only engaged in the rigorous activity, but they would also enjoy it. Buckley elaborated by suggesting that even though students "might not admit it, they enjoy rigor… I can just tell."

To build relationships with his students, Randis used humor. Randis suggested that when students began to struggle with rigor, he could make them feel more comfortable by "lightening the mood." For example, when he engaged his students in a rigorous discussion, Randis stated that at times, the students were reluctant to answer, or to take a risk sharing their ideas. When this happened, Randis explained that while he wanted to push his students, he also "tried to make his pushing funny… not that I'm bearing down on them. They usually get that, and they'll try to throw something out to keep the conversation moving." Buckley echoed these statements, suggesting that if he "joked around" with students, he could later push them to think at higher levels. Likewise, Buckley suggested that students reacted to rigor based on "his demeanor and reaction to things." Buckley elaborated by explaining that by using humor with his classes, and being consistent, he could make even the most rigorous tasks seem less threatening to the students.

Johnson suggested that openly communicating with students on a regular basis was important to building relationships with them. In explaining the importance of communication to implementing rigor, Johnson stated that "whether we do it big or small… it's still communication. Some say we're losing our influence [on students]. I say that we still have a great deal of influence and need to communicate with students." Johnson felt by communicating with students regularly, he could communicate high expectations to them without seeming to be threatening.

All the participants stated that they felt making their courses relevant to students was one of the keys to implementing rigor. The participants found ways to increase relevance by creating educational tasks that students could connect to an activity they

enjoyed in their personal lives. Likewise, the participants made course content relevant by encouraging students to apply what they were learning in class to their own lives.

In efforts to increase relevance by creating an assignment connected to an experience from students' personal lives, both Barlowe and Randis developed assignments in which students applied historical content to Twitter, a social media Internet tool popular with many of their students. During a unit on the French Revolution, Barlowe had students develop a "Twitter feed" from the perspectives of the French populace. Barlowe explained the activity by stating:

> I had them look back at the French Revolution and think about if there was social media when they were going through that, how would it have looked to them? I gave each student a different perspective… they were either the peasant class, the nobles, or they were one of the actual members of the royalty. So based on that perspective, they had to go and design a feed about what was happening during the revolution.

When asked to describe the level of rigor in the Twitter assignment, Barlowe stated it was "further up on the higher thinking scale." Barlowe suggested that to complete the assignment students had to analyze the information from the French Revolution, apply their different perspectives to the information, and then create their own Twitter feed. Barlowe explained his belief that when students "create their own piece… that shows a higher level of rigor."

Randis had students complete a similar assignment while analyzing a primary source document from Martin Luther King, Jr. When Randis realized that students were having some difficulty reading and answering questions about the primary source

document, he stopped the activity and instructed students to "underline anything in there you would think would be an awesome Tweet or Facebook status. Focus on something that would get 30 'likes' by the end of the day." When the students finished, they shared their findings, which Randis then used to facilitate a discussion about the document. Randis felt that students quickly connected with the process of coming up with quotes from the primary source to share on Twitter and Facebook, and described his class "as the most engagement I've ever had with my third period."

Some of the participants also worked to make their courses more relevant to students by encouraging them to connect course content to their own lives. Buckley felt like relevance was the key to creating rigorous classes. To foster relevance, Buckley stated that he worked hard to facilitate meaningful discussions and debates with his students. Likewise, Johnson tried to design activities to engage students in meaningful work. For example, Johnson had students "create businesses from scratch" in his Economics classes. Working in groups, students could access information using their cell phones while Johnson circulated around asking questions and guiding students. By giving them a wide variety of choices as to the nature of their companies, Johnson felt like students had more interest in completing the project. Johnson also suggested that the steps the students were taking to complete the project required a great deal of analysis and synthesis, but more importantly, the project involved tasks that students would have to complete "in the real world" if they were to create their own businesses.

Teachers push students by exposing them to tasks involving analysis and synthesis

When speaking of rigor, the participants identified rigorous activities and assignments as tasks that required students to analyze or to synthesize information. The

participants shared the belief that by implementing assignments such as examining primary source documents, they could encourage students to think at higher levels as they analyzed complex texts. To implement greater levels of rigor in their classes, the participants also designed projects or group activities that required students to synthesize information into finished products. The participants also suggested that by including questions involving analysis and synthesis on tests and quizzes, they could make assessments more rigorous.

After initially exposing students to content in his U.S. History classes through lower level assignments, Randis talked about implementing rigor by designing tasks that required students to analyze primary source documents. When trying to transition to higher level thinking tasks, Randis stated that he had to remind students that they were "looking for big concepts… not minutia." When asked to elaborate about "big concepts," Randis stated that he "really tries to push students on analyzation." Randis suggested that because examining primary source documents required students to think at higher levels, they often needed additional support to be successful.

Randis cited three different examples of instances when he used primary source documents to push students to think at higher levels. Randis's first example involved exposing his U.S. History students to a letter written by George Washington. Early in the course, Randis developed a handout for students "that was a 'how to' approach to examining a primary source." The handout gave students some guidance as to how to analyze, or to "break down that letter to understand it." In a second example involving a primary source, Randis had students analyze a letter written by Martin Luther King, Jr. The students were asked to look for themes using a set of guiding questions. When the

students struggled with the guiding questions, Randis "switched gears" instead and asked students to develop short "Twitter feeds" that the class used as discussion prompts. In another example, Randis talked about using primary sources as prompts for writing by asking students to "compare two Puritan documents." Randis explained how many students first completed this task by writing "a summary of one document and a summary of the other document, which is not what was asked of them." To stimulate higher level thinking, Randis used the students' summaries as a "base" to "start working toward making them better." To offer support to students who struggled with the assignment, Randis stated that he developed rubrics to help the students know what he expected from a comparison essay.

Like Randis, Barlowe identified primary sources as a way to implement rigor in his classes. Barlowe consistently spoke of group activities as rigorous, and when asked about the types of work the students typically completed in groups, he responded that the students "examined primary source documents and looked at things from an event and tried to pull out different perspectives." During this type of group work, Barlowe suggested that members of a group often analyzed a document by examining it through a particular "lens." Once students gained a particular perspective, Barlowe would then reorganize students into new groups. Each one of these new groups was comprised of members who each had already analyzed the document from a particular perspective, so that each group member had a different perspective to share with the others. Barlowe then had the students discuss the document from multiple perspectives.

Buckley also suggested that activities during which students analyzed texts were ways he could implement rigor. While Randis and Barlowe exposed students in their

history classes to primary sources to encourage higher level thinking, Buckley instead used magazine articles that focused on "current events" to encourage rigor in his World Geography classes. Buckley used guiding questions to help students learn to analyze articles in class, and then worked as a facilitator to lead discussions or debates involving the articles. When students could formulate arguments based on their analysis of the articles, Buckley stated that students demonstrated that they "comprehended the issues better and were not just writing down answers to questions."

Johnson also suggested that using articles were a means of implementing rigor. Periodically, Johnson assigned his Economics classes articles that illustrated concepts such as international trade, comparative advantage, and absolute advantage. Students analyzed the articles, and Johnson then led discussions by asking higher level thinking questions. Johnson also suggested that to understand many economic concepts, students had to be able to analyze scenarios to determine relationships. For example, when explaining the concepts of aggregate demand and aggregate supply, Johnson stated that after teaching students the "basics," students then had to show him "what happened when the Fed sells bonds." This required students to analyze the scenario of "the Fed selling bonds," and then they had to determine how the action of "selling bonds" impacted aggregate demand and aggregate supply. Johnson described pushing his students to "find out what happens when the Fed sells bonds" as "a challenge," or a way of making his course more rigorous.

The participants also indicated that assignments requiring students to synthesize information led to higher levels of rigor. Many of the participants used projects involving synthesis as a way to implement rigor. Randis, for example, suggested that projects were

an effective way “to push students” and “get them to think about things creatively.” Randis assigned his students a project to develop a video game or movie cover about World War I. To successfully complete the project, students had to bring together many different elements that Randis presented to them earlier in the World War I unit into a single product highlighting a particular event, person, or topic. By creating projects that synthesized historical information from different sources, Randis believed that students could begin to “grasp the concept of rigor.”

Randis also believed he could create a rigorous environment by encouraging students to work together to synthesize information about historical events. For example, in his World History class, Randis assigned a project about the Holocaust in which students had to work as a class to create a video. Randis explained the video project by stating:

> In World History, we're going to start a class movie project where I'm giving the kids a lot of choice. I've done individual videos before, but we're going to do it as one big class. Everybody has their piece and it all syncs together, but it's focused on the Holocaust and they're going to work in teams where one person will do a specific camp or event and the person working with him will try to find a specific narrative of a person in that event or camp. They're going to get a rubric of the basic design of what they're expected to produce, but they're going to have a lot of freedom as to who they concentrate on, what they concentrate on, and what aspect they concentrate on. They’ll put it together with video images and so forth. So I think that this kind of activity where they have to put it all together is pretty good

at getting them to think a little bit more deeply about the things the people in the Holocaust were going through.

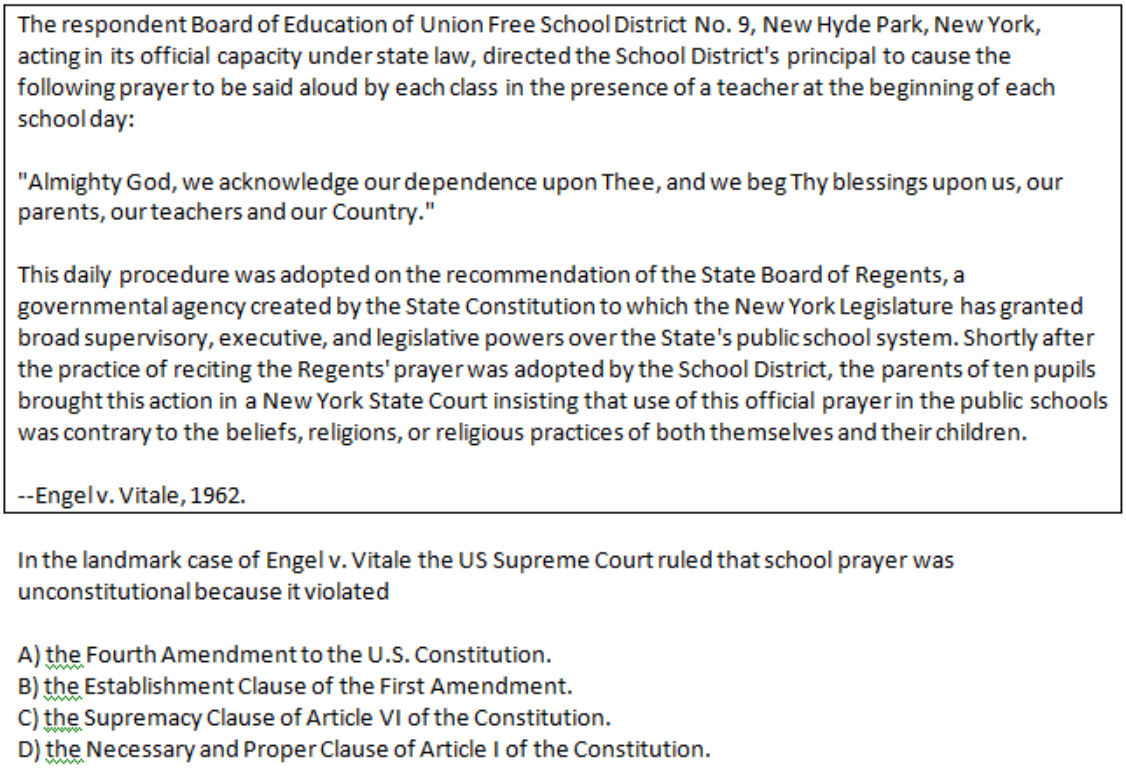
By encouraging students to work together to create a video about the Holocaust, Randis felt like he could make his class more rigorous.

Johnson also believed that he could implement rigor in his classes by assigning projects. After initially exposing students to content through lower level activities in his Economics classes, Johnson then increased the level of rigor by assigning the students projects. For example, at the end of a unit on business structures, Johnson assigned the students a project that required them to "create a business from scratch." According to Johnson, to create a business from scratch, students had to synthesize information from the unit, including "requirements for sole proprietorships, corporations, and partnerships." Likewise, students had determine whether they "had to sell stock or if they were going to keep it private." Johnson stated that projects such as his business project encouraged students to think at higher levels, which led to a more rigorous environment.

While projects were one avenue some participants saw to implement rigor, Barlowe also saw class activities as a way to engage students in higher level thinking. In Barlowe's Political Systems classes, Barlowe taught students the process through which the federal government created laws. After teaching students the law making process through initial "knowledge acquisition" activities, Barlowe then facilitated a "mock Senate" activity in which students acted out the roles of the Senate. Barlowe suggested that to be successful in the activity, students had to have a strong grasp of "content knowledge and understand the process." Because Barlowe's students were learning about a process, his students had to bring many different aspects of lawmaking together to gain

an overall understanding how laws were made. Through activities such as the "mock Senate," Barlowe felt that he could increase the level of rigor because students were actively engaged in the synthesis of a wide variety of content knowledge.

The participants also felt that they could implement rigor by designing assessments that required students to engage in analysis and synthesis. When asked about which questions he felt were the most rigorous on a unit test, Randis stated that the most rigorous questions required students to "make inferences" or involved "any type of creative thinking." Randis identified a question involving the landmark case of Engel v. Vitale (1962) as one of the more rigorous questions on the test. This question can be seen in Figure 4.1.


The respondent Board of Education of Union Free School District No. 9, New Hyde Park, New York, acting in its official capacity under state law, directed the School District's principal to cause the following prayer to be said aloud by each class in the presence of a teacher at the beginning of each school day:

"Almighty God, we acknowledge our dependence upon Thee, and we beg Thy blessings upon us, our parents, our teachers and our Country."

This daily procedure was adopted on the recommendation of the State Board of Regents, a governmental agency created by the State Constitution to which the New York Legislature has granted broad supervisory, executive, and legislative powers over the State's public school system. Shortly after the practice of reciting the Regents' prayer was adopted by the School District, the parents of ten pupils brought this action in a New York State Court insisting that use of this official prayer in the public schools was contrary to the beliefs, religions, or religious practices of both themselves and their children.

--Engel v. Vitale, 1962.

In the landmark case of Engel v. Vitale the US Supreme Court ruled that school prayer was unconstitutional because it violated

A) the Fourth Amendment to the U.S. Constitution.
B) the Establishment Clause of the First Amendment.
C) the Supremacy Clause of Article VI of the Constitution.
D) the Necessary and Proper Clause of Article I of the Constitution.

Figure 4.1

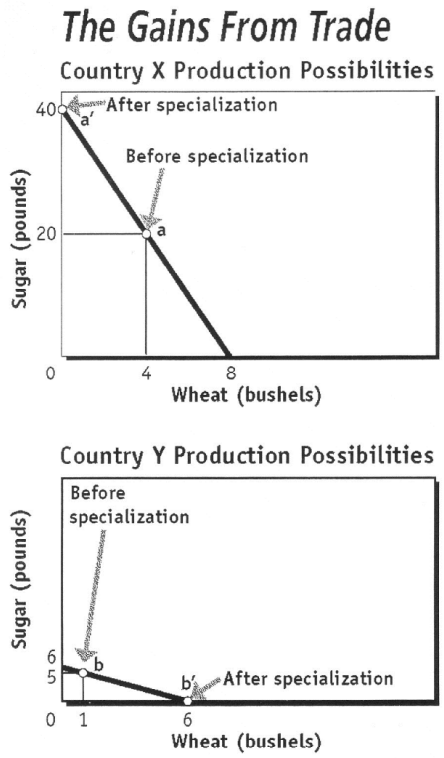
A rigorous question according to Randis

Randis explained why he thought this question to be rigorous by stating that:

> The question involved Engel v. Vitale in 1962, which is about school prayer. There is a passage the students have to read and it gives them the opinion that the court passed for Engel v. Vitale. But it doesn't tell them what concept the opinion reflected. The question at the end stated, 'In the landmark case of Engel vs. Vitale the US Supreme Court ruled that school prayer was unconstitutional because it violated...' and then it gives the students options such as the Fourth Amendment, the Establishment Clause of the First Amendment, and all that. So they have to look at the case, and they have to go back and read the passage... and it will give them what it is that this case is about in a sense. It has to do with... school prayer and these references and inferences, and the students have to come back and know and understand which of them is in the Constitution. Given the passage, the students have to be able to answer the question, 'Which one of these has to do with religion and the government establishing religion?' That's a... fairly rigorous question.

To successfully answer the Engel v. Vitale (1962) question, students had to analyze the passage, which according to Randis, required a higher level of thinking.

When asked to identify the most rigorous questions on a test, Johnson stated that the most rigorous questions were those that required more "interpretation" such as those requiring students to read passages, interpret political cartoons, and examine graphics. Johnson identified a series of two questions involving a graphic that depicted "production possibility frontiers" as the most rigorous questions on his test. The questions are shown in Figure 4.2.



14. The graphs show the production possibilities frontiers for two countries who can produce only two products. Before the countries specialize, what is the total output sugar?

a. 5 pounds
b. 20 pounds
c. 25 pounds
d. 21 pounds

15. The graphs show the production possibilities frontiers for two countries who can produce only two products. How much more total wheat will be produced after the countries specialize than before?

a. 1 bushel
b. 5 bushels
c. 6 bushels
d. 4 bushels

Figure 4.2

A series of two rigorous questions according to Johnson

To successfully answer these questions, Johnson suggested that students had to "conceptually look at a figure." Students had to analyze the graphs and apply a mathematical equation to obtain the correct answers, which according to Johnson made these questions more rigorous.

While Randis and Johnson identified multiple choice questions as the most rigorous questions on their tests, other participants stated that "short answer" or short essay questions made tests more rigorous. Barlowe, for example, pointed out a question on his test where students had to provide a written response about the Protestant Reformation as a rigorous question. Barlowe's question can be seen in Figure 4.3.

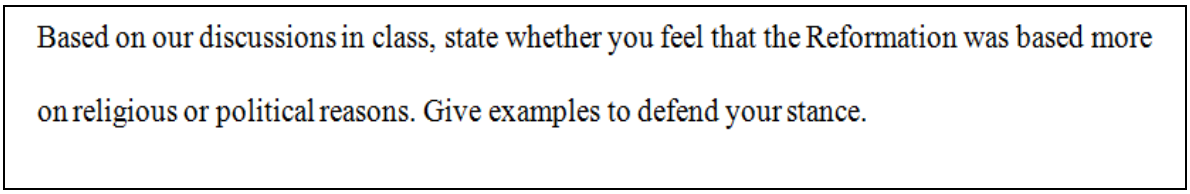


Figure 4.3

A rigorous question according to Barlowe

Barlowe suggested that to successfully answer this question, students had to synthesize information they had learned throughout the unit to construct a written response. Students had to formulate an opinion based on what they knew, "cite specific examples, and defend their stance," which Barlowe suggested required a "higher level" of thinking.

Buckley also identified a written response question as the most rigorous question on his test, suggesting that "rigorous multiple choice questions were always a challenge to write" for him. According to Buckley, to be more rigorous, a question should require a student to "process some prior knowledge and think more deeply." When asked to identify the most rigorous question on his test, Buckley chose a "short answer" question about issues facing the inhabitants of Africa. This question can be seen in Figure 4.4.

51	Identify 4 major issues facing the people of Africa south of the Sahara today. Explain how the issue affects the development of the countries of Africa as a whole.

Figure 4.4

A rigorous question according to Buckley

Buckley suggested this question was rigorous because students had to "delve in" to four different issues and had to explain their impact on the people of Africa, which required students to think at higher levels by synthesizing the information into a written response.

Teachers' Perceptions of the Differences between Honors and College Preparatory Classes

Two cross-case themes emerged from the data involving the second research question: How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor? The first theme was "All students should experience rigor, but students in College Preparatory classes need more support." The second theme was "College Preparatory classes are often larger and more heterogeneous, which makes supporting students to promote rigor more difficult for teachers." Each of these themes is presented along with relevant data to illustrate the findings.

All students should experience rigor, but students in College Preparatory classes need more support

The lowest level classes in which students at Edgewater High School can enroll are labeled College Preparatory classes. If students wanted to instead engage in "coursework designed at an advanced level or pace" they could enroll in Honors courses.

When asked about the differences between College Preparatory and Honors classes, one consistent response was that the participants believed that all students should be pushed to think at higher levels so they can grow. However, the participants also felt that students in College Preparatory classes often needed more support than students in Honors classes to be successful when they were pushed. The participants felt that this need for extra support often stemmed from deficits in College Preparatory students' motivation levels, a lack of prior knowledge and less exposure to higher level activities in previous courses.

When asked about the differences between College Preparatory and Honors classes, Buckley suggested that all students should be pushed to grow and exposed to the full curriculum. When asked if he modified the way he taught College Preparatory and Honors classes, Buckley stated that he taught the classes in a very similar manner. Buckley explained his approach to teaching both levels by stating:

> I don't try to change much. I might just change how I assess the classes, or I might cut something out of an assignment. But when I'm teaching a curriculum that I think is interesting and relevant, I'm not changing much. I pretty much teach the classes the same. I think if you came into a College Preparatory class and an Honors class you might think it's the same exact lesson. You might not see the difference until we assess. You know, that's where I'm changing things. But I'm not changing the delivery.

While Buckley stated that he taught the two levels of classes in a similar manner, he also explained that students in College Preparatory classes often needed "more explanations and more support" to be successful.

Buckley suggested that one area in which College Preparatory students need support is when they complete assessments. While he designed his tests to be very similar to Honors tests, Buckley stated that students in his College Preparatory classes often did not have as much prior knowledge as students in his Honors classes. Likewise, Buckley described students in College Preparatory classes as "less motivated" than his Honors students. Thus, Buckley stated that the "starting points" for the two levels of classes were often different, and he had to work to overcome any deficits that might be present. Buckley stated that at times he would allow College Preparatory students to "use notes on their tests" or to "have extra time to work on assignments." According to Buckley, allowing students to use notes or to complete test corrections motivated them to work harder. Likewise, Buckley stated that by giving students extra time to complete assignments, he was attempting to compensate for the students' initial lack of prior knowledge.

Like Buckley, Randis did not greatly vary the way he taught his College Preparatory classes from the way he taught his Honors classes. Randis felt that one of the differences between students in his College Preparatory classes and students in his Honors classes was that the students in his College Preparatory classes had less motivation to complete rigorous work. Randis suggested that "Honors kids are generally more motivated because they signed up for an Honors class… they expect it to be different or harder." Likewise, Randis stated that he "expects more from his Honors kids." To help support all his students, Randis developed note packets to help his students organize their thoughts. However, to further support students in his College Preparatory classes, Randis helped guide the students through the packets more directly by pointing

out when to add information to them. When asked about how he used the note packets with his Honors classes, Randis stated that he "gave them the expectation that they should be completed, and when they're to be turned in, they should be."

Randis also stated that he thought Honors students often possessed more finely honed skills than students in his College Preparatory classes. For example, Randis stated that Honors students came into his class with "more practice with primary sources." Because his Honors students were more familiar with how to analyze primary sources, Randis expected them to work more independently. However, because students in his College Preparatory classes did not have as much prior knowledge in how to analyze primary sources, Randis helped students "break down the primary source documents more" so that the students could better understand them.

When describing how he taught his College Preparatory classes and his Honors classes, Johnson stated that he taught them "pretty much the same… the kids do the same things." However, Johnson felt that College Preparatory students did not grasp concepts as quickly as the Honors students. Because Honors students were able to grasp concepts more quickly, Johnson stated that in Honors classes he is able to "cover a little more content… have a little faster pace." As a way of supporting his students, Johnson felt like he had to move a little slower with his College Preparatory classes to make sure they grasped the concepts fully. This played out in Johnson's classes when he created an activity during which the students were to read and discuss an article involving oil. Johnson's Honors classes were prepared and ready for the assignment, and thus he worked at a "quicker pace" with students in those classes. However, some of his College Preparatory classes were not ready for the assignment, so Johnson had to work to get

them ready to read and analyze the article before using it with College Preparatory classes a few days later.

Johnson also felt that Honors students tended to "be more mature" than students in College Preparatory classes. Because his Honors students possessed more maturity, Johnson suggested that they were "more ready to jump into a college environment." When asked about how he tried to accommodate this readiness for a college environment, Johnson stated that he adjusted his Honors classes in minor ways. For example, Johnson had his Honors students complete more writing tasks on assessments, and he would often modify his project rubrics to reflect higher expectations for Honors students. Johnson suggested that over time he could also modify writing tasks and rubrics for his College Preparatory classes, but it would often take some time before the students were prepared for these modifications.

Barlowe described the major difference between students in College Preparatory classes and students in Honors classes as "a difference in motivation levels." Barlowe elaborated by stating that as their teacher he had to "appeal to the College Preparatory student a bit more… appeal to their world." According to Barlowe, Honors students also tended to have more experience with "playing school," which he described as students being "more adept at figuring out what teachers wanted and giving it to them."

Because Honors students tended to have a more developed sense of what teachers wanted, Barlowe suggested that he had to challenge them more to keep them interested in the courses. Barlowe stated that he expected Honors students to "work through materials quicker," and thus he often prepared materials that "went more in-depth" for the Honors classes. Barlowe also stated that Honors students tended to have better test-taking skills

than students in College Preparatory classes. Thus, when designing his tests, Barlowe often gave College Preparatory students more supports such as "word banks" and some "visual clues" that Honors students did not have on their tests. Barlowe also stated that he often adds more written response questions to Honors tests to push the students' thinking to higher levels.

College Preparatory classes are often larger and more heterogeneous, which makes supporting students to promote rigor more difficult for teachers

When asked about the differences between College Preparatory classes and Honors classes, the participants often spoke about the composition of the two levels of classes as being different. The participants focused on two areas in which they were often different – the number of students in College Preparatory classes versus the number of students in Honors classes, and the differences in ability levels of students within each level of class. While noting that "each class was different," the participants suggested that College Preparatory classes were generally larger and more heterogeneous than Honors classes, which tended to be smaller and were often composed of students with smaller differences in their ability levels.

Buckley perhaps captured the participants' feelings about the differences between College Preparatory classes and Honors classes most completely when he stated that:

> The big issue, which I don't have control over is... College Preparatory classes tend to be almost twice as large as the Honors classes. So it's harder to serve College Preparatory students and those tend to be the kids that need the most. And that's actually a frustrating thing as a teacher because you're trying to be rigorous for those College Preparatory students, but at the same time you've got 35 or 36

> kids in a class. It's very challenging with that wide range of prior knowledge and ability level.

Buckley went on to share that serving students, regardless of what he was teaching, becomes difficult when students are "misplaced." Buckley elaborated on this difficulty by sharing:

> There are some students who are kind of misplaced in both College Preparatory and Honors in my opinion. I feel like a student misplaced in Honors... it's almost better for them because they are being challenged a little bit, but you can give them more individual attention that they might need to get them to perform at high levels. As opposed to some of my students should be Honors students, but are in CP... and to be honest, they get bored, and you lose track of those kids because you're constantly having to help the 30 other students that really need your support all the time. So that's a challenge as a teacher to be rigorous for those kids who are not placed well, but still be able to serve the students that need to be served and helped.

While larger and more heterogeneous College Preparatory classes made it harder to support students, Buckley also suggested that it was also more difficult to build meaningful relationships with so many students. Buckley frequently expressed frustration with the larger College Preparatory classes, and suggested that to better facilitate rigorous environments in all classes, the district should consider trying to find a way to balance the number of students taking each level of classes.

Johnson also identified the heterogeneous nature of College Preparatory classes as a difference from Honors classes. Johnson stated that when he first started in education,

he felt that "College Preparatory had some challenge in it." However, Johnson suggested that over time, the overall expectation for students in College Preparatory classes "has come down a bit." When explaining why he thought that College Preparatory classes had changed over time, Johnson stated that he believed that the composition of his College Preparatory classes had become more diverse in regards to student ability levels. Johnson described his current College Preparatory classes by stating that he "had a lot of different kids in there" who were "all over the place" in their ability levels, which made supporting a rigorous environment more difficult for him. Johnson suggested that many of his College Preparatory students had difficulties when it came to "their thinking processes," and with the larger numbers of students in these classes, it made it a "challenge" for him to support them when the class became more rigorous.

Randis also felt that the nature of College Preparatory classes had changed in the past 10 years. Randis suggested that while in the past College Preparatory classes were more homogeneous, he felt they were currently comprised of a "broad demographic of kids." When asked to explain what he meant by a "broad demographic of kids," Randis elaborated by stating that in College Preparatory classes teachers were no longer "dealing with classes that are the bottom tier of kids going to college. Now we're dealing with everybody, including kids who may have no aspirations of going to college." Because of the diverse nature of College Preparatory classes, Randis found it more difficult to push students because of the different levels of support they needed when exposed to more rigorous tasks. While Randis identified the heterogeneous nature of College Preparatory classes as one difference from Honors classes, he also felt that it was difficult to motivate College Preparatory classes when they were too large.

Like the other participants, Barlowe identified the diverse nature of College Preparatory classes as a difference from Honors classes by stating that College Preparatory classes had a broad “spectrum” of kids while students in Honors classes tended to be similar in their ability levels. Barlowe suggested that in College Preparatory classes it was difficult for him to meet the needs of the “higher end kids” and at the same time help those that needed more support. Barlowe stated that because there were such disparities in ability levels within College Preparatory classes, the “higher end students sometimes had to wait for the rest of the class to catch up, while the lower end students were being left behind.”

Chapter Summary

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. During the course of the study, the researcher gathered data from participants through qualitative interviews, classroom observations, and artifact collection. After the data were analyzed using the constant comparison method, themes emerged, and were organized to address the research questions.

Two themes emerged to address the first research question: How do high school social studies teachers conceptualize academic rigor? The first theme was “Academic rigor is pushing students’ thinking outside their comfort zones so they can grow.” This theme was illustrated primarily by the participants’ beliefs that rigor involved a process

in which teachers first gauged the level at which students possessed knowledge and skills related to specific course content, and then teachers "pushed" or "challenged" students to think at higher levels, resulting in growth. The second theme was "Before rigor can occur, there must be a lower level foundation on which to build." Underlying this theme was data from the participants that suggested that before teachers exposed students to rigorous tasks, they first "built" a foundation with their students by exposing them to the course content through less rigorous activities such as note taking, reading textbooks, and defining vocabulary.

Three themes emerged to address the second research question: How do high school social studies teachers implement rigor in their classrooms? The first theme was "To promote academic rigor, teachers act as facilitators." This theme was constructed from participant data suggesting that during lower level tasks, teachers played a more direct role in initially exposing students to course content. As teachers moved to implement higher levels of rigor, the participants suggested that they "took a step back" and acted as facilitators to guide the students in their learning by answering questions and posing new questions to challenge students. The second theme was "Teachers build rigorous environments that are based on trust, intellectual safety, and meaningful interactions." This theme was illustrated by participant data that suggested that before teachers implemented higher levels of rigor, they first fostered positive and trusting environments in which students felt comfortable taking risks. The third theme was "Teachers push students by exposing them to tasks involving analysis and synthesis." This theme was constructed from participant data that suggested that when "pushing" students, teachers often required their classes to engage in higher level thinking skills

such as analysis and synthesis. These tasks involved activities such as primary source analysis, class discussions or debates, and projects. The participants also suggested that they could expose students to analysis or synthesis during assessments by crafting questions involving the interpretation of written passages and visuals such as diagrams or political cartoons. Likewise, the participants believed that questions requiring students to provide written responses also tended to be more rigorous because they required students to synthesize information.

Two themes emerged to address the third research question: How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor? The first theme was "All students should experience rigor, but students in College Preparatory classes need more support." This theme was illustrated primarily by participant beliefs that regardless of the level of the course, all students should be pushed so that they can grow in their knowledge and skills. However, the participants also believed that College Preparatory students needed more support because they did not possess the levels of motivation, prior knowledge, or skills that many of their counterparts in Honors classes possessed. The second theme was "College Preparatory classes are often larger and more heterogeneous, which makes supporting students to promote rigor more difficult for teachers." Underlying this theme was data from the participants suggesting that College Preparatory classes tended to be much larger than Honors classes, and the students in College Preparatory classes tended to be more diverse in their ability and motivation levels. According to the participants, being in larger and more diverse classes made students in College Preparatory classes harder to support when implementing rigor.

Chapter 5 provides a summary of the study in relation to the literature as well as a discussion of the themes that emerged during the analysis of the data from this case study. Implications for educators, limitations of the findings, and directions for further study are also discussed.

CHAPTER 5

SUMMARY, DISCUSSION, AND IMPLICATIONS

The purpose of this study was to examine how four social studies teachers in one suburban high school conceptualized "academic rigor," and how they implemented rigor in their classrooms. Embedded within this purpose was a secondary line of inquiry investigating what the participants thought about rigor in College Preparatory and Honors classes, and how their thinking about rigor played out as they implemented instruction in these courses. Thus, this study examined the following research questions:

1. How do high school social studies teachers conceptualize academic rigor?
2. How do high school social studies teachers implement rigor in their classrooms?
3. How do high school social studies teachers conceptualize the differences between Honors and College Preparatory classes in relation to rigor?

Summary of the Research Design

A qualitative case study design was used to examine the perspectives of the participants who all taught at Edgewater High School, a school located near a large metropolitan area in Georgia. The participants included all the Social Studies teachers at Edgewater High School who taught both College Preparatory and Honors classes during the school year in which the study took place, and who agreed to participate in the study. Data were gathered from multiple sources to further validate the findings. Sources included:

1. An initial semi-structured interview with each participant, which lasted between 45 and 60 minutes.
2. An analysis of documents each participant used in both College Preparatory and Honors classes, including a syllabus, a unit test, and any other information related to student work the participant was willing to share from each level of class.
3. A total of two classroom observations of each participant, including one of from a College Preparatory class and one from an Honors class.
4. A follow up semi-structured interview with each participant, which lasted between 30 and 60 minutes.
5. Reflective notes kept by the researcher throughout the study.

This study was framed by constructivism as described by Lincoln and Guba (Guba & Lincoln, 2005; Lincoln & Guba, 1985; Lincoln, Lynham, & Guba, 2011). Through constructivism, both the participants and those studying them examine the nature of a phenomenon through a joint construction or reconstruction of multiple realities (Lincoln, Lynham, & Guba, 2011). In this study, the four participants and the researcher worked to co-construct the participants' understanding of the phenomenon often referred to as academic rigor, or simply rigor.

Supplementing this constructivist framework were the three dimensions of academic rigor identified by Blackburn (2008): the expectations that teachers hold of students, the support that teachers offer their students, and student outcomes involved from rigorous work. These dimensions of rigor were foci for the interviews and observations conducted during this study, serving as a framework in which to pose questions about rigor to aid in the construction of knowledge about this concept.

This study was a qualitative comparative case study. Case studies are useful in examining "how" or "why" questions, and for when the researcher is investigating a phenomenon in a real-life context (Yin, 1994). For the purpose of this study, each individual participant was seen as a case. The comparative aspect of this case study allowed the researcher to focus on patterns across cases, including similarities and differences that arose between participants (Campbell, 2009). The data collection methods in this study were appropriate for use with a case study methodology (Bogdan & Biklen, 2003; Merriam 1998; Patton, 2002; Roulston, 2010).

The researcher used an inductive approach to guide the data analysis in this study. An inductive approach involves beginning with specific data and building toward general patterns. In this process, "categories or dimensions of analysis emerge from open-ended observations as the inquirer comes to understand patterns that exist in the phenomenon being investigated" (Patton, 2002, p. 56). The data for each case was analyzed using the constant comparative method (Boeije, 2002; Glaser, 1965; Maykut & Morehouse, 1994), which was also used to conduct a cross-case analysis to examine the cases for patterns across cases.

The constant comparison method was used to analyze data gathered from interviews, observations, and document analysis. The researcher first analyzed the data using open coding, which broke apart the data into individual units (Lincoln & Guba, 1985; Strauss & Corbin, 1990). The second stage of coding was axial coding, which involved bringing together like units to form categories or themes (Maykut & Morehouse, 1994; Strauss & Corbin, 1990). The researcher grouped these themes as they related to the research questions—how each participant conceptualized academic rigor,

how each participant implemented academic rigor, and how each participant perceived the differences between College Preparatory and Honors classes. Finally, the researcher compared these themes across cases to check for similarities and differences. This cross-case analysis resulted in the seven cross-case themes presented as findings.

Discussion

Referring to the review of relevant literature, the seven themes that emerged from the case study analysis are discussed in relation to how they express teachers' thoughts about academic rigor.

Theme 1: *Academic rigor is pushing students' thinking outside their comfort zones so they can grow*

Throughout the study, the participants voiced a belief that rigor involved a process in which teachers first gauged the level at which students possessed knowledge and skills related to specific course content. Johnson suggested that it was at this level that the students were in their "comfort zones." Once the participants established where students were comfortable, they then worked to encourage students to think at higher levels, resulting in growth. Buckley and Randis referred to the process of moving students out of their comfort zones as "pushing" the students, while Johnson and Barlowe both used the term "challenge" to describe this process.

The participants' focus on higher level thinking skills suggests that they conceptualize rigor as New World rigor (Wagner, 2008b). New World rigor assumes a paradigm based on the current state of industrialized society, where information is readily available and relatively easy to access in nearby libraries and on the Internet. Wagner (2008b) described New World rigor as involving teaching students the skills they need to

be effective twenty-first century citizens, or more concisely, teaching them "how to think—to reason, analyze, weigh evidence, problem-solve—and to communicate effectively" (p. xxiii). Johnson made perhaps the most direct connection to the concept of New World rigor when he explained his thoughts about rigor, stating that "the new type of rigor is that students have a ton of information at their fingertips right now. How can we get them to sift through it, apply it, and use it?"

Buckley suggested that shifts in thinking about rigor can happen during the course of a career, stating that at the beginning of his career he thought of rigor as having his students "do more stuff." By thinking of rigor as "doing more" early in his career, Buckley was seemingly working within the Old World rigor paradigm, which assumes that information was not readily available, and thus emphasized memorizing facts and having correct answers (Wagner, 2008b). Now after 15 years of teaching, Buckley believed rigor was more about having his students "do more meaningful stuff" and "pushing kids to think on their own," which is more in line with New World rigor.

This theme suggests that the participants' thoughts also may be linked to student engagement and high expectations. When outlining his elements of student engagement, Marzano (2007) stated that one of the ways teachers could encourage students to be engaged in their learning was by providing mild pressure on students. By pushing or challenging their students to venture outside their comfort zones, the participants seemed to be applying pressure to students, which may be linked to more highly engaged classrooms. Likewise, the participants seemed to think that pushing students meant having high expectations for them. Buckley summarized this sentiment when he stated

that his expectations "are high for my students. I tell them that, and I say 'when you come in here, you're here to do something. You're here to grow. You're here to get better.'"

Theme 2: *Before rigor can occur, there must be a lower level foundation on which to build*

Newmann (1992) indicated that one way of promoting higher level thinking and student engagement was for teachers to teach lessons that built on one another. The data that informed this theme suggested that one way the participants thought of rigor was as a building process that moved from lessons involving lower level thinking to those that required students to think at higher levels.

The participants explained that they introduced new concepts by using techniques such as lecturing, asking students to read passages from the textbook, and defining vocabulary terms. These activities seem to require levels of student thinking that align with lower level categories of the Anderson et al. (2001) revision of Bloom's Taxonomy such as "Remember" and "Understand." According to Anderson et al. (2001), "Remembering" involved students recalling information or retrieving facts from memory, while "Understanding" involved students constructing meaning from instruction (e.g., a lecture, textbooks, or technology). The participants used various terms to describe this lower level foundation. For example, Barlowe used the term "initial acquisition of knowledge," which suggested it was the first in a serious of learning tasks. Buckley referred to these lower level tasks as "grind work," while Johnson used the phrase "teaching the students the basics." Randis stated that lower level tasks were "part of the process" to prepare students for more rigorous work.

Regardless of the terms they used, the participants used lower level thinking activities to prepare students for activities that involved higher level thinking. After they introduced concepts at a lower level, the participants described how they increased rigor gradually by introducing activities requiring students to think at higher levels. For example, Barlowe used activities such as illustrated definitions to bridge simple vocabulary work with group activities where students had engage in higher level thinking. Likewise, Buckley introduced video clips to promote higher level thinking during note taking, but before students engaged in debates, which required higher levels of analysis and synthesis.

Exposing students to activities involving lower level thinking skills and gradually building toward tasks requiring higher level thinking skills could be seen as a form of macro-level support for students (Sharpe, 2006). Macro-level support involves support designed into lessons during the planning stages. By planning tasks requiring lower level thinking first, and then building toward rigor, the participants could be seen as supporting students by getting them prepared for more rigorous work. Sharpe (2006) referred to this process as establishing the proper sequencing of learning tasks.

Theme 3: *To promote academic rigor, teachers act as facilitators*

When discussing implementing rigor in their classes, the participants all described how their roles as teachers changed as their classes became more rigorous. Being more directly involved in instructing students during activities requiring lower level thinking, the participants all suggested that as activities required students to think at higher levels, they became "facilitators," stepping back and letting the students work more independently. The participants often described their facilitator roles as involving them

circulating amongst the students, answering their questions, and posing questions back to students to promote higher level thinking. Barlowe described his role as a "guide on the side," while Johnson said his primary role as a facilitator was to "guide students." Randis stated that he strived as a facilitator to be "a serious historian" who could answer questions for students as they investigated problems, and Buckley explained that bringing relevance to classroom discussions was his role when facilitating his classes.

By assuming roles as facilitators, the teachers seemed to be communicating high expectations while offering students a different type of support as they transitioned into activities requiring higher level thinking. Each of the participants suggested that the role of facilitator involved asking students questions while they were working more independently, and "guiding" them to answers, which is a teacher behavior that some scholars suggest is an indicator of high expectations for students (Blackburn, 2008; Marzano, 2007).

As the participants shifted their roles from being more directly involved in instruction to being facilitators, they may have also been shifting from providing instrumental support to providing informational support for students (House, 1981). Mercer, Nellis, Martinez, and Kirk (2011) described instrumental support as consisting "of direct intervention by spending time with someone and providing assistance, materials, and help" (p. 324). As the participants initially exposed students to the course content through lower level activities, they seemed to be supporting students in their learning through instrumental support. According to Mercer et al. (2011), "informational support is providing someone with verbal directions, advice, or suggestions" (p. 324). By

transitioning to the facilitator role, the participants seemed to be moving from instrumental support toward a role of providing informational support.

Blackburn (2008) suggested that rigor involves both high expectations and high levels of support. The participants explained one process of how they implemented rigor as shifting their focus as teachers from being direct instructors to facilitators. During this shift, the participants also seemed to shifting their expectations and the type of support they offered students.

Theme 4: *Teachers build rigorous environments that are based on trust, intellectual safety, and meaningful interactions*

To implement rigor in their classrooms, the participants felt that they first had to create environments that made students feel safe taking intellectual risks. By creating atmospheres that made students more comfortable, the participants believed that students learned to trust them. Thus, the participants felt that when students had to think at higher levels, they would be more willing to participate without the fear of being embarrassed. According to the participants, they could create safe and trusting environments by building positive relationships with their students and creating lessons that were meaningful for students.

Many of the characteristics that the participants identified as being necessary to implement a rigorous environment were also those found in the literature on the affective domain of student engagement. Appleton, Christenson, and Furlong (2008) suggested that the affective domain consisted of components such as students' interest, identification, belonging, and positive attitude about learning. Antonetti (2009) included emotional and intellectual safety as an indicator of an engaging environment, while Riggs

and Gholar (2009) described engaging lessons as challenging but safe. By building safe environments, the participants perhaps increased student engagement, and thus increased the level of rigor in their classes.

According to the participants, one major component of building safe and trusting environments was building positive relationships with students. Barlowe stated that by remembering important facts about students' lives he "opened students up" to rigor. Buckley and Randis used humor to build connections with students. Johnson suggested that frequent communication with students helped build relationships, and emphasized teachers' influence on students by stating that "some say we're losing our influence [on students]. I say that we still have a great deal of influence and need to communicate with students." Marzano (2007) stated that by showing positive emotions and body language, such as smiling and making eye contact, and exhibiting high energy with all their students, teachers convey messages of high expectations. Thus by building positive relationships with their students, the participants may have been conveying high expectations.

According to the participants, making their lessons relevant was another important consideration in implementing rigor. To foster relevance, Buckley stated that he worked hard to facilitate meaningful discussions and debates with his students. Johnson created business projects that modeled the actual processes that students would have to follow if they wanted to create their own businesses. Barlowe and Randis tapped into students' interests in social media as a way of connecting to their lives.

Marzano and Kendall (2007) suggested that relevance might be the "gateway" to rigor. To access higher level thinking in the New Taxonomy model, Marzano and

Kendall (2007) believed that the self-system had to be first activated. In the self-system, when students first came into contact with new knowledge, they examined the knowledge to see if the knowledge was important to them. If the students found the knowledge not to be important to them, the students would not engage with the new knowledge (Marzano & Kendall, 2007). By attempting to make their lessons more relevant for students, the participants may have promoted an environment conducive to higher level thinking.

While building safe and trusting environments seemed to promote rigor through student engagement, high expectations, and higher level thinking, the participants could also been seen as providing emotional support for students (House, 1981). Mercer et al. (2011) identified emotional support as including feelings of empathy, showing concern for students, and building trust. Thus, by building a trusting and safe environment, the participants could also be seen as building a supportive environment.

Theme 5: *Teachers push students by exposing them to tasks involving analysis and synthesis*

When describing their thoughts about academic rigor, the participants suggested that they had to push students so that they would grow. The participants indicated that when implementing rigor in their classes, pushing students typically involved exposing them to activities that required analysis and synthesis. While these tasks could vary depending on their classes, the participants felt that rigor required students to think at higher levels.

To rate the cognitive demands of classroom activities, teachers often use taxonomies such as Bloom's Taxonomy, which has six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom et al., 1956).

Tasks using the first three levels of Bloom's Taxonomy are often seen as lower-level thinking, and those using analysis, synthesis, and evaluation are often seen as higher-level thinking (Moore & Stanley, 2010).

Bloom et al. (1956) described analysis as breaking down information into parts and finding relationships between parts. When asked to describe how they implemented rigor in their classrooms, Barlowe and Randis described assignments during which students had to analyze primary source documents. In these tasks, students had to examine documents such as letters from historical figures, and break them down to determine their meanings in the greater historical context. Likewise, Buckley and Johnson described activities during which students had to analyze magazine articles illustrating current events related to the content they were currently studying. Students then had to use the content from the articles to back up their arguments in debates or class discussions.

Bloom et al. (1956) described synthesis as putting together parts to form a whole, or creating new information from existing parts. When describing how they implemented rigor in their classes, the participants often described tasks such as projects or class activities, which required students to synthesize information. Randis described projects involving World War I and the Holocaust, which required students to take the information they had learned from multiple sources and "put it all together" into a final product. Johnson described a project during which students had to "create businesses from scratch." After learning about a variety of different aspects of creating a business, students had to bring all the elements together to create their own businesses. Likewise, Barlowe described an activity that required his Political Systems students to synthesize

information about the law making progress during an activity he described as a "mock Senate."

The participants also suggested that they could implement rigor by asking students to analyze and synthesize information on tests. By asking students to analyze passages and examine graphics such as political cartoons and diagrams, the participants felt like they increased the rigor of their tests. Likewise, by including questions requiring written responses, the participants felt like they could encourage higher level thinking by asking students to synthesize information from many aspects of their course into a written response.

While "analysis" and "synthesis" are terms used by Bloom's taxonomy, similar terms exist in other taxonomies (Anderson et al., 2001; Marzano & Kendall, 2007), and thus the participants thoughts could be described using other terms with similar meanings. For example, the cognitive dimension of the Anderson et al. (2001) revision of Bloom's Taxonomy uses six categories (from lowest level to highest level): remember, understand, apply, analyze, evaluate, and create. Likewise, the New Taxonomy developed by Marzano and Kendall (2007) includes the cognitive system that is divided into four separate levels (from lowest to highest): retrieval, comprehension, analysis, and knowledge utilization. Regardless of the taxonomy, the tasks described by the participants seemed to fall into the higher level thinking categories, suggesting that the participants felt that to implement rigor, they had to engage students in activities that required cognitive tasks such as analysis and synthesis.

Theme 6: *All students should experience rigor, but students in College Preparatory classes need more support*

When describing what they felt to be the differences between College Preparatory and Honors classes, the participants all felt that students in both levels of classes should be pushed so that they could grow. The data from this study suggested that the participants taught both levels of classes in the same manner, with few deviations. This similar approach to teaching both levels of classes was illustrated best when Buckley stated, "I pretty much teach the classes the same. I think if you came into a College Preparatory class and an Honors class you might think it's the same exact lesson."

However, the participants also felt that Honors students were better prepared for rigor, while College Preparatory students needed more support to be successful when their classes became more rigorous. Thus, according to the participants, the differences in approaches to Honors and College Preparatory classes tended to be in how the participants assessed students, and how they supported their independent work in their classes. The participants felt that this need for extra support often stemmed from deficits in College Preparatory students' motivation levels, a lack of prior knowledge and less exposure to higher level activities in previous courses. By identifying differences in students' abilities as the primary difference between College Preparatory and Honors classes, the participants were consistent with literature on tracking that suggested that high schools place students in classes based on criteria such as their past academic achievement, test scores, and teacher recommendations (Loveless, 1998; Slavin, 1993).

The participants often described "support" for College Preparatory students as allowing them more opportunities and more time to master the curriculum standards

required in their classes. While their methods varied, the participants all identified "test corrections" as a way to support students. Test corrections were opportunities for students to review their completed tests, identify what they missed, and turn in new answers. The participants then awarded the students additional credit to their test grades. Likewise, at times the participants offered College Preparatory students more time to complete assignments as a form of support.

When requiring students to perform tasks involving higher level thinking, the participants also described offering College Preparatory students more guided support such as handouts describing how to analyze a primary source, and verbal guidance as students examined documents. Likewise, the participants suggested that they supported College Preparatory students by giving them more verbal cues during class to emphasize important topics. When designing assessments, the participants also gave students visual clues such as word banks to support them.

The methods of supporting College Preparatory students described by the participants tended to be forms of instrumental and informational support. By providing interventions such as allowing students to perform test corrections and allowing students to have more time, the participants suggested that College Preparatory students need more instrumental support. Instrumental support involves spending time with students, and providing assistance, materials, and help (House, 1981; Mercer et al., 2011). Informational support is providing someone with "verbal directions, advice, or suggestions" (Mercer et al., 2011, p. 324). By offering their verbal directions during class activities, and some written support during exams, the participants seemed to be providing their students informational support.

Theme 7: *College Preparatory classes are often larger and more heterogeneous, which makes supporting students to promote rigor more difficult for teachers*

While the participants felt like College Preparatory students needed more support, they also stated that College Preparatory classes tended to be larger and have students with a wide variety of skills. With College Preparatory classes being larger and more heterogeneous, the participants indicated that it was harder to support students in College Preparatory classes, especially when they became more rigorous. Buckley summarized the participants' thoughts about the nature of College Preparatory classes at Edgewater High School when he stated that the nature of these classes were frustrating for him because he was trying to be "rigorous for those College Preparatory students, but at the same time you've got 35 or 36 kids in a class. It's very challenging with that wide range of prior knowledge and ability level."

When school districts use course titles such as Honors and College Preparatory, they create a system of curriculum differentiation, or tracking (Carey, Farris, & Carpenter, 1994; Oakes, 1985; Slavin, 1993). A related term is ability grouping, which is a practice used by teachers to form homogeneous groups within a classroom for differentiated instruction (Loveless, 1998). The participants in this study suggested that the way students were being grouped at Edgewater High School did not necessarily ensure that students were in classes with other students of similar ability levels, causing frustration for the participants.

Magnifying the problem of larger heterogeneous College Preparatory classes is a phenomenon described by Buckley as the "misplacement" of students. According to the participants, if a student was misplaced, they were not enrolled in the proper level of

class. For example, all the participants spoke about students who perhaps had the ability to be placed in an Honors class, but for whatever reason were enrolled in a College Preparatory class. Likewise, some students may have been enrolled in an Honors class, but perhaps did not have the knowledge and skills of some of their peers in that level of class. The participants thought it was harder to support a student that was misplaced in a College Preparatory class because the classes tended to be large and the students were diverse in their levels of knowledge and skills.

In the 1930s, Turney (1931) outlined the commonly held beliefs about the advantages of tracking. In listing the advantages of tracking identified by Turney, (Slavin, 1993) stated that advocates of tracking supported this method of grouping students because:

1. It permits pupils to make progress commensurate with their abilities.
2. It makes possible an adaptation of the technique of instruction to the needs of the group.
3. It reduces failures.
4. It helps to maintain interest and incentive, because bright students are not bored by the participation of the dull.
5. Slower pupils participate more when not eclipsed by those much brighter.
6. It makes teaching easier.
7. It makes possible individual instruction to small slow groups. (pp. 75-76)

Slavin (1993) found that the arguments about the advantages of tracking had remained largely unchanged since the 1930s.

The frustrations about the nature of College Preparatory classes expressed by the participants suggested that the method in which students have been placed in classes at Edgewater High School may counteract some of the advantages of tracking. For example, Barlowe stated that because there were such disparities in ability levels within College Preparatory classes, the "higher end students sometimes had to wait for the rest of the class to catch up, while the lower end students were being left behind." Likewise, all the participants described the challenge of providing their College Preparatory students a rigorous learning experience because they tended to be larger and more heterogeneous.

Implications for Future Research

The findings of this study have implications for future research involving the nature of academic rigor. The literature involving academic rigor is relatively sparse, and it is especially devoid of the perspectives of teachers. While policymakers and administrators continue to call for more rigorous classes, there have been few attempts to capture the thoughts of the teachers who are responsible for implementing rigor with students. If the term "rigor" is to continue to be used in educational settings, there is a need to capture diverse perspectives about rigor in multiple contexts to try to gain a better understanding of how teachers conceptualize and implement academic rigor.

This study attempted to examine the perspectives of four Social Studies teachers who worked at Edgewater High School, a suburban high school with over 3,000 students. Other contexts could also be explored to see if there are commonly held beliefs about the nature of academic rigor and how it is implemented. For example, do teachers think about rigor differently in urban or rural settings? Do teachers think differently about rigor in schools that are smaller? Do middle school and elementary school teachers think about

rigor differently than high school teachers? In many instances, policies are created at state and federal levels that apply to all teachers, regardless of the size of their schools and whether they teach in urban, suburban, or rural districts. If policymakers call for "more rigor," and they wish for their policies to improve education, it could be important to know how teachers conceptualize the idea of rigor.

Because all of the participants in this study worked in the Social Studies Department, another avenue of research could be investigating how teachers who teach in other disciplines conceptualize and implement academic rigor. For example, do teachers in the math and science departments think differently about academic rigor than those who teach band or art? How do teachers of special education or English Language Learners conceptualize academic rigor? By examining rigor through the lenses of different disciplines, researchers could gain a better understanding of academic rigor and how teachers implement rigor.

Coincidentally, all the teachers in this study that met the selection criteria were males. Another avenue of research involving academic rigor to pursue could be to attempt to examine the thoughts of female teachers. Likewise, all the participants in this study were White. Exploring the thoughts of minority teachers could also add to the literature on rigor. Does a teacher's gender and race impact their views on academic rigor and how teachers implement rigor in their classrooms?

While this study aimed to capture teachers' voices, other possible avenues for research could involve those who work with teachers. While there have been few studies examining how teachers conceptualize rigor, at the time of this study, there were no known studies of how administrators conceptualize rigor. Examining the thoughts of

school administrators could help researchers understand the complex relationships between administrators and teachers. For example, how do administrators conceptualize academic rigor and *expect* teachers to implement it in their classrooms? How do the thoughts of administrators compare to the thoughts of teachers? Likewise, examining the thoughts of administrators and teachers in the same building could yield information about how schools operate.

Another avenue for research could involve an important voice in schools that has also been largely left out of the investigation of rigor – the students. Students' perspectives may give educators insight as to what it means to experience rigor. How do students conceptualize academic rigor? Do students feel a sense of growth when exposed to rigor as the participants in this study suggested they should? What is it like to learn in an Honors class opposed to learning in a College Preparatory class? Adults can guess at the answers to these questions, but until the voices of the students are heard, there will continue to be uncertainty.

Implications for Administrators

This study also has implications for practicing administrators such as principals, assistant principals, and district level administrators. The findings suggest some possible directions for instructional supervision and professional development to support rigorous classrooms. Likewise, the findings suggest some possible considerations for district level administrators with regard to how students are grouped for learning.

The participants indicated that an important aspect of rigor was getting students to think at higher levels. One theme that emerged during this study suggested that rigor involved pushing students to think at higher levels, which resulted in student growth.

Another theme that emerged during the study was that higher level thinking tasks often involved analysis and synthesis. Thus, the findings of this study suggest that to promote rigor, administrators need to have to have a clear vision of what tasks involving analysis and synthesis look like. Likewise, teachers may need professional development designed around higher level thinking to grow and become more proficient with teaching these higher level thinking skills to students.

The findings from this study also suggest that to promote academic rigor, administrators may want to focus on the nature of student support. One of the themes that emerged during this study was: To promote academic rigor, teachers act as facilitators. The participants described a dual role of first supporting students directly through instrumental support, and then switching to a facilitator role where they provided informational support. If becoming a facilitator is an avenue to more rigorous classrooms, administrators need to be aware of what skills are needed to successfully facilitate classes so that students learn at high levels. While some teachers may be adept at their facilitator roles, administrators may wish to explicitly explore ways to assist teachers in supporting students as classes become more rigorous and their roles shift from being a "sage on the stage" to that of a "guide on the side." Administrators might focus instructional supervision activities on investigating the outcomes of facilitation, and could support teachers through professional development aimed at assisting teachers with skills and strategies to use during facilitation.

The participants also indicated that supporting students in rigorous environments could involve establishing an environment that is safe and that promotes trust between the teacher and the students. To promote rigor, administrators may need to identify

elements of safe and nurturing environments, and strategies that teachers use to create such environments. The findings involving the classroom environment may also suggest that administrators should be conscious of these factors when selecting teachers during the hiring process. If teachers do not express an interest in building positive relationships with their students, it is questionable as to whether they can build supportive environments to promote rigor.

One of the themes that emerged during this study was: College Preparatory classes are often larger and more heterogeneous, which makes supporting students to promote rigor more difficult for teachers. The participants indicated that College Preparatory classes were often made up of students with large differences in ability levels. This finding suggests that differentiated learning may be very important to the success of students in College Preparatory classes. If teachers are to be prepared to teach College Preparatory classes in a rigorous manner, they may need to be well versed in strategies that encourage differentiation. Thus, if school administrators wish to promote rigor in College Preparatory classes, they may have reason to emphasize differentiated instruction during instructional supervision, and while designing professional learning programs.

Some of the findings also have implications for district level leaders. District level leaders often make decisions about how students are grouped, or tracked, in their schools. The participants in this study suggested that having only two levels at which students can interact with the curriculum may not be enough. The participants suggested that their College Preparatory classes, which were the lowest levels classes at Edgewater High School, were too large and filled with students possessing wide ranges of ability levels. If

they wish to promote rigorous environments, district level leaders may need to consider the sizes of the different levels of classes, and how many levels would be sufficient to properly group students. Likewise, school leaders may wish to more thoroughly evaluate students to properly place them.

Concluding Thoughts

The world of education is inundated with terms such as engagement, high expectations, support, and rigor. These terms are often ill-defined and complex, and it is questionable as to whether practitioners actively think about or discuss their meanings. This study sought to engage teachers in a thoughtful discussion about the meaning of academic rigor so that their voices could be a part of the ongoing discussion about rigor in America's schools. This case study is a small, context-specific, sampling of teachers' voices. If rigor is to be a method of improving schools, researchers and practitioners should consider seeking other voices in an attempt to build a better understanding of teachers' conceptualizations of rigor and how they implement rigor in their classrooms.

While often charged with providing the students in their schools with a rigorous education, trying to observe rigor in classrooms is a difficult task for administrators. While they cannot necessarily be generalized to other contexts, many of the findings from this study indicate that rigorous environments involve complex work by teachers and students. If they wish to better understand rigor and how it plays out in classes, administrators would be wise to keep an open dialogue with their teachers. Through aspects of the instructional supervision process such as pre-conferencing and post-conferencing, administrators and teachers can work together to build a better understanding of concepts such as rigor, support, and high expectations.

With the stakes as high as ever for students, school leaders also need to be aware of the different levels of classes that they offer in their schools and which subsequently end up on students' transcripts. If teachers present courses such as College Preparatory and Honors in the same manner, and differentiate the support they give students, what does that mean to those who are viewing their transcripts (if anything)? What happens if teachers present College Preparatory and Honors classes in the same manner, but do not offer College Preparatory students more support?

Questions such as these are indicative of the complex nature of the American high school. Rigor is but one part of this complexity. However, with its widespread use, educators and scholars need to study this concept to gain a better understand of its meaning. The findings from this study suggest that some teachers think academic rigor is an important catalyst in helping students grow intellectually. Thus, in the best interest of their students, administrators and teachers should continue to engage in dialogue about rigor and how it can improve schools.

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APPENDICES

Appendix A

Interview Guide

Hello and thank you for agreeing to interview with me today. I am currently a doctoral student at the University of Georgia and I am interested in how high school teachers conceptualize "academic rigor." During today's interview, I will be asking you some questions about the nature of academic rigor, student support, and teacher expectations. I will also be asking some questions about the nature of College Preparatory and Honors level classes. In addition to my formal questions, at the end of the interview you will have the opportunity to share any other information you feel is important to my understanding of this topic. Our interview will last approximately one hour, and will be recorded using a digital audio recorder. As outlined in the consent form you signed, the information you share today will be kept confidential. If you become uncomfortable during the interview, please remember that you may end it at any time. Likewise, if you are uncomfortable answering any particular question, we can skip it. Do you have any questions before we begin?

To begin, there is currently little consensus amongst scholars as to the nature of academic rigor. The first few questions are aimed at your beliefs about rigor.

1. From your experience, tell me of your understanding of the term "rigor."

   Possible probes: Tell me what you think of when you hear the term "rigor." How is this term used in education?

2. Describe a rigorous classroom.

   Possible probes: Tell me about a rigorous classroom activity. Explain how teachers create a rigorous environment through instruction. Describe a rigorous assessment. If I went into a rigorous classroom, what would I see students doing? Describe what I would see if I observed a teacher in a rigorous classroom.

3. How do students generally respond to rigor?

Now that we have discussed academic rigor in general terms, I would like to explore a couple of areas that scholars often link to rigor. The first involves expectations, and in particular the expectations that teachers hold of their students.

4. Discuss the role of "expectations" in the classroom.

   Possible probes: Explain how expectations are important. Discuss how you convey your expectations. Describe how expectations impact students in class.

In addition to expectations, scholars suggest that "support" is another important concept associated with academic rigor. The next part of our discussion will involve your beliefs about the nature of support related to rigor.

5. Discuss the role of teacher "support" of students in the classroom.

   Possible probes: Describe ways in which teachers can support students. What does support look like? How is support important? Can you give me an example of a time when you supported students and how rigor played out?

Finally, in high schools, courses are often designated as "College Prep" and "Honors." The last part of our formal discussion involves your beliefs about the nature of these classes.

6. How do you perceive the differences, if any, between a "College Prep" class and an "Honors" Class?

   Possible probes: Describe the expectations for students in each of these classes. Discuss how you support students in each of these classes. Talk about how you approach these classes differently. What does rigor look and sound like in a College Prep class? What does rigor look and sound like in an Honors class?

Thank you very much for your insight into these issues. That concludes the formal questions I have for you. Is there anything else you would like to add or comment upon to help my understanding of academic rigor, student expectations, or support?

<listen to teacher and ask any follow up questions I might have>

Thank you again for taking your time today to speak with me. Your answers were very helpful to my exploration of these issues. Would you mind if I contacted you if I have any follow up questions or need clarification about any of your answers?

Appendix B

Observation Tool

Using Bloom's Taxonomy to Analyze Teacher Questions and Student Responses

Time	Teacher Questions	Taxonomy of Teacher Questions	Student Responses	Taxonomy of Student Responses

(Zepeda, 2012)