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Connective Teaching

Eliciting Engagement in the High School Classroom

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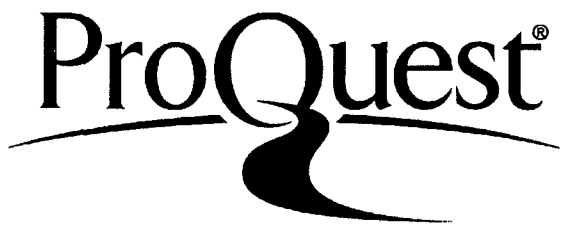

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Abstract

Given the current crisis in engagement in US high schools, this work argues that educators must work systematically to increase classroom engagement. To facilitate this process, it introduces the *Classroom Engagement Framework*—which seeks to establish a clear definition of engagement, common language for discussing engagement, and collective understanding of engaging classroom practices. The Classroom Engagement Framework posits three conceptual points of entry for increasing global engagement through three types of classroom practices—lively instruction, academic rigor, and connective teaching—that target behavioral, cognitive, and emotional engagement, respectively.

Through surveys with 1,132 students at one high school, this research estimates that the relationship between connective teaching and engagement is almost half a standard deviation in size—more than two and a half times the effect sizes of lively instruction or academic rigor as predictors of engagement. Given this powerful relationship between connective teaching and engagement, the second phase of this study uses case studies of five classes and interviews with thirty-three students to examine how teachers most effectively implement the connective teaching practices of self-expression, relevance, care, understanding, and affirmation, and why students experience these practices as engaging. It finds that opportunities for self-expression are most engaging when they are varied, content-based, autonomous, and occur in psychologically safe learning environments. Students' experiences with curricular relevance appear to be most engaging when content offers

present utility that relates directly to students' daily lives. Care and understanding are both found to be more engaging when they are personal and individual, yet students display high expectations of teacher care and only little expectation of teacher understanding. Finally, experiences with affirmation are most engaging when they occur through genuine experiences with academic success, rather than through teacher praise or grades.

In examining why these practices engage students, this study finds that connective teaching practices support students' positive identity formation by promoting feelings of self-worth, positively influencing perceptions of intelligence, and facilitating self-definition. Across all of these findings, this research illustrates the complexity of teaching for engagement and seeks to help educators hone and refine classroom instruction to increase student engagement.

Chapter 1

Classroom Engagement in American High Schools

The United States is facing a crisis in student engagement. Most drastically, this is evident in the empty seats in our nation's high school classrooms, where 1.3 million students who were slated to graduate in 2011 are no longer there (Swanson, 2010). Considering that the class of 2011 began ninth grade three years ago with 4.3 million students, this loss of 30% is not just shocking—it is catastrophic. On average, students who do not finish high school have substantially lower lifetime earnings and higher unemployment rates than graduates (Fashola & Slavin, 1998; Orfield, 2004; Webster & Bishaw, 2006). They are also more likely to live below the poverty line, be incarcerated, go without health plans, and lead less healthy, shorter lives than graduates (Jerald, 2006; Orfield, 2004). In response, many schools and districts have spent the last decade strategizing about how to get and keep students in their seats until graduation. For example, districts such as Los Angeles and Stockton, California have focused on monitoring attendance and encouraging truant students to return to school (LAUSD, 2008; Maxwell, 2010). Others such as New York City and Philadelphia have focused on identifying and monitoring the academic progress of potential dropouts, creating smaller schools, and increasing alternative education options (Garland, 2010; Mezzacappa, 2010). Such efforts have shown signs of success—for example, New York City's graduation rate rose from 47% in 2005 to 63% in 2009 (Garland, 2010). Critically, however, such technical and structural approaches miss a key factor in dropping out—students' experiences inside classrooms.

Importantly, when asked about why they left school, many dropouts cite reasons related to low levels of engagement in the classroom, such as boredom, not getting along

with teachers, disliking school, and feeling unmotivated to do their work (Bridgeland, Dilulio, & Morison, 2006; Rumberger, 2004; Swanson, 2004). Illustrating the key role of classroom experiences, dropouts in the 2006 *Silent Epidemic* study described their best days in school as those when teachers involved them in class activities and affirmed that they were doing well. But such days were rare. Generally, these former students reflected on feeling alienated from, and thus disengaged with, their classroom experiences (Bridgeland, Dilulio, & Morison, 2006). Similarly, in a participatory action research study, students in Chicago Public Schools concluded that among the steps necessary to prevent dropping out were improvements in teaching techniques, teacher/student relationships, and the relevance of curriculum (VOYCE, 2008)—all of which identify the classroom as a pivotal arena of change for increasing graduation rates.

Critically, it is not just dropouts who report high levels of disengagement. Among the more than 275,000 US students who completed the High School Survey of Student Engagement from 2006 to 2009, 65% reported that they were bored in school at least once a day, with 16% reporting that they were bored in every class (Yazzie-Mintz, 2009). In addition, only 36% of students reported that they went to school each day because they enjoyed it. Researchers from the Programme for International Student Assessment (PISA) have also collected survey data on student engagement, noting that "meeting the needs of youths who have become disaffected from school is perhaps the biggest challenge facing teachers and school administrators" (Willms, 2003). PISA researchers found that 25% of fifteen-year-old students in the US have a low sense of belonging at school, ranking the US twentieth out of twenty-seven developed countries on perceptions of belonging (PISA, 2000). Researchers also found that 20% of US fifteen-year-old students have low levels of participation at school (defined as attendance), making the US tied for fourteenth out of

twenty-six countries in participation. Collectively, these findings reveal a critical need for greater efforts to engage students in our nation's classrooms.

As testimony to the increasing emphasis on student engagement, the Institute of Education Sciences and the Regional Education Laboratory Southeast recently released a report detailing twenty-one instruments for measuring engagement at the school and classroom levels (Fredricks, et. al., 2011). What is not addressed in this report, however, is what schools should do with their results. That is, how can schools respond to student engagement data? Naturally, a fundamental element of responding to such data is a shared understanding of what constitutes student engagement and what classroom practices engage high school students. Yet, conversations with educational practitioners reveal that a shared understanding of student engagement and how to achieve it does not exist. In a representative statement, the principal of my dissertation site told me: "When I heard you announce the title of this study, I was immediately taken back to a staff meeting, a department meeting, in which the subject of engagement came up, and some fairly open hostility was directed to me about what I thought was engaging and what isn't and questioning my ability to define it." As this statement suggests, a prerequisite for even discussing student engagement is collective agreement on what engagement is and how it is achieved. At present, practitioner guides on engagement typically contain lists of practices for teachers (e.g., Easton, 2008; Marzano, 2007 Vermette, 2009). What is missing, however, is a structured conceptual framework for facilitating conversations among educators seeking to diagnose and increase student engagement within their schools—a framework that clearly delineates among types of engagement and instructional points of entry for addressing each type. My dissertation takes the first step toward meeting this need by presenting and beginning to examine what I have termed the *Classroom Engagement Framework*—both by

exploring the framework as a whole and by conducting extensive inquiry into a key component of the framework, connective teaching.

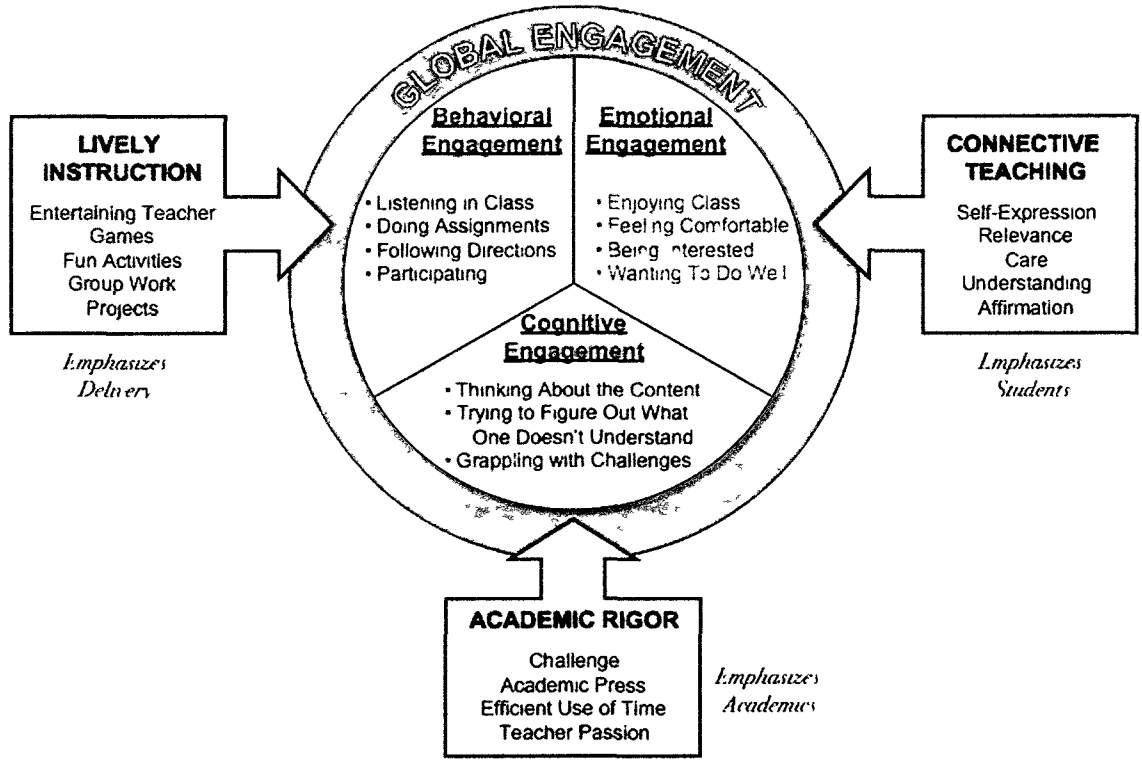
The Classroom Engagement Framework

Classroom engagement is an active state of responding to a class through focused behavior, emotion, and cognition (Connell, 1990). Because engagement has these three dimensions, theorists and researchers often consider behavioral engagement, emotional engagement, and cognitive engagement as separate constructs, each of which occurs along a continuum from low to high (Fredricks, Blumenfeld, & Paris, 2004). *Behavioral engagement* is the extent to which a student exhibits the behaviors expected in a classroom—listening, doing assignments, following directions, participating in activities, and so forth. On an affective level, *emotional engagement* denotes the extent to which a student feels positively about a class, such as by enjoying it, feeling comfortable and interested, and wanting to do well. Finally, *cognitive engagement* is the extent to which a student applies mental energy in a class, such as by thinking about the content, trying to figure out new material, and grappling with mental challenges (Blumenfeld, Kempler, & Krajcik, 2006; Fredricks, Blumenfeld, & Paris). Although it is useful to think about classroom engagement as occurring along these three dimensions, these elements of engagement are also highly interrelated and synergistic, such that they feed off and into one another, blurring the boundaries between them. For example, positive emotional engagement in a class can be critical for high levels of cognitive engagement because a student's desire to do well can influence her willingness to devote time and thought to academic tasks and persist in the face of challenges (Blumenfeld, Kempler, & Krajcik, 2006; Yonezawa, Jones, & Joselowsky, 2009). Just the same, low levels of cognitive engagement could create low levels of emotional engagement, such that if a

student finds that the academic tasks in a particular class do not require high levels of mental energy, she could end up feeling bored and apathetic. Such low cognitive and emotional engagement could also generate low levels of behavioral engagement if the student were to stop doing her assignments and start tuning out in class because she was mentally unchallenged and feeling apathetic. Because of these synergistic properties, the Classroom Engagement Framework considers engagement as a global concept that captures the interrelationships among the three dimensions.

In the Classroom Engagement Framework (illustrated in Figure 1), I theorize that global engagement can be increased when teachers effectively implement practices that target specific dimensions of engagement. For instance, if a teacher senses low levels of emotional engagement in his class, such as apathy or discomfort, he can focus on strategies for increasing emotional engagement and also expect to see some increases in behavioral and cognitive engagement as byproducts of increased emotional engagement. For this reason, in the Classroom Engagement Framework, I theorize that the three dimensions of engagement provide conceptual *points of entry* for increasing global engagement but that global engagement as a whole is our ultimate goal for students. I suggest three types of classroom practices—lively instruction, academic rigor, and connective teaching—that teachers can employ to target each of the three dimensions of engagement with an aim to increase global engagement.

Figure 1. The Classroom Engagement Framework



In Figure 1, I depict my theory that *lively instruction* uses behavioral engagement as a point of entry into increasing global engagement by emphasizing instructional delivery and using practices such as being entertaining and integrating games, fun activities, group work, and projects into the class. The idea here is that such practices will entice students into listening and participating—fundamental components of behavioral engagement. Figure 1 also illustrates that *academic rigor* targets cognitive engagement by emphasizing academics through such practices as assigning challenging work, pushing students to work hard, using time efficiently, and demonstrating passion for the content. I theorize that such practices heighten the academic focus of a class and encourage students to think about the content. Finally, this model posits that *connective teaching* targets high levels of emotional engagement by emphasizing individual students through providing opportunities for self-expression,

making content relevant, exhibiting care for and understanding of students, and affirming students when they do well. The central idea of connective teaching is that it enables students to connect themselves with their classroom experiences and so feel more emotionally engaged with a class.

Importantly, these three types of practices are not mutually exclusive, and good teachers use all three in highly effective ways. The idea behind the Classroom Engagement Framework, however, is that teachers and instructional leaders can use the framework to identify particular dimensions of engagement on which they might need to focus and then determine strategies for targeting that particular dimension as an inroads to increasing engagement more broadly. Fundamentally, focusing on increasing one type of engagement should also positively impact other dimensions of engagement. For example, it is conceivable that a particularly challenging assignment—potentially targeted at generating high levels of cognitive engagement—if given at the appropriate level of difficulty could also engender high levels of behavioral engagement by keeping students on task and high levels of emotional engagement by increasing students' interest. Similarly, a student-driven group project that requires original ideas and opinions targets both behavioral engagement through the lively instruction techniques of group work and projects *and* emotional engagement by requiring self-expression, a connective teaching strategy. Most likely, these approaches will also impact cognitive engagement because students will be emotionally invested in the work and so apply the requisite mental energy needed to complete the task. Such overlaps among strategies reflect the strong interplay among the three dimensions of engagement and show the synergistic nature of teaching for high levels of engagement.

In developing the Classroom Engagement Framework, I theorized that connective teaching would have the greatest influence on global engagement among adolescent high

school students. This theory rests on two notions: (a) the centrality of the self during adolescence (Erikson, 1950), and (b) the fact that alienation from school—a key factor in dropping out (Finn, 1989)—is primarily an emotional construct. That is, I theorized that because adolescents are focused on themselves and experience strong emotional reactions to negative experiences in school, the relationship between connective teaching and engagement is likely to be critically important for high school student engagement. For this reason, although my dissertation introduces the Classroom Engagement Framework, it focuses primarily on determining and understanding the role of connective teaching in global classroom engagement. Below, I present the conceptual foundations of classroom engagement and connective teaching, integrate known practices for engaging students into the Classroom Engagement Framework, and present an overview of the present study.

Classroom Engagement & Connective Teaching—Conceptual Foundations

The most prominent theory on engagement, referenced in most works on the topic, comes from Connell and Wellborn (Connell, 1990; Connell & Wellborn, 1991), who argued that engagement in any context or activity is rooted in three basic human needs required for growth and development—the needs for competence, autonomy, and relatedness. Connell and Wellborn assert that humans are more engaged in contexts in which these needs are met to a greater degree. This same idea is also central to literature on motivation. Deci and Ryan (1985; Ryan & Deci, 2000), for example, have put forth self-determination theory, which contends that the universal needs for competence, autonomy, and relatedness drive human motivation, such that individuals will pursue activities that fulfill these needs, and they will avoid those that make them feel incompetent, controlled, and isolated. In the schooling context then, because students are motivated to seek out opportunities for competence,

autonomy, and relatedness, they are more engaged in classes that provide such opportunities and fulfill these basic needs to a greater extent.

In these theories, *competence* is defined as feeling capable of reaching a positive outcome through both confidence in one's capacity to do so and belief that one has the necessary strategic knowledge (Connell, 1990; Newmann, Wehlage, & Lamborn, 1992). The desire to feel competent is considered fundamental to human behavior, and theories on this need originate in White's (1959) concept of effectance motivation, whereby energy is driven by the pure pleasure of feeling effective in regard to one's environment (Deci & Ryan, 1985; Stipek, 2002). The second need, *autonomy*, refers to feeling choice in, and agency over, one's activities (Connell, 1990; Ryan & Deci, 2000). Deci and Ryan (1985) refer to such choice as self-determination, which represents the human desire for agency over one's fate. Theorists argue that when students experience classrooms activities as either self-initiated or self-endorsed, emotional engagement and enthusiasm for learning are enhanced (Eccles, et. al., 1993; Gehlbach & Roeser, 2002; National Research Council, 2004; Shahar, et al., 2003). Finally, *relatedness* is the need for a sense of belonging and connection with others (National Research Council, 2004; Osterman, 2000). Researchers and theorists have argued that students who experience relatedness in educational settings also experience greater motivation and engagement with learning (Baumeister & Leary, 1995; Furrer & Skinner, 2003; National Research Council, 2004; Osterman, 2000).

In the most recent wave of research on student engagement, researchers have begun to emphasize the link between understandings of the self and classroom engagement (Lannegrand-Willems & Bosma, 2006; Nasir & Hand, 2008; Yonezawa, Jones, & Joselowsky, 2009). In previous research, I found that students were engaged in classrooms that affirmed the positive elements of their identities, countered the negative aspects of their identities,

and promoted their development toward their ideal future identities (Cooper, 2009). Conversely, I found that classrooms that highlighted or reinforced the negative aspects of students' self-concepts, worked against students' future goals, or were simply irrelevant to students' perceived needs provided low levels of engagement. In summarizing research on identity development for educators, Nakkula (2003) asserts that adolescents experience the highest levels of investment and gratification in activities and relationships that positively influence their identity.

Exemplifying this, Nasir and Hand (2008) compared the engagement experiences of eight African American males in basketball practice and in high school math class and argued that, among other reasons, these students experienced greater engagement during basketball practice because of the activity's more salient link to their identity and to the greater opportunity for authentically integrating their sense of self during basketball practice. In research on engagement and schooling, Davidson (1996) and Yonezawa, Jones, and Joselowsky (2009) have argued that student understanding of the self is central to how students experience school and should be the subject of much future research on engagement and creating more rewarding schooling experiences for adolescents. The clear link between engagement and the self is also identifiable in the use of similar terminology in the two bodies of literature. For example, Roeser, Peck, and Nasir (2006) summarize Erikson's (1968) explanation of adolescent identity formation by stating that, following puberty, "relatedness, autonomy, and competence needs are renegotiated in terms of the increasingly diverse range of experiences and people that typify adolescents' social worlds" (p. 394). Thus, as an element of self-definition, adolescents are interpreting and reconsidering where they belong, what they control, and what they are capable of achieving.

These ideas are the foundation of my conceptualization of connective teaching. Specifically, I theorized that classroom strategies that emphasized individual students and facilitated their ability to both define themselves and draw positive conclusions about themselves would enable students to build positive emotional connections with their classes. I theorized that these emotional connections would then manifest in higher levels of behavioral and cognitive engagement in class. I anticipated that connective teaching would be engaging for high school students in particular because during adolescence youth start to question who they are in relation to the wider world and begin to conceptualize their identity (Erikson, 1950). This process of identity formation involves primarily unconscious reflection, observation, and judgment of the self in comparison to others (Erikson, 1968; Kroger, 2000), but I theorized that it would be an underlying mechanism by which students made meaning of their classroom experiences.

Although it is largely unconscious, such psychological considerations of identity include appraisals of the self along dimensions of self-esteem and self-worth that come to the forefront during adolescence as teens begin to understand themselves through more abstract forms than they did in childhood (Arnett, 2010; Harter, 2006). Although fundamentally related, these concepts tap into different ways in which individuals evaluate themselves—with self-esteem reflecting how good one feels about himself and self-worth denoting one's sense of his overall value and deservedness (Arnett; Harter). Self-knowing and self-definition also become critical tasks in adolescence as youth work to understand and assert the ways in which they are similar to or different from others (Erikson, 1968; Marcia, 1966; Shahar, et al., 2003). In many ways, students' experiences in schools and classrooms inform their assessments of the self along these various dimensions, such that experiences of

achievement or failure, belonging or alienation, and attention or disregard feed into students' conceptions of who they are (Nakkula & Toshalis, 2006; Sadowski, 2003).

The five classroom practices that constitute connective teaching are thus practices that I theorized could positively feed students' developing sense of themselves through enabling them to experience feelings of competence, autonomy, and relatedness and then draw positive conclusions about themselves from these feelings. In this regard, I expected that affirmation from teachers could elicit and reinforce feelings of competence. I hypothesized that relevant content would provide students with a feeling of autonomy that what they were learning was useful and purposeful for them. I anticipated that students would experience feelings of relatedness through teacher care and understanding. Finally, I expected self-expression to provide students with a way to interject their sense of self into the classroom space and feel valued and unique as an individual. For all of these reasons, I expected that, among the strategies in the Classroom Engagement Framework, those in the category of connective teaching would have the largest impact on engagement because they facilitate the developmental task of youth coming to understand themselves.

Integrating 'Engaging' Classroom Practices into the Framework

As noted above, current guides for practitioners on the topic of student engagement typically provide lists of practices that have been shown to engage students (Easton, 2008; Marzano, 2007; National Research Council, 2004; Vermette, 2009). These established practices span my conceptual groupings of connective teaching, lively instruction, and academic rigor. In creating the Classroom Engagement Framework, one of my key goals is to organize these 'engaging' practices into coherent groups that share the same underlying mechanisms for inducing global engagement. My purpose is to provide educators with

strategic entry points for addressing particular gaps in student engagement. Below, I reveal how I have classified and grouped particular sets of engaging practices by defining each type of practice and examining specific teaching strategies that demonstrate the 'theory of action' of each approach.

Lively Instruction

I define *lively instruction* as a category of teaching practices in which the teacher emphasizes delivery of instruction as a means for engaging students. Examples of lively instruction practices include a teacher attempting to enliven the learning experience in a class by including games and fun activities, projects, or group work. In addition, teachers who try to entertain students with their personalities or jokes utilize lively instruction as a way of trying to get students' attention and make the classroom experience more enjoyable. Numerous authors tout the advantages of lively instruction for engaging students. In his popular writing for teachers, Marzano (2007) advocates that teachers use games to review academic content, including games modeled off the television shows *Jeopardy*, *The $100,000 Pyramid*, and *Family Feud*. He also suggests 'fun' activities that get students out of their seats such as by walking to locations within the classroom to vote among alternatives or having students act out curricular concepts. Group work is another popular strategy for engaging students. In his book outlining eight steps for successfully engaging teens in their own learning, Vermette (2009) advocates collaborative grouping because effective collaboration with peers enables students to test out new ideas in a safe space and make their own meaning out of curricular materials. Many teachers also assign projects as an engagement strategy for similar reasons—although experts on project-based learning warn that projects create the most meaningful learning experiences when they are student-driven, stem from

students' interests, and involve genuine inquiry (Larmer & Mergendoller, 2010). Indeed, on the 2009 High School Survey of Student Engagement, 60% of students reported that they found group projects to be exciting and/or engaging, while 75% reported that they did not find teacher lectures to be exciting and/or engaging (Yazzie-Mintz, 2009). Shernoff, Csikszentmihalyi, Schneider, and Shernoff (2003) argue that low levels of student engagement during passive learning activities such as listening to lectures or watching videos result from the anonymity and inactivity of such instruction. This research suggests that students are more engaged by lively instructional practices in which the central point of activity is the student, rather than the teacher.

In the category of 'entertainment,' Pogrow (2008, 2009) advocates a strategy he calls "Outrageous Teaching," in which teachers use dramatic techniques—costumes, role play, humor, fantasy—to introduce lessons and topics through storylines that are "fascinating" and "entertaining" so as to grab students' attention and create a context for learning (2008, p. viii). He argues that the elements of entertainment, suspense, and curiosity elicited through outrageous teaching make lessons meaningful and memorable for students and that this approach is particularly effective for students who are typically unengaged by traditional instructional techniques. As rationale for outrageous teaching, Pogrow (2009) frankly asserts, "While we have made great progress as a profession in how to employ scientific principles of psychology to teaching and learning, we have made little progress in how not to bore students" (p. 383). As such, Pogrow clearly advocates for the need for more entertaining teachers and techniques.

Some authors question an over-reliance on particular forms of lively instruction—such as games or entertainment—because they worry that some of these strategies are simply used to 'hook' students in content or units of study that are otherwise dry and irrelevant.

Kist (2005) warns that such approaches might just be "the spoonful of sugar to make the medicine go down" (p. 9). In the interest literature, such facets of lively instruction would be described as generating situational interest that can garner students' attention during a particular classroom activity. Yet situational interest rarely translates into enduring interest in learning about a particular topic or pursuing a particular course of study over time (Blumenfeld, Kempler, & Krajcik, 2006). Thus, a rousing round of history basketball to review for tomorrow's quiz might entice students to attend to the review but it is unlikely to foster a sustained interest in learning history. This is not to advise teachers against lively instruction techniques. On the contrary, they are a critical element of instruction for keeping students' attention and making classrooms enjoyable and student-centered. Project-based learning and group collaboration in particular have been shown to link strongly to student learning, understanding of complex concepts, and motivation for learning (Johnson & Johnson, 2009; Larmer & Mergendoller, 2010; Ravitz, 2010). However, lively instruction for the sake of mere liveliness is insufficient, and focused attention to the content of the instruction is particularly critical for sustained emotional and cognitive development.

Academic Rigor

Academic rigor, by contrast, is a category of instructional practices in which teachers emphasize academic content and hard work as means for engaging students. Teachers who utilize academic rigor employ such practices as assigning challenging work, pushing students to work hard, keeping the classroom moving at a quick pace, and demonstrating their own passion for the course material. Numerous researchers and advocates have promoted academically rigorous means for engaging students in the classroom. Certainly, rigor has been a buzzword in education for a number of years and refers to providing students with

challenging work that requires high levels of cognitive energy and application of knowledge (Wolf, Crosson, & Resnick, 2005). Researchers have found that challenge and academic press—pushing students to work hard—engage students because they require high levels of concentration and attention that help students to become invested in academic tasks. This is particularly the case when challenging tasks are one step beyond students' current skill levels and are accompanied by an adequate amount of support (Dockter, Haug, & Lewis, 2010; Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003). Additionally, the efficient use of time incorporates both time-on-task and pacing. Prior research has shown that when teachers emphasize the use of instructional time—not wasting time during class and keeping things moving at an appropriate pace—students are more likely to stay focused and perceive value in the instructional content, which positively influences their engagement (Cooper, 2009; Marzano, 2007). Similarly, when teachers demonstrate personal interest in what they are teaching, students are more likely to perceive value and thus foster interest that underscores engagement (Good & Brophy, 2003; Marzano, 2007).

Collectively, the components of academic rigor—providing challenging work, pushing students to work hard, using time efficiently, and demonstrating personal interest in the content—engage students because they create a sense of purpose and value in the endeavors of the classroom. Further, when students are successful in such environments, the resultant feelings of competence are meaningful because the tasks held value and did not come easily (Shernoff, Czikszentmihalyi, Schneider, & Shernoff, 2003). Academic rigor also plays a critical role in student achievement. For example, a recent report from the Measures of Effective Teaching Project evaluated the link between student achievement gains and students' perceptions of seven teaching practices, finding students' perceptions of the extent to which teachers challenged them to be one of the two strongest predictors of achievement

gains in a given school year (MET, 2010). Such findings suggest that academic rigor is not only critical for engagement, but also for learning, and is a worthy goal for classroom teachers.

Connective Teaching

Finally, I define *connective teaching* as a category of teaching practices that emphasize individual students so as to help students develop feelings of connection to the classroom. Here, I refer to two critical connections—the student's connection to the *teacher* and the student's connection to the *content*—which together should help the student develop an emotional investment in the instructional core of the classroom (City, Elmore, Fiarman, & Teitel, 2009; Cohen & Ball, 1999). When educators talk about "reaching students," they are tapping into the idea of connective teaching—identifying a perceived need to go beyond grabbing students' attention to establishing a more sustained and meaningful connection between students and the other central facets of the classroom. The critical feature of connective teaching is that it matters *who* the students are—that they are particular people with particular interests, points of views, personalities, and experiences. Compared with practices of lively instruction and academic rigor, which are primarily rooted in teacher's decisions about how to present content or how to set an academic tone in the classroom, practices of connective teaching are more about *who* is in the classroom and taps into the specific characteristics of those people. In the current research, I focus on five strategies of connective teaching—providing students with opportunities for self-expression, making content relevant, demonstrating care for students, understanding students as people, and sending messages of affirmation. Below, I explain each of these five dimensions of

connective teaching, and I describe how each dimension could potentially mediate the relationship between the self and the classroom.

Self-expression in the classroom is the direct expression of one's self in the learning space, and is thus clearly focused on bringing one's identity into the classroom. Self-expression can be explicitly solicited through assignments and discussions in which teachers directly ask students questions to the effect of, "What do you think?" Opportunities for self-expression can also be less overt, such as when students are given space to express their thoughts and opinions even if they are not expressly solicited (Easton, 2008). Oldfather (1995) credits the importance of self-expression for engagement to self-expression's ability to connect learning and identity—particularly students' values, thoughts, and conceptions of who they are—and she argues that classrooms must have a responsive and supportive tone in order for students to feel comfortable expressing themselves. Nasir and Hand (2008) also identify self-expression as a critical source of engagement among high school students because it offers students the opportunity to make contributions that draw from aspects of themselves—such as their personalities and emotions—and enables them to feel valued, connected, and unique. They argue that students attempt to bring "something of themselves" (p. 170) to their classroom interactions, but that academic structures often inhibit the extent to which students' identities are authentically present in the classroom. They note that because classroom structures often do not elicit self-expression in service of the learning objectives, students often bring themselves into the classroom through "counterscript" (p. 171) that works against the teachers' instructional goals and results in off-task behavior. Thus, self-expression occurs in the classroom regardless of whether or not teachers make way for it in instruction so channeling self-expression into learning goals could be a key strategy for increasing engagement.

Relevance is the second dimension of connective teaching and refers to the extent to which students find the content and learning in a particular classroom to relate to their own lives and interests. In the 2006 High School Survey of Student Engagement, administered to over 80,000 students, among those who reported having been bored in class, 75% reported that boredom stemmed from uninteresting material, and 39% reported that boredom was due to irrelevant work (Yazzie-Mintz, 2006), both of which suggest that lapses in interest and relevance are a major reason for student disengagement in high school classrooms. Research on the ways in which students value the content they learn in school distinguishes between intrinsic value, instrumental value, and attainment value, which refer to genuine enjoyment of the content, applicability of the content to one's life, and the importance of knowing the content, respectively (Blumenfeld, Kempler, & Krajcik, 2006). Attempts to increase students' perceptions of relevance could focus on any of these dimensions. Literature on the role of relevance in student engagement notes that students are engaged when the content under study relates to their daily lives, their culture, or their perceptions of what they need to know for their futures (Conchas, 2001; Ladson-Billings, 1995; Nasir & Hand, 2008; National Research Council, 2004; Schussler, 2006). Theorists on engagement also argue that a key element of relevance includes asking students to complete authentic academic work that connects to the real world (National Research Council, 2004; Newmann, Wehledge, & Lamborn, 1992; Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003). Because a central purpose in using relevant material in the classroom is to help students find meaning in their learning, relevance is a tool for enabling students to connect themselves and their lives with the classroom content, and is thus a facet of connective teaching.

The third dimension of connective teaching is teacher care for students. In my work, I define teacher care as the teacher's concern for students' wellbeing, and I argue that how

students perceive that care is of critical importance. As Noddings (2005) notes, students must perceive that a teacher cares in order for the care to have its desired impact on students. That is, if students do not perceive that a teacher cares, then that teacher's care must be understood to be ineffective. In their analysis of care at an alternative high school, Schussler and Collins (2006) found that students experienced three categories of teacher care—academic, personal, and social—meaning that students perceived that teachers cared about their academic performance, their personal development, and their ability to have strong relationships. Students interpreted all three types of caring as personally meaningful, suggesting that care can play a critical role in engagement in the classroom because it offers students opportunities for relatedness and potentially could send students messages regarding self-worth.

As Schussler and Collins (2006) point out, two of the most prominent researchers on care—Mayeroff (1971) and Noddings (1992; 2005)—incorporate understanding as a foundational element of caring for another. All of these authors argue that caring about another rests on understanding that other's perspective so as to identify and aim to serve the other's wants and needs. In the present study, I diverge from this notion and distinguish care and understanding as two separate entities—using *teacher care* to denote the teacher's concern for a student's wellbeing and *teacher understanding* to denote the extent to which the teacher understands where a student is coming from. In my conceptualization, developed through conversations with high school students in my prior research (Cooper, 2009), these two teacher actions can occur together or separately. Indeed, in the present study, there were numerous students who stated that a particular teacher cared for them but did not understand them. In such accounts, students typically interpreted teacher caring as the teacher looking out for their wellbeing and wanting good things for them and teacher

understanding as the teacher knowing them and tapping into them as individuals with specific perspectives and needs. Previous research has asserted that students are more engaged when they feel that teachers know and value them as people (Schussler, 2006). Conceptually, caring seems to be a precursor to understanding such that a teacher must want to meet a student's needs in order to be motivated to try to understand them. However, it is also conceivable that a teacher could care about a student yet not realize that they could offer better care if they were more tapped in to the student's perspective, or they might not have structures in place that allow them to get to know students and their perspectives. Additionally, a teacher may have a basic level of care yet not feel it is appropriate for them to get to know students well enough to gain insight into where the student is coming from. Indeed, the distinction between care and understanding is nuanced, and the presence of one without the other has implications for student engagement. I delve into the intricacies of these two concepts in Chapters 5 and 6.

The final dimension of connective teaching is affirmation, the ways in which teachers send students messages that they are doing well or are capable of doing well in the teacher's class. In his seminal piece on teacher praise, Brophy (1981) noted that straightforward praise from teachers was generally ineffective if it was not specific, credible, contingent on student performance, or reflected in teachers' nonverbal behavior. In summarizing the literature on praise, Brophy further noted that student responses to teacher praise varied from positive to neutral to negative, with some students actively avoiding teacher praise. Importantly, Brophy concluded that teacher praise seemed to be most meaningful for students who were introverted, had external loci of control, and were not accustomed to success in the classroom. Similarly, Sutherland, Wehby, and Yoder (2002) found a positive relationship between teacher praise and classroom participation among students with emotional and

behavioral disorders. All of these findings suggest that there is some need for straightforward praise from teachers for some students but that the impact of praise is not universally positive and encouraging to all. In this study, I extend affirmation beyond teacher praise to include any way in which teachers convey to students that they are doing well or could do well in their class, including providing written commentary or enabling students to experience frequent opportunities for success in the classroom. I theorize that, because affirmation in the classroom sends messages of student competence, it shares the student focus of the other connective teaching practices and will play a role in classroom engagement.

Overview of the Dissertation

As mentioned, my dissertation introduces and begins to explore the Classroom Engagement Framework, with a particular focus on understanding connective teaching and its role in global engagement in the high school classroom. In seeking to understand the role of connective teaching practices within the Classroom Engagement Framework, my dissertation has three central objectives: (1) to determine the extent to which connective teaching practices relate to engagement in the high school classroom, (2) to understand and illustrate how teachers most effectively implement connective teaching in the classroom, and (3) to explore students' perceptions of connective teaching and the mechanisms by which they find these practices engaging. I tackle these objectives through mixed methods research at Riley High School—employing surveys with 1,132 students, case studies of five classes, and interviews with thirty-three students. Through these methods, I demonstrate that the relationship between connective teaching and classroom engagement is more than 2.5 times stronger than that for either lively instruction or academic rigor and engagement. Further, I

illustrate the variations in how individual teachers implement connective teaching practices in their classroom and how variations in implementation influence the engagement and experiences of their students. Finally, I use student interviews to argue that effectively implemented connective teaching practices engage students by promoting their feelings of self-worth, positively influencing their perceptions of intelligence, and by facilitating their experience of self-definition. Across these bodies of evidence, I utilize the Classroom Engagement Framework as an analytic and conceptual tool, and I make a case for focusing on connective teaching as a critical component of our reform efforts for greater engagement in our nation's high schools.

I present this work in seven chapters. In the next chapter, I outline my research questions and describe my methodology. Chapter 3 presents the findings from my quantitative, survey-based comparison of connective teaching practices with practices of lively instruction and academic rigor. Chapter 4 then transitions into the qualitative portion of the study and presents an overview of the five case-study classes in which I apply the Classroom Engagement Framework to understanding the case study classes and preparing to explore the contextual application of connective teaching. The purpose of this chapter is to lay the foundation for understanding the findings presented in Chapters 5 and 6, where I explore the five connective teaching practices and their links to engagement. Chapter 5 investigates the five dimensions of connective teaching—self-expression, relevance, care, understanding, and affirmation—and uses qualitative data to examine students' perceptions of these five classroom practices, noting the ways in which teachers can most effectively implement each dimension of connective teaching. Diving more deeply into students' subjective experiences, Chapter 6 looks at the means by which connective teaching practices tap into the self as a source of engagement. In Chapter 7, I conclude by bringing all of these

points together to illustrate the potential of connective teaching to increase engagement in high school classrooms, and I outline directions for further research and continued development of the Classroom Engagement Framework. Throughout this work, I aim to convey the critical importance of attending to the developmental needs of adolescents as a central means for engaging students in learning—for greater learning outcomes, higher levels of educational attainment, and stronger, more positive perceptions of self.

Chapter 2

Exploring Connective Teaching & Engagement—Research Methods

Given the strong theoretical grounding of connective teaching as a critical tool for engaging high school students in the classroom, I designed my dissertation to examine this proposition using mixed methods research. I set out with three purposes. First, I wanted to examine and measure the relationship between connective teaching and student engagement in the high school classroom by comparing connective teaching to the other elements of the Classroom Engagement Framework. Second, I wanted to identify powerful and effective examples of connective teaching to illustrate these approaches for educators so that they could hone and refine their use of connective teaching in their own practice. And third, I sought to explore the mechanisms by which connective teaching engages high school students to inform our understanding of why these practices are engaging. Given these objectives, I created a mixed-methods design that I carried out in two phases during the 2009-2010 school year at a high school in Texas.

Research Questions

The first objective of this study was to determine whether connective teaching practices *are* linked to engagement and to establish the strength of this relationship. To this end, I wanted to measure the strength of the relationship between classroom engagement and connective teaching, as compared with the relationships between engagement and the other types of strategies—lively instruction and academic rigor. My purpose here was to illuminate the extent to which connective teaching practices are worthy of focused attention by educators. Once I found a significant and relatively strong impact of connective teaching,

I wanted to understand and illustrate how teachers enact connective teaching most effectively in the classroom so that I could provide other teachers with specific strategies for increasing and strengthening their use of these practices. Finally, I wanted to link students' perceptions of connective teaching to the literature on engagement and the self to explore why feelings of connection in the classroom engage high school students. Thus, I addressed three research questions in two phases:

Phase I

1. What is the relative impact of connective teaching on engagement, as compared with lively instruction and academic rigor?

Phase II

2. How do teachers most effectively implement connective teaching in the classroom?
3. Why does well-implemented connective teaching engage high school students?

Phase I—The Relative Impact of Connective Teaching on Engagement

Sample

Phase I participants were 1,132 students in grades 9-12 at Riley High School in Riley, Texas[1], a predominantly blue-collar, one-high-school town located about thirty minutes outside a major city in Texas. The high school serves the residents of both the town and the surrounding communities and draws in a wide array of students from the area's wealthiest and poorest families and all of those in between. The student body at the high school represents the changing demographics of Texas—integrating the town's historic white community, comprised of many descendants of the original Czechoslovakian settlers, with a

[1] Riley is a pseudonym, as are the names of all individuals included in the study. Identifying information about the town and the high school has been slightly altered to protect the identities of all parties involved in this research. Demographic information included in this section has been obtained from the U.S. Census Bureau's American FactFinder website, the Texas Education Agency website, and the school district website.

growing influx of immigrants from Mexico and families who have relocated from the nearby city. Because I was interested in detecting and understanding variations in engagement both across students and within the experiences of individual students, I sought an average high school where the likelihood of reaching both extremes—very low engagement and very high engagement within the same building or the same student—was possible. After meeting the school's principal at a conference, I selected Riley as the site for this study because it appeared to be a typical American high school in many ways—containing a racially and socioeconomically diverse population, doing moderately well on standardized assessments, graduating only a slightly higher percentage of students than the national average, and offering the broad selection of academic and elective courses customary in most comprehensive high schools. The principal confirmed my assessment, explaining in an interview, "Our high school and our district itself look like a lot of communities in our state.... I think we're fairly typical." An assistant principal similarly described Riley as "pretty much a middle of the road high school," representing something of the 'typical' American teenager's high school experience. For this reason, it served as an opportune setting for exploring variations in student engagement.

The 1,132 student participants constituted 80% of the school's full enrollment of 1,420. There were some discrepancies between survey respondents and the student body at large, but the survey sample seemed to be a decent representation of the student body demographically. Respondents were 53.3% female and 46.1% male (compared with an enrollment that was 50.6% female and 49.3% male), revealing that females were more likely to complete the survey than males and are slightly overrepresented in the sample. By race, the respondents seemed to represent the school population fairly well, with the exception of the mixed race population, which was not accounted for in the school data. See Table 1.

Table 1. Racial demographics at Riley High School and in the survey sample.

Race	School Population*	Survey Sample
Black	12.0%	8.8%
Latino/a	43.6%	35.9%
White	44.1%	42.3%
Asian/Pacific Islander	0.4%	0.3%
Mixed Race	--	9.6%
Other or Missing	0.1%	3.1%

* Denotes enrollment data for 2009-2010 as of October 31, 2009; from the Texas Education Agency.

It is reasonable to assume that the majority of the 20% of the student body that did not complete the survey differs substantively from the survey respondents in terms of classroom engagement. That is, because they opted not to participate in a survey administered *in class*, non-respondents are likely to be less engaged and compliant in the classroom. As a result, the perspectives of these least engaged students are likely missing from the survey data.

Each of the 1,132 survey respondents reported on anywhere from one to eight different classes in which they were enrolled, leading to a total of 6,842 cases—a case being an individual student's report on an individual class—with an average of 6.04 cases per student. In total, students reported on 581 different classes taught by 106 different teachers. Across the 6,842 cases, responses represent a variety of academic and elective subjects, as shown in Table 2. The greatest number of cases (15.2%) reported on English classes, with math, science, and social studies each representing about 12-14% of the data and foreign language constituting 7.5%. In total, academic courses were 62.3% of the cases, with elective courses in arts, athletics, career, business and computers, life skills, and shop and agriculture rounding out the other 37.7% of the sample.

Table 2. Number and percentage of cases reporting on each class subject.

Class Subject	Number	Percentage
English	1,039	15.2%
Math	869	12.7%
Science	863	12.6%
Social Studies	973	14.2%
Foreign Language	516	7.5%
Arts	833	12.2%
Athletics	495	7.2%
Shop & Agriculture	282	4.1%
Career	371	5.4%
Business & Computers	289	4.2%
Life Skills	312	4.6%
	6,842	**100.0%**

Survey Design & Measures

To address my first research question, I created a student survey to measure (a) students' perceptions of the prevalence of teaching practices around connective teaching, academic rigor, and lively instruction in each of their classes, and (b) students' engagement in each of their classes. In designing the survey, I categorized thirteen established and commonly used 'engaging' teaching practices (as espoused in the literature—see Chapter 1) into connective teaching, academic rigor, or lively instruction, as follows:

Connective Teaching	**Academic Rigor**	**Lively Instruction**
Enable Self-Expression	Assign Challenging Work	Be "Entertaining"
Connect Class to Real Life	Push Students to Work Hard	Use Games & Fun Activities
Demonstrate Care	Use Time Efficiently	Assign Projects
Understand Students	Demonstrate Passion	Assign Group Work
Affirm Student Success		

The *Connective Teaching* measure included one item for each of the five practices, with each item measuring the extent to which a student respondent perceived that practice existed in a given class (e.g., the 'self-expression' item asked, "How often do you get to express your ideas and opinions in your first period class?"). The *Academic Rigor* measure included one

item for each of the four practices, with each item measuring the extent to which the student perceived that practice existed in a given class (e.g., the 'challenge' item asked, "How often does your first period teacher give you challenging work?"). The *Lively Instruction* measure included one item for each of the four lively instruction practices, with each item measuring the student's perception of those practices (e.g., the 'entertaining teacher' item asked, "How often do find your first period teacher to be entertaining while teaching?"). Five possible Likert-style response anchors for each item asked the student to select among "Never," "Once In A While," "About Half The Time," "Quite Often," and "Always," and resulted in scores ranging from 1 to 5. (See Appendix A for all thirteen items.) Internal consistency estimates were $\alpha = 0.85$ for connective teaching, $\alpha = 0.66$ for academic rigor, and $\alpha = 0.66$ for lively instruction.

After creating these thirteen original items, I also created a control item called *Peer Belonging* to measure the extent to which a student felt they "fit in" with the peer environment in a given class in order to remove the effect of social belonging within the peer group as a predictor of engagement. I then conducted cognitive pre-testing (Fowler, 2002) with eight high school students—asking them to think aloud about their understanding of each of the fourteen items—so that I could clarify and strengthen the wording of the items in response to any misperceptions or confusion. After revising the original items in response to student feedback, I combined these items with five items from a survey of the National Center for School Engagement (2006) that asked students to report their behavioral, emotional, and cognitive actions in a given class (e.g., "How happy are you when you are in this class?"). I used these five items to form a global *Engagement* composite denoting the strength of a student's engagement in a given class with a range from 1 to 5.

This construct had an internal consistency estimate of $\alpha = 0.76$. (See all items in the appendix.)

Because students were to answer twenty-three of the questions repeatedly to assess *each* of their classes (in addition to some baseline demographic items), the full survey included 212 items. I piloted this version of the survey with 106 eleventh-grade students in five classes at a high school in New Jersey to determine whether students would willingly answer 212 items and how long it would take them to do so, and to get student feedback on the format, questions, and length (Fowler, 2002). Pilot testing revealed that most students were willing to complete the full survey and were able to do so in about 19 minutes. Additionally, the formatting and wording of the survey instrument were revised in response to student feedback. (See Appendix B for the final version of the survey.)

In completing the final survey, each student in my sample responded to demographic questions once and the classroom measures (connective teaching, academic rigor, lively instruction, and engagement) multiple times—once for each class upon which they reported. Thus, the demographic measures—race, grade level, gender, and parent's education level—are constant across all cases for a particular student, while other measures represent values for each unique case of a student reporting on a class. A third set of variables are relevant to each class, so are constant across all cases reporting on that class. These include the class period, the subject, and the academic level such as whether the class is special education, general education, pre-Advanced Placement, Advanced Placement, or Dual Credit (providing both high school and college credit).

Procedures

During one thirty-minute advisory period in December 2009, teachers administered pencil-and-paper versions of my anonymous survey to most of the 1,420 students at Riley High School. In the week prior to the survey administration, the school sent a letter from me home to parents and students notifying them of the upcoming survey and informing them that they had the option of declining to participate. In addition, the school's principal held an assembly announcing the survey and encouraging students to provide genuine feedback so that the school could use their results to make improvements. During the survey administration, some students opted not to complete the survey, two teachers forgot to administer the survey, and three special education teachers decided the survey was beyond the cognitive capabilities of their severely disabled students. In addition, some students did not complete the entire survey, either because they ran out of time or they gave up partway through. Upon completion, students placed their surveys in manila envelopes. During the next class period, I circulated throughout the school and collected the envelopes from the classrooms. During data entry, if students completed the items for at least one class, those responses were used. In the event that a student's response patterns appeared to be non-discriminate, such that the same response was given for every item on a page, those responses were eliminated from the final sample.

Regression Analysis

As observations were nested within both students and classes, I fit a multi-level model with cross-classified random effects (Fielding, 2002; Raudenbush & Bryk, 2002), as follows:

$$Engagement_{ijk} = \beta_0 + \beta_1 Connective_{ijk} + \beta_2 Lively_{ijk} + \beta_3 Rigor_{ijk} + \eta Peers_{ijk} + \gamma X_j + \delta Z_k + \upsilon_j + \omega_k + \varepsilon_{ijk}$$

where $Engagement_{ijk}$ represented the level of classroom engagement in observation *i* for student *j* in class *k*. $Peers_{ijk}$ controlled for student *j*'s feeling of belonging among peers in class *k* as reported in observation *i*. X_j represented a vector of student-level control variables, including race, grade level, gender, and parent education. Z_k represented a vector of class-level control variables, including period, subject matter, and academic level. The error terms captured the random effects of students (υ_j) and classes (ω_k), with ε_{ijk} denoting residual within-cell variation. The parameters of interest were β_1, which indicated the standardized effect of connective teaching on classroom engagement, β_2, which indicated the standardized effect of lively instruction on engagement, and β_3, which indicated the standardized effect of academic rigor on engagement. The relative sizes of the three parameters revealed the relative effects of the three types of practices on engagement, controlling for students' perceptions of peer belonging in that class, student and class characteristics, and the two other types of practices.

Phase II—How & Why Connective Teaching Engages Students

Case Study Selection

To investigate how teachers most effectively implement connective teaching in the classroom and examine why well-implemented connective teaching practices engage students, my second and third research questions, I returned to Riley High School to conduct "instrumental" case studies (Stake, 1995)—utilizing five informative classes to explore the phenomenon of connective teaching. In this phase of the study, I integrated the

survey data from the first phase of the study with qualitative data to create a more complex picture of connective teaching. Using purposeful theoretical sampling (Patton, 2002), I identified five classes in which the survey results from Phase I revealed interesting and potentially informative patterns. Documenting the practices and student experiences in these classes could provide valuable insight into how connective teaching is and is not effectively implemented and why connective teaching is linked to classroom engagement.

To select instrumental cases, I calculated the mean survey scores for engagement, connective teaching, lively instruction, and academic rigor in each class, and then standardized these measures among all 581 classes in the sample, to create 'class scores' for each category. Limiting my pool of potential cases to classes in which at least ten students reported on that class in the survey, I then selected three classes for which students reported above average levels of both connective teaching and engagement, but for which they reported differing levels of academic rigor and lively instruction. Collectively, this triad enabled me to explore the practice and influence of connective teaching in classrooms that students perceived as connective and engaging yet different along other dimensions of the Classroom Engagement Framework:

- *Mr. Knowles' Fourth Period Physics Class*
  - Well Above the Mean on Engagement (1.45)[2]
  - Well Above the Mean on Connective Teaching (1.74)
  - Well Above the Mean on Lively Instruction (2.23)
  - Well Above the Mean on Academic Rigor (1.41)

[2] Values in parentheses denote the class's distance (measured in standard deviation units) above or below the mean for that measure among all 581 classes in the sample Values between 0 1 and 0 1 are considered 'at the mean ' Values below 0 1 are considered 'below the mean' and values below -1 0 are considered 'well below the mean ' Similarly, values above 0 1 are considered 'above the mean' and values above 1 0 are considered 'well above the mean '

- *Mr. Lifsky's Fifth Period World History Class*
  - Above the Mean on Engagement (0.74)
  - Well Above the Mean on Connective Teaching (1.26)
  - At the Mean on Lively Instruction (0.02)
  - Above the Mean on Academic Rigor (0.70)

- *Coach Connor's First Period English Class*
  - Above the Mean on Engagement (0.74)
  - Above the Mean on Connective Teaching (0.35)
  - Below the Mean on Lively Instruction (-0.31)
  - Below the Mean on Academic Rigor (-0.39)

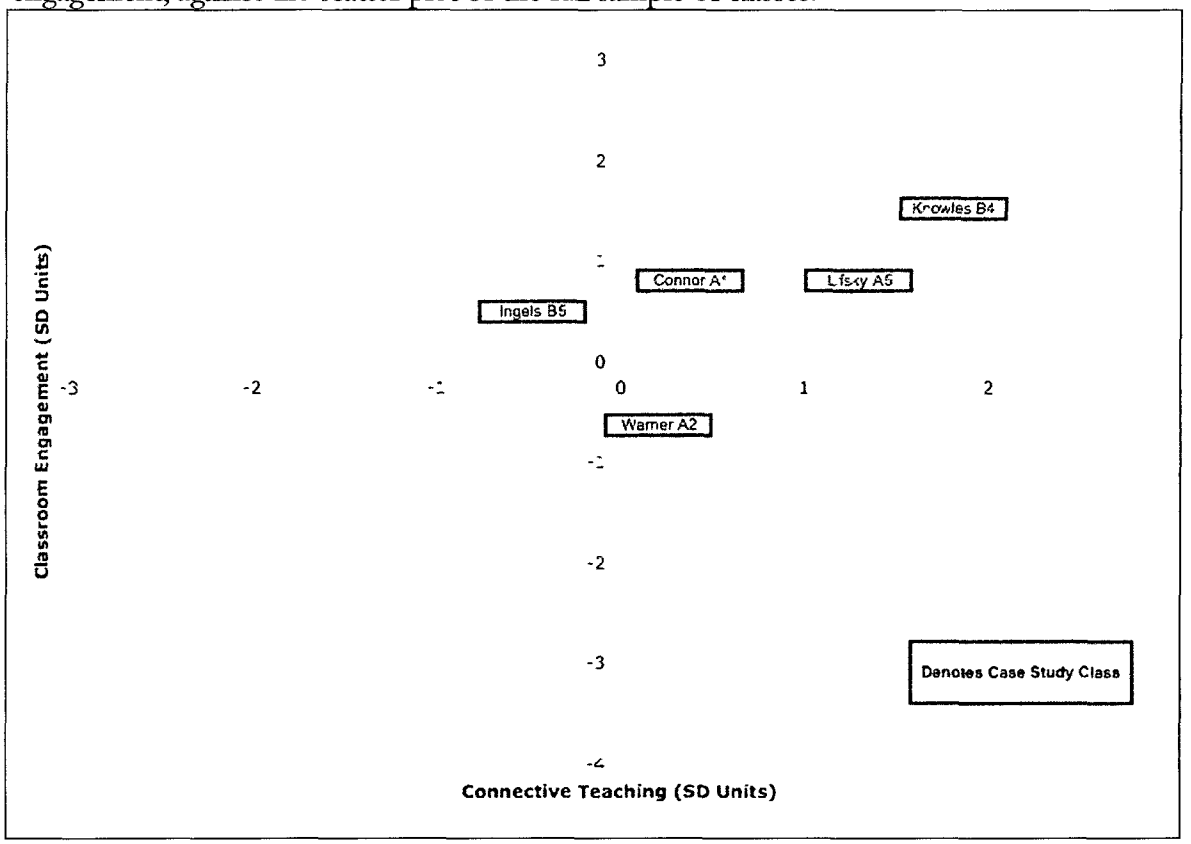
I also studied two pattern-breaking classes that countered the connective teaching trend—one class with engagement above the mean and connective teaching below the mean, and one class with engagement below the mean and connective teaching above the mean. These pattern-breaking classes enabled me to explore ways in which connective teaching and classroom engagement were not inextricably linked, thereby informing a more complex understanding of these phenomena:

- *Ms. Ingels' Fifth Period Pre-AP Biology Class*
  - Above the Mean on Engagement (0.44)
  - Below the Mean on Connective Teaching (-0.50)
  - Well Above the Mean on Lively Instruction (1.10)
  - Well Above the Mean on Academic Rigor (1.07)

- *Ms. Warner's Second Period Physics Class*
  - Below the Mean on Engagement (-0.58)
  - Above the Mean on Connective Teaching (0.15)
  - Above the Mean on Lively Instruction (0.93)
  - At the Mean on Academic Rigor (0.03)

As a group, these five case study classes represent three out of four possible quadrants in the intersection of connective teaching and engagement—the two central constructs in the study, as I illustrate in Figure 2.

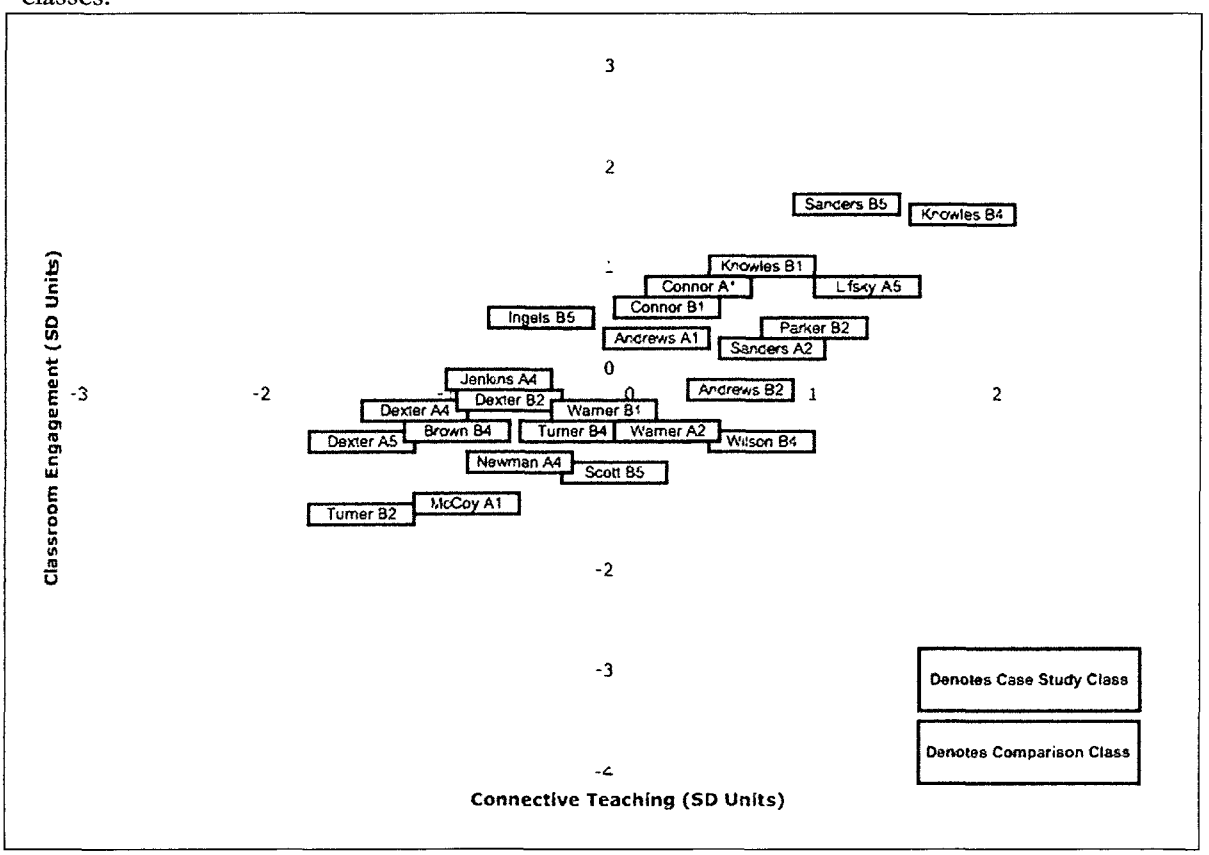
Figure 2. Plot of 5 case study classes along the axes of connective teaching and classroom engagement, against the scatter plot of the full sample of classes.



The obvious problem revealed in the figure is that exclusively studying these five classes fails to include any counterfactual data from the lower left quadrant to confirm that the findings around connective teaching in the other three quadrants *are different from* classes that are relatively low on both engagement and connective teaching. I did not conduct case studies of any classes in the lower left quadrant, however, because the goal of the qualitative portion of the study was to identify and describe connective teaching practices and how they did or did not link to engagement. Thus, observing in classrooms that were low on both dimensions would not have been a valuable application of limited time and resources. Rather, to collect data on students' experiences in such classes, I asked student interviewees reporting on the five case study classes to also report on one additional class. When interviewees were

enrolled in one of the school's twenty-five least engaging classes, I asked them to report on that class. When interviewees were not enrolled in one of those twenty-five classes, I asked them to report on another class that came up during their interview—usually a class that they had contrasted with the case study class in an important way. Through this approach, I was able to gather data on nineteen comparison classes that served to further develop, test, and round out the findings from the case study classes. This enabled me to more fully explore the relationship between connective teaching and engagement across the spectrum of classes at Riley High School. The full group of classes covered in the interviews is illustrated in Figure 3 below.

Figure 3. Plot of 5 case study classes and 19 comparison classes along the axes of connective teaching and classroom engagement, against the scatter plot of the full sample of classes.



Student Interviewee Selection

For each of the five case study classes, I selected six to eight students to participate in forty- to sixty-minute interviewees outside of class. In selecting interviewees, I employed maximum variation sampling (Patton, 2002) along dimensions of gender and racial demographics, observed classroom behavioral engagement, peer group, and personality type. For this reason, I conducted at least two full 90-minute classroom observations before beginning to recruit students in each class. This enabled me to become familiar with classes and begin to pinpoint students who seemed to represent the variation within a class. In some classes, I made an announcement and asked for four to five volunteers who were interested in participating in an interview about their experiences in that class. In other classes, I approached groups of students working collaboratively to strike up conversation and invite them to participate. In all classes, I began with four to five interviewees and then approached others who appeared to differ from existing participants in key ways (maybe less participatory or sitting in a different part of the room). In each class, my observations also lead me to approach particular individuals who played key roles in the classroom (as antagonists or leaders, for example) and ask them to participate. All students whom I expressly asked to participate agreed to join the study. In total, I interviewed thirty-three students—fourteen males and nineteen females—spanning grades nine through twelve and representing an array of personality types, life circumstances, and interests. In Table 3, I show that the racial breakdown was similar to that of my survey sample, with slightly higher representation of black and mixed race students.

Table 3. Racial demographics in the student survey and interview samples.

Race	Survey Sample	Interviewees
Black	8.80%	5 students; 15.2%
Latino/a	35.90%	11 students; 33.3%
White	42.30%	12 students; 36.4%
Asian/Pacific Islander	0.30%	1 student; 3.0%
Mixed Race	9.60%	4 students; 12.1%
Other or Missing	3.10%	0%

Data Collection

In each of the five case study classes, I observed five or six 90-minute class periods—two or three times during March 2010 and two or three times during May 2010. During observations, I took field notes recording the class activities—with a particular focus on teacher/student interactions, behavioral engagement among my student interviewees, and student responses to the teacher's instruction. Following each observation, I filled out a Classroom Observation Checklist (see Appendix C), which I designed to create a standardized measure of my impressions of classroom practices around connective teaching: how teachers responded to students' classroom participation, whether teachers indicated concern for students' well-being, how frequently teachers and students connected the class content to life outside the classroom, and how frequently teachers referenced students' personal interests, families, ambitions, habits, or personalities. I also noted whether or not the academic task in each class required or enabled the expression of original ideas and opinions, and I noted whether the teacher's tone was cool or warm and whether it was consistent across different students in the class.

I interviewed thirty-three students, the five case study class teachers, and three school administrators. Interviews were completed in March and May 2010, lasted forty to

sixty minutes, followed a semi-structured protocol, and (with one exception[3]) were recorded and transcribed verbatim. In student interviews, I began by asking students about themselves to learn about their sense of identity and where their perspectives were coming from. I then explored students' perceptions of the case study class and the teacher in regards to the five dimensions of connective teaching—self-expression, relevance, care, understanding, and affirmation. As noted above, I asked students to compare their case study class to another one of their classes, which I selected from among the school's least engaging classes when possible. In discussing comparison classes, I asked a subset of the interview questions used for the case study classes and again attempted to tap into the five dimensions of connective teaching. (Appendix D contains the student interview protocol.)

Although classroom observations and student interviews were the primary data sources for Phase II, I conducted teacher and administrator interviews to supplement the primary data and further inform my understanding of the school and classroom contexts. Teachers were asked to discuss their employment history, their involvement in the Riley community, their perceptions of the students in their case study class, and their instructional practices including their philosophy toward teaching, their priorities in planning instruction, their beliefs around effective teaching, and their thoughts around student engagement. Administrators were asked to provide background information on the school, community, and the case study teachers to enrich my understanding of the context of both Riley and the five case study classes. (Appendices E and F contain the teacher and administrator protocols, respectively.)

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[3] One student interviewee, Rachel, asked that her interview not be recorded. In her case, I took detailed notes during her interview and then reconstructed our conversation after she left. In presenting data from Rachel's interview, I relay the information she conveyed but do not present her actual words.

Multiple Case Study Analysis

In constructing the multiple case study analysis, I began by looking at the broad, holistic picture of the phenomena under study (Stake, 2006)—students' experiences around connective teaching. I coded the thirty-three student interview transcripts in three iterations. First, I coded for descriptive codes denoting the topics of discussion, which enabled me to delineate student's comments on each of the five dimensions of connective teaching using codes rooted in my research design, such as "perception of whether teacher cares." Then, I created interpretive codes representing my emergent understandings of students' experiences and perspectives within each dimension of connective teaching and in their classroom experiences more broadly. Finally, I identified fourteen patterns in my interpretive coding that reflected the key themes that seemed to transcend the experiences of individual students. I created definitions for each of these codes and then coded the data for these pattern codes (Lofland & Lofland, 1995; Miles & Huberman, 1994). (Appendix G contains the full list of codes.) Through all three phases of coding—but particularly while creating and assigning interpretive codes—I tracked themes and trends that occurred across students through memos and annotations in which I recorded my raw thoughts and ideas (Miles & Huberman, 1994; Patton, 1990). These key themes and trends became the foundation for the pattern codes and eventually my cross-case findings.

I then took a step back and looked at each of the five case study classes in isolation to see whether the broad findings held or whether connective teaching functioned differently in the five classes. Using the descriptive codes from my first round of coding, I created conceptually clustered matrices (Miles & Huberman, 1994) to organize students' interview comments regarding the connective teaching dimensions of care, understanding, affirmation, relevance, and self-expression in each class. This format enabled me to compare the

experiences and perspectives of individual students within the same class and note trends for each class. From there, I created twenty-four classroom concept maps (Maxwell, 2005; Miles & Huberman, 1994) to graphically display the theorized link between connective teaching and engagement for each of the five case study classes and the nineteen comparison classes. In doing so, I integrated the survey results from the first phase of data collection to inform my understanding of students' experiences in each class. To triangulate the central data from the student interviews and surveys, I also coded supplemental data from the observations, observation protocol checklists, and teacher interviews to consider the central issues in each of the five cases. As I constructed these data, I continued to use memos (Miles & Huberman, 1994) to record my expanding thoughts on the classroom dynamics around connective teaching and engagement.

Finally, I integrated my thinking and ideas from the conceptually clustered matrices, the twenty-four classroom concept maps, and my memos and annotations to construct a concept map to answer each of my two research questions in the case study analysis—one concept map on 'how teachers create connective teaching' and one on 'why connective teaching is engaging.' In doing so, I pulled in key concepts from the engagement literature to buttress the links between connective teaching and engagement evidenced in the data—ultimately illustrating both the power of connective teaching practices in the classroom and the complexity of the psychological processes that make these practices effective tools for eliciting engagement among high school students.

Integrating the Two Phases

By drawing on and linking quantitative and qualitative data, the mixed-method design of this study made it possible for me to unite broad trends and focused inquiry,

shedding greater light on the phenomena of connective teaching than would be possible through either methodology on its own (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2003). In this particular project, the use of school-wide survey data strengthened my qualitative analysis of specific classrooms because I was able to situate individual classrooms within the school in regards to how classes fared in student engagement, connective teaching, lively instruction, and academic rigor. By drawing on comparisons across classrooms through data on how the majority of students have rated those classrooms, I was able to enhance my qualitative findings regarding classroom practices that induce engagement. Thus, throughout my qualitative analysis and presentation of my findings, I use the survey results to triangulate my qualitative data and document how students—even those beyond my interview sample—experienced each classroom.

Chapter 3

Putting Connective Teaching to the Test

My first research question asks: *What is the relative impact of connective teaching on engagement, as compared with lively instruction and academic rigor?* In preparing to answer this question, I first sought to understand the statistical relationships among connective teaching, lively instruction, and academic rigor and how each type of practice related to classroom engagement. My purpose was to ensure that even though all three types of practices within the Classroom Engagement Framework might be elements of 'good teaching,' they had independent relationships with engagement and were not collinear—not measuring the same thing. I anticipated that the three types of practices would be fairly highly correlated because I would expect effective teachers to use many engaging practices, and ineffective teachers to use few engaging practices. Just the same, because I am theorizing that connective teaching, lively instruction, and academic rigor have different underlying mechanisms for engagement, I would also expect them to be somewhat independent of one another. So, I began by making sure this was the case, and I present those results here.

Secondly, I needed to acknowledge the inherent assumption within my research question that differences in engagement across cases were related to differences in teaching practices. Given that cases were individual students' reports on individual classes, it was also reasonable to assume that variation in engagement could be due to other factors, such as differences across students or other characteristics of the classes that had nothing to do with the teaching practices. For example, previous researchers have found differences in student engagement by grade level, gender, race, and socioeconomic status (Hudley, et. al., 2002; Murdock, 1999; Yazzie-Mintz, 2009). In addition, potential differences in student

engagement could also be related to the subject matter of a class, the academic level, and the period of the day in which the class occurs. At the case level, we could also infer from the importance of relatedness in engagement (Connell, 1990; Osterman, 2000) that classroom engagement may relate to a student's sense of belonging with the peer group in a given class. Thus, in preparing to answer my research question about the relative strengths of the three types of teaching practices as predictors of engagement, I first considered differences in engagement by other student, class, and case characteristics. My goal was to develop a more complete understanding of the factors contributing to variations in engagement and to determine necessary control variables for my regression analysis with the three teaching practices.

To further understand the variations in engagement in my sample, I also assessed the levels of variation in an unconditional multilevel model predicting engagement. In doing so, I was able to parse out the proportions of the variance in engagement due to differences across students, across classes, and across cases. Theoretically, I anticipated that connective teaching would contribute to variation at all three levels because of the nature of the construct—which I would expect to have implications for the individual experiences of students, the collective dynamics of a class, and the interaction between these in each student-by-class case. Thus, by adding connective teaching to the multilevel regression model without any other predictors, I was able to confirm that those practices explained variation in engagement at each level.

Finally, I conducted a multilevel regression analysis with cross-classified random effects (Fielding, 2002; Raudenbush & Bryk, 2002) to determine the strength of the relationship between engagement and connective teaching, as compared with the relationships between engagement and either lively instruction or academic rigor. Including

all three types of practices in the same regression model was critical for a number of reasons. First, the measure of connective teaching on its own might have been capturing other classroom elements related to engagement—particularly other positive instructional elements. In this regard, connective teaching may have appeared to have been highly engaging *not* because it actually was but *rather* because teachers who made content relevant, for example, could have been the same teachers who also pushed students to work hard and utilized lots of hands-on projects. Thus, measures of connective teaching might have been capturing other positive practices that also occurred in classrooms that were more connective. By including other types of instructional practices in the model, these other effects could be parsed out from those of the connective teaching practices. Secondly, without any points of comparison, the coefficient denoting the strength of the relationship between connective teaching and engagement would not have been particularly informative. Rather, looking at this relationship in comparison to other teaching practices and their relationships with engagement provided a context for interpreting the effect size of connective teaching. For these reasons, I posed and answered a research question that considered the relative effect size for connective teaching in predicting engagement, as compared with the instructional categories of lively instruction and academic rigor. In doing so, I controlled for significant student, class, and case characteristics as determined by my earlier analyses and found that among the students at Riley High School connective teaching had a much stronger relationship with classroom engagement than either lively instruction or academic rigor.

Results

Perceptions of Teaching Practices & Classroom Engagement

In the full sample of 6,842 cases of a student reporting on a class, reports of classroom engagement, connective teaching, lively instruction, and academic rigor ranged from 1 to 5 in each category. As I show in Table 4, the mean level of engagement across all cases was 3.69 (SD = 0.90). For the three types of engaging teaching practices, students reported a mean level of connective teaching of 2.95 (SD = 1.12), a mean level of lively instruction of 2.75 (SD = 1.00), and a mean level of academic rigor of 3.71 (SD = 0.89). In the correlation matrix in Table 4, I show that all three types of teaching practices were moderately to highly correlated with classroom engagement and with one another. The highest correlation was between connective teaching and classroom engagement (r = .69; p < .05). Lively instruction and academic rigor were also highly correlated with classroom engagement at 0.50 (p < .05) and 0.53 (p < .05), respectively, confirming that all three forms of teaching practices are linked to engagement. In addition, the three types of teaching practices were moderately to highly correlated with one another. To determine whether the three measures might actually be measuring one construct, such as 'good teaching,' I examined the variance inflation factor to check for multicollinearity (Afifi, Clark, & May, 2004; Hamilton, 2008). This test revealed that, although the three types of teaching practices were highly correlated, they still retained high levels of variance that were independent of the other practices. Specifically, 52% of connective teaching, 61% of lively instruction, and 74% of academic rigor were independent of the other two practices, revealing that when students perceived high levels of one of these types of practices, they did not necessarily perceive high levels of the others.

Table 4. Mean values, standard deviations, and correlations for classroom engagement, connective teaching, lively instruction, and academic rigor (n = 6,842).

Measure	Mean	SD	1	2	3	4
1. Classroom Engagement	3.69	0.90	--	.69*	.50*	.53*
2. Connective Teaching	2.95	1.12		--	.62*	.51*
3. Lively Instruction	2.75	1.00			--	.36*
4. Academic Rigor	3.71	0.89				--

* $p < .05$

Variations in Engagement by Student, Class, & Case Characteristics

Among the students at Riley High School, I found that different demographic groups experienced some differences in engagement and had some different perceptions of the teaching practices in their classes. In Table 5, I show that students in the eleventh and twelfth grades reported significantly more positive classroom experiences on average than did their ninth- and tenth-grade counterparts. As a group, older students were more engaged in their classes and perceived higher levels of connective teaching, lively instruction, and academic rigor than younger students. In regards to gender, Table 5 shows that female students were more engaged on average than male students. Female students were also significantly more likely to report that their classes were rigorous—the work more challenging, the teachers pushing them harder, the teachers wasting less time in class, and the teachers more passionate about the material. Interestingly, however, there were no gender differences in connective teaching or lively instruction, revealing that male and female students experienced similar levels of connection and liveliness in their classes on average. Looking across racial groups, Table 5 show that scores for Latino students across all four measures were significantly lower than those for white students, whereas black and mixed race students did not differ significantly from whites in any category. Thus, Latino students at Riley High School seemed to be experiencing lower levels of engagement, connective teaching, lively instruction, and academic rigor than other students.

Table 5. Mean values of classroom engagement, connective teaching, lively instruction, and academic rigor by student demographic groups (standard deviations in parentheses).

Student Characteristic	N	Classroom Engagement	Connective Teaching	Lively Instruction	Academic Rigor
Grade Level					
9th Grade *(reference group)*	2,335	3.61 (0.92)	2.82 (1 09)	2.65 (0.98)	3 64 (0 90)
10th Grade	1,789	3 60 (0.90)	2.81 (1.13)	2 66 (0.95)	3 64 (0.87)
11th Grade	1,667	3.81* (0.87)	3.10* (1.12)	2.91 (1.01)	3 83* (0.84)
12th Grade	1,049	3.81* (0.86)	3.26* (1.12)	2.90* (1 02)	3.81* (0 95)
Gender					
Male *(reference group)*	2,987	3.63 (0.91)	2.96 (1.11)	2.78 (1.01)	3 67 (0.90)
Female	3,811	3.73* (0.89)	2.95 (1.13)	2.74 (0.99)	3.75* (0.88)
Race					
White *(reference group)*	2,938	3.78 (0.86)	3.78 (0.86)	2.84 (1.00)	3.84 (0.87)
Black	535	3.78 (0.91)	3.18 (1.11)	2.79 (1.00)	3.74 (0.91)
Latino	2,498	3.58* (0.91)	2.78* (1.12)	2 64* (0.98)	3.56* (0.89)
Mixed Race	664	3.68 (0.94)	2.96 (1.11)	2.82 (1.00)	3.77 (0.91)

* Denotes values that are significantly different from the reference group in each demographic category ($p < 05$), as determined by a multi-level model that nests cases within students and within classes

In regards to students' socioeconomic status, I found that the proxies of mother's education and father's education were significantly correlated with all four constructs of interest such that students whose parents had more years of education were more likely to report higher levels of classroom engagement, connective teaching, lively instruction, and academic rigor. Just the same, the correlations were fairly small, ranging from .09 (for father's education and lively instruction; $p < .05$) to .15 (for father's education and connective teaching; $p < .05$).

Shifting from considering differences across students to differences across classes, I show in Table 6 that students' experiences of engagement and teaching practices differed by class subject in some regards. Compared with their English classes, which had similar results to other academic classes, Riley High School students were more engaged on average in elective courses—particularly their courses in the arts (e.g., theater, ceramics, graphic arts,

journalism, photography, and band), athletics (e.g., soccer, tennis, football, dance, golf, and PE), shop and agriculture (e.g., welding, mechanics, woodshop, horticulture, and canine science), career (e.g., health science technology, sports medicine, criminal investigations, and criminal law), and life skills (e.g., parent education, AVID[4], nutrition & food science, personal & family development). Table 6 shows that students did not find these elective courses more or less rigorous than their academic classes, but they found these classes more lively on the whole—that is, more centered around projects, group work, and "fun" activities than their academic classes. Additionally, students experienced higher levels of connective teaching in their athletics, shop and agriculture, career, and life skills classes as compared with other classes. Thus, students found more opportunities for self-expression, relevance, and affirmation in these courses, and they experienced higher levels of care and understanding from their teachers.

Table 6. Mean values of standardized engagement, connective teaching, lively instruction, and academic rigor for each subject area, looking at both academic courses and electives (standard deviations in parentheses).

Class Subject	N	Classroom Engagement	Connective Teaching	Lively Instruction	Academic Rigor
English *(reference group)*	1,039	3.57 (0.88)	2.90 (1.13)	2.48 (0.90)	3.75 (0.97)
Math	869	3 52 (0.90)	2.73 (1.04)	2.31 (0.84)	3 90* (0 84)
Science	863	3.51 (0.87)	2.77 (1.07)	3.07* (0.96)	3.76 (0.80)
Social Studies	973	3.55 (0.83)	2.78 (1.06)	2.31 (0.84)	3.62 (0.86)
Foreign Language	516	3.60 (0.88)	2.96 (1.04)	2.67* (0.84)	3.62 (0.80)
Arts	833	3.85* (0.93)	2.96 (1.19)	2.96* (1.19)	3.66 (0.91)
Athletics	495	3.95* (0.97)	3.16* (1 22)	3.23* (0.93)	3 79 (1.14)
Shop & Agriculture	282	3.96* (0.87)	3.41* (1.07)	3.49* (0.89)	3 80 (0.84)
Career	371	4.21* (0.72)	3.70* (0 99)	3.13* (0.90)	3.63 (0.82)
Business & Computers	289	3.63 (0.83)	2.72 (1.09)	2.34 (0.91)	3.39* (0.78)
Life Skills	312	3.94* (0.81)	3.35* (1.05)	3.35* (0.92)	3.75 (0.92)

Note The horizontal line through the middle of the table separates academic and elective courses
* Denotes values that are significantly different from English, the largest group of classes ($p < .05$), as determined by a multi-level model that nests cases within students and within classes

[4] AVID stands for Advancement Via Individual Determination and is a course in study skills and college readiness

In looking at the results for academic classes presented in the first five lines of Table 6, however, there was little statistical difference between students' average experiences of engagement and teaching practices across academic courses, using English classes as the reference group. One statistically significant difference here was that students appeared to report more lively instruction in science and language courses as compared with other academic courses. Possibly, these effects may be due to Type I error given the high number of tests included here. However, this may also reveal that students experienced notably different instruction in science and language classes—more projects, group work, and fun activities and more entertaining teachers, on average. The additional difference across academic classes, which again may be due to Type I error, was that students reported their math classes to be more rigorous than other academic classes on average. In all other regards, however, students' average experiences in their academic classes did not differ significantly.

Beyond the subject matter of each course, I also examined whether variations in engagement were related to the academic level of a course—such as whether it was general education level, Pre-Advanced Placement, Advanced Placement, or Dual Credit—and the time of day that a class met. I found that the academic level of a class did not have a significant correlation with classroom engagement, connective teaching, or lively instruction. As expected, however, students rated more advanced classes as more rigorous on average ($r = .12$; $p < .05$). I also did not find a significant difference in classroom engagement or connective teaching based on the period of the day in which a class met. However, there were small, significant differences in lively instruction and academic rigor, such that classes later in the day were considered marginally more lively and rigorous on average ($r = .05$; $p < .05$, and $r = .04$; $p < .05$, respectively). As a final inquiry into non-teaching-related predictors

of classroom engagement, I considered students' perceptions of belonging with the peer group in a given class. I found that students who felt a stronger sense of peer belonging were more likely to be engaged in class ($r = .41$; $p < .05$) and to perceive higher levels of connective teaching ($r = .42$; $p < .05$), lively instruction ($r = .33$; $p < .05$), and academic rigor ($r = .27$; $p < .05$)—signaling an overall more positive experience in classrooms in which students felt that they fit in with their peers.

Levels of Variation in Classroom Engagement

To determine the relative proportions of variation in classroom engagement that were attributable to differences across students, classes, or cases, I fit an unconditional multilevel model without any predictors. In Model A in Table 7, I show the residual variance at each level of the model—students, classes, and individual cases. By calculating the intra-class correlations, I determined the proportion of the entire variance attributable to each level. I found that 18.1% of the variation occurred at the class level, such that this portion of the variation was due to differences across classes. An additional 28.8% of the variation in student engagement occurred at the student level, meaning that it was due to differences among students in the sample. The remaining 53.1% represented unexplained variation at the case level. This reveals that, among the dimensions of engagement I measured, differences across students contributed more to variations in engagement than did differences across classes.

Table 7. Taxonomy of fitted multi-level regression models describing the relationship between standardized classroom engagement and the three types of teaching practices (standardized), controlling for student and class characteristics and the student's perception of peer belonging in the class.

	Model A	Model B	Model C	Model D
Intercept	0.00	-0.02	0.24	-0.03
STUDENT-LEVEL CONTROLS				
Grade			-0.02	
Male			-0.11*	-0.11*
Black			-0.06	
Latino			0.00	
White			(omitted)	
Mixed Race			-0.05	
Mother's Education			-0.01	
Father's Education			0.01	
CLASS-LEVEL CONTROLS				
English			(omitted)	(omitted)
Math			0.00	-0.01
Science			-0.09*	-0.09*
Social Studies			0.09*	0.08*
Foreign Language			-0.00	0.01
Arts			0.19*	0.19*
Athletics			0.11*	0.11*
Shop/Agriculture			0.19*	0.19*
Career			0.26*	0.25*
Business/Computers			0.33*	0.34*
Life Skills			0.08	0.09
Academic Level			0.00	
Period			-0.00	
CASE-LEVEL CONTROL				
Peer Belonging			0.13*	0.13*
KEY QUESTION PREDICTORS				
Connective Teaching		0.69*	0.49*	0.49*
Lively Instruction			0.10*	0.10*
Academic Rigor			0.19*	0.18*
Random Effects				
Student	0.28	0.16	0.13	0.13
Class	0.18	0.05	0.03	0.03
Case	0.52	0.31	0.28	0.28
-2 Log Liklihood	16524	12650	11214	11652
N				
Students	1,114	1,110	1,057	1,101
Classes	581	580	575	576
Cases	6,484	6,419	6,072	6,287

* $p < 0.05$

I also found, importantly, that connective teaching accounted for variance at all three levels. That is, connective teaching accounted for some of the variation across students, some of the variation across classes, and some of the variation across cases. In Model B in Table 7, I show that without controlling for any student, class, or case characteristics, if two classes were rated one standard deviation apart on connective teaching, the more connective class would be 0.69 standard deviations higher on classroom engagement than the less connective class, on average ($p < .05$). Of course, this estimate matches the correlation between engagement and connective teaching in Table 4. But, what is interesting here is the amount of the variation in engagement that connective teaching captures at all three levels. From Model A to Model B, the student-level residuals dropped 44%, the class-level residuals dropped 74%, and the case-level residuals dropped 41%. These changes reveal that my measure of connective teaching captured a large proportion of the variation in classroom engagement across students, classes, and cases.

Teaching Practices as Predictors of Engagement

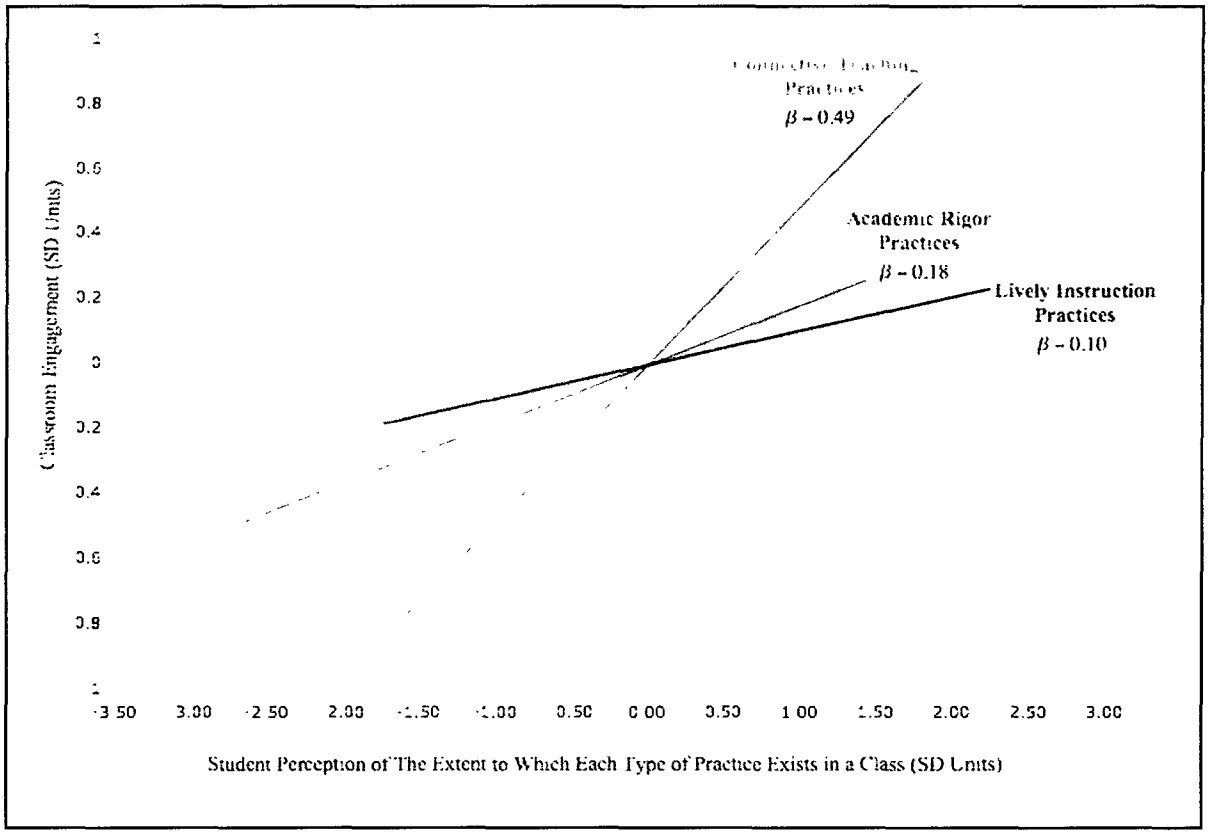
Indeed, students at Riley High School were more engaged on average in classes in which they perceived higher levels of connective teaching. This is illustrated in the correlation matrix in Table 4, and Model B in Table 7. Just the same, students' reports on their perceptions of connective teaching were likely to also capture other important differences in student engagement across cases. To address this concern, in Model C, I include a number of control variables to account for student characteristics (grade level, gender, race, and parent education), class characteristics (subject matter, academic level, and period of the day), and students' case-level perceptions of whether or not they fit in with the peers in a given class. I also include the other categories of classroom practices—lively

instruction and academic rigor. In Model C, it is clear that student grade level, race, parent education, class academic level, and class period are not significant predictors of engagement when accounting for the other factors and students' perceptions of teaching practices.

Because these predictors were not significant in Model C, I removed them from the model. Thus, in Model D, I present my final model. Here I show that, controlling for student gender, the subject matter of the class, and the students' perception of peer belonging in the class, all three types of teaching practices are positively related to engagement. That is, students are more engaged on average in classes in which they experience higher levels of connective teaching, lively instruction, and academic rigor. The effect sizes for the three types of teaching practices in Model D reveal the relative strengths of the relationships between each type of classroom practice and engagement, controlling for the others. On average, controlling for gender, the subject matter of the class, and the students' perceptions of peer belonging, when two classes differed by one standard deviation on connective teaching, students found the class with more connective teaching to be 0.49 standard deviations higher on engagement ($p < 0.05$). This was just shy of half a standard deviation difference in engagement. By contrast, when two classes differed by one standard deviation on lively instruction, students found the livelier class to be only 0.10 standard deviations higher on engagement ($p < .05$). And when two classes differed by one standard deviation on academic rigor, students found the more rigorous class to be 0.18 standard deviations higher on engagement, on average ($p < .05$). The differences in magnitude between these effect sizes for the three types of teaching practices reveal that the relationship between connective teaching and engagement is *more than 2.5 times stronger* than the relationship between either lively instruction or academic rigor and engagement. Thus, among these three categories of practice, those that enable students to make a connection

with the teacher and the content in a particular classroom appear to have the strongest link to classroom engagement. Figure 4 illustrates these relationships and draws attention to the much steeper slope between connective teaching and engagement.

Figure 4. Fitted plot of the relationship between standardized classroom engagement and the three types of teaching practices, controlling for student and class characteristics and the student's perception of peer belonging in the class (n = 6,287).



Discussion

Although I cannot generalize from these results at one high school, the findings here begin to illuminate some of the relationships among components of the Classroom Engagement Framework, and they particularly illustrate the potentially central role of connective teaching in classroom engagement. A number of findings support this

conclusion. First, although connective teaching, lively instruction, and academic rigor were all highly correlated, they were not collinear. Rather, they measured separate components of classroom teaching. Thus, even though these practices might frequently appear in the same classrooms, they are not the same thing and appear to be tapping into different dimensions of practice. This makes a case for separating these types of practices out to consider their different relationships with classroom engagement, as I do in the Classroom Engagement Framework.

In addition, although there were a number of student characteristics—grade level, gender, race, and parent's education—that were related to variations in engagement, Model C in Table 7 illustrates that gender was the only student characteristic that continued to predict classroom engagement when class characteristics, teaching practices, and peer belonging were included in the regression model. Thus, the lower average levels of engagement among younger students, Latino students, and students whose parents had less education became insignificant when accounting for teaching practices, suggesting that what *happens* in classrooms is central to students' experiences of engagement.

Further, because engagement across classes at Riley High School did not differ according to the *content* of *academic* classes or the academic level or period of the day, variations in engagement across academic classes were clearly related to something other than these characteristics. The higher average levels of engagement among students who felt they fit in with their peers was not surprising. Interestingly, however, students with a stronger sense of peer belonging also reported higher levels of connective teaching, lively instruction, and academic rigor. Thus, it seems that when students felt a strong sense of belonging in their classes, they either felt more positively about those particular classes overall so gave them higher survey ratings across the board *or* they genuinely experienced

higher levels of connective teaching, lively instruction, and academic rigor in those same classes in which they had a comfortable peer environment. The causal direction here could go either way, such that students participated in things such as self-expression or group work more when they felt a strong peer community *or* they felt a strong sense of peer community because they did things like working in groups and sharing their own ideas and opinions. Regardless, students' perceptions of peer fit remained a significant predictor of classroom engagement so was a critical control in considering the relationships between teaching practices and classroom engagement.

In the final regression model, I found that the relationship between connective teaching and engagement was almost half a standard deviation in size—more than two and a half times the effect sizes of lively instruction or academic rigor. Indeed, all three types of instructional practices were linked to student engagement at Riley High School, suggesting that teachers should indeed make efforts to present instruction that is lively and rigorous as well as connective. But, if forced to choose only a handful of strategies on which to focus efforts for increased engagement, these results suggest that schools might be well served to focus on those practices that enable students to emotionally connect themselves with their classroom experiences. Seemingly, providing students with opportunities to experience self-expression, relevance, care, understanding, and affirmation can create classroom environments that tap into student engagement. In the following chapters, I examine how teachers effectively implement connective teaching, how students experience connective teaching in the classroom, and how these concepts link to the adolescent's developmental focus on the self.

Chapter 4

Engagement & Connective Teaching—Five Case Studies

Given the powerful relationship between engagement and connective teaching revealed in the survey data, my second and third research questions seek to understand the lived experience of connective teaching by asking: *How do teachers most effectively implement connective teaching in the classroom?* and *Why does well-implemented connective teaching engage high school students?* The purpose of these questions is to provide guidance and insight to educators who want to increase or hone their use of connective teaching strategies as a means for increasing global engagement in the classroom. Thus, the remainder of my dissertation uses qualitative analysis to illustrate and analyze the link between engagement and connective teaching—how teachers implement connective teaching effectively, how students experience it, and the mechanisms by which connective teaching appears to engage students.

Conducting this focused inquiry requires looking closely at particular classrooms and examining how different students perceive and experience them. In Chapters 5 and 6, I will consider the five dimensions of connective teaching—self-expression, relevance, care, understanding, and affirmation—using interview and observation data from five case studies to illustrate how each dimension is realized and experienced in instructional practice. In the present chapter, I lay the foundation for these analyses by (a) introducing readers to the case study classes one at a time to provide context for the findings presented in Chapters 5 and 6, and (b) presenting the "engagement story" for each class by extracting the dominant themes from students' comments and tying these into the Classroom Engagement Framework. In doing so, I illustrate the various combinations by which lively instruction, academic rigor, and connective teaching seem to explain the engagement story in each class—noting that

connective teaching is just one facet of teaching for engagement and that, in each case, it is situated in a complex web of classroom dynamics and teaching practices. Table 8 provides an overview of the key qualities of each class, which are explained in more detail throughout this chapter[5]. What is critical here is that although the ensuing analyses focus on connective teaching, these practices do not occur in a vacuum, and we can gain a fuller understanding of connective teaching by understanding the contexts in which it operates and how it interacts with other facets of the Classroom Engagement Framework. Establishing these contexts and making these connections are the key purposes of this chapter.

Table 8. Overview of the five case study classes.

Description	Survey Data Summary	Student Interviewees*	Dominant Themes from Student Interviews
Mr. Knowles' Physics Class			
General Ed Level 11th/12th Grades 18 Students 4th Period B Days	High on All 4 Constructs	Jeremy *(white male)* Carmen *(Latina female)* Christine *(black/white female)* Sarah *(white female)* Pete *(white male)* Steve *(Latino/white male)* Ray *(white male)*	* Knowles is highly knowledgeable * Students report learning a lot. * Students find Knowles funny.
Mr. Lifsky's World History Class			
General Ed Level 10th/11th Grades 25 Students 5th Period A Days	High Engagement, Connective Teaching, & Academic Rigor; Average Lively Instruction	Jessica *(Latina female)* Rachel *(Latina/white female)* Chris *(Latino male)* Arielle *(white female)* Mike *(white male)* Tina *(white female)*	* Lifsky motivates students through his own life experience * Students experience high levels of care. * Students work hard in Lifsky's class
Coach Connor's English Class			
General Ed Level 11th Grade 23 Students 1st Period A Days	High Engagement & Connective Teaching, Low Lively Instruction & Academic Rigor	Kiana *(black female)* Tampa *(black male)* Laura *(white female)* Rubi *(Latina female)* Pete *(white male)* Shameeka *(black female)* Mia *(black female)*	* Students perceive Connor to be cool and easygoing. * Students find Connor's class to be fun and easy

[5] As an organizing device for readers, teacher pseudonyms have been selected to represent key findings for each teacher. Knowles "knows" a lot, Lifsky shares "life" experience, Connor is "cool," Ingels has strong "instruction," and Warner is "warm."

Ms. Ingels' Biology Class			
Pre-AP Level 9th Grade 20 Students 5th Period B Days	High Engagement, Lively Instruction, & Academic Rigor; Low Connective Teaching	Belinda *(Latina female)* Brian *(white male)* Claire *(white female)* Roberto *(Latino male)* Carter *(Asian male)* Roxana *(Latina female)* Marianne *(white female)*	* Ingels provides high-quality instruction. * Students report high levels of understanding. * Students find Ingels friendly and fair but somewhat distant.
Ms. Warner's Physics Class			
General Ed Level 11th/12th Grades 19 Students 2nd Period A Days	High Connective Teaching & Lively Instruction; Average Academic Rigor; Low Engagement	Brianna *(black/ white female)* Ana *(Latina female)* Jack *(white male)* Caesar *(Latino male)* Rubi *(Latina female)* Davon *(black male)* Javier *(Latino male)* Isabel *(Latina female)*	* Students find Warner warm and nurturing. * Warner uses a lot of games and labs. * Students report low levels of learning in Warner's class.

* Note: Pete and Rubi are each in two of the case study classes and reported on both classes.

Mr. Knowles' Physics Class—"He knows everything!"

Long before I administered my engagement survey to the students at Riley High School, I suspected that Mr. Knowles' classes would emerge as being among the school's most engaging. Numerous times, I had found myself darting around Knowles' students in the main corridor as they dropped items from the second to first floors of the building and recorded their results on clipboards. Even then, I had noticed how student-driven these activities were—with the gray-haired, moustached teacher lingering quietly around the periphery, his hands tucked behind his back. Indeed, the survey results revealed that students experienced all seven of Knowles' physics classes as engaging, connective, lively, and rigorous—but none as dramatically so as his fourth period class on B days. In Table 9, I show that the survey respondents in Knowles' B4 class rated this class very highly along all four dimensions—even rating it more than two standard deviations above the mean for lively instruction. These results suggest that Knowles not only brings physics alive for his eleventh- and twelfth-grade students, but that he does so in a way that is rigorous and

connective. Within the dimensions of connective teaching, the right side of Table 9 shows that Knowles' strengths are providing opportunities for self-expression and conveying care and understanding for students. In looking inside Knowles' classroom, I hoped to explore how all these pieces fit together to create a rich, rewarding, and engaging experience for students and illustrate how connective teaching functioned within an exemplary classroom.

Table 9. Class scores on the four survey composites and the five dimensions of connective teaching for Mr Knowles' B4 physics class (n = 15 surveyed out of 18 observed)[6].

Survey Composite	Class Score	Dimension of Connective Teaching	Class Score
Classroom Engagement	1.45	Self-Expression	2.23
Connective Teaching	1.74	Relevance	1.13
Lively Instruction	2.23	Care	1.48
Academic Rigor	1.41	Understanding	1.42
		Affirmation	1.29

Note Class scores are standardized scores calculated by averaging the responses for all survey respondents in each class and then standardizing across all classes in the sample

Knowles has been teaching an array of science and calculus courses at Riley High School for 39 years and has held leadership positions with the state and national associations of science educators throughout that time. He studied physics in college, switching to education late in the game, and his vast scientific knowledge is evident in his teaching and seems to impress his students. During one of my observations while Knowles was teaching about electric circuits, Jeremy[7], a vocal white male, asked how many volts are in an AA battery (a question that was off-topic at the time). Without hesitating or interrupting the flow of his instruction, Knowles rattled off, "One point five," and continued writing on the board. In response, Sarah announced loudly, "He knows *everything*!" I asked her to comment on this remark during her interview. She confirmed her amazement: "He does! He seems to

[6] In reporting the sample size for the survey results for each class, I report the number of students who submitted the survey in December compared with the number of students I observed in the class during March

[7] Basic descriptive information for all student interviewees is presented in Appendix H

know everything. Like you can ask him something and sometimes if he pauses, it's usually cause he's gonna say a joke or something. If he's being serious, he can answer right away. I don't think we've ever asked him something he didn't know the answer to." Later, Sarah added, "We respect him *a lot*, especially for his intelligence, you know. He's very smart." As a teacher, Knowles worked to convey his vast scientific knowledge to his students. Remarkably, when I asked interviewees what they learned in his class, three of the seven students responded, "Everything." "We learn everything." "We learn everything. I've learned a lot this year, more than I ever have in science."

Overwhelmingly, students commented on two things when reflecting on Knowles' class: how much they learn and how funny he is—suggesting that even though connective teaching scores were high in Knowles' class, such practices did not form the foundation of student engagement. In regards to learning, students appreciated Knowles' ability to convey content well. Students remarked: "I like how he teaches because I understand." "Mr. Knowles is real good at explaining stuff." "There's something about the way he teaches that I actually get it—it makes sense—that I didn't have with any of my other science teachers, especially in high school." "He knows how to teach.... He will explain it to the fullest, and if you don't get it, he'll make sure that you get it." Jeremy compared Knowles' instruction to that of other teachers:

> Most teachers would come up here and give you the formula and tell you the facts. Well, he teaches in the opposite way—in a way that is like a smart alec way. But you get it. It's just a simple version of it. He doesn't cram everything else in your head.... He can tell you just something so common that you're like, "Oh, okay, well I get it now." He breaks it down for you.

Christine, a student who was half black and half white and who participated regularly in Knowles' class, compared Knowles to her chemistry teacher from the previous year:

> I had Mr. Turner for chemistry last year, and he was a great teacher, but he just didn't explain things in a good way. He was funny, but he doesn't know

> how to explain things, nothing.... Mr. Knowles, he did some stuff about chemistry and he explained it and I got it like in twenty minutes, but last year when Mr. Turner taught it to me I didn't get it at all.... Mr. Knowles points out the small things—he just points them out and he explains that this is this and this is this, but Mr. Turner kind of like was 'Okay, well here's this and here's this.' I didn't like it.... I don't know how to explain it. I guess it's because I like Mr. Knowles more. He's more funny, but he has a way of explaining things.

In tandem with noting how well and how much they learn in Knowles' class, students' comments also reflected an appreciation for his sense of humor: "He jokes around a lot and he's funny. That's what most people like about him.... He can crack a joke, teach a little bit, crack a joke, teach a little bit. It's just fun to learn when he's teaching." "What I love about Mr. Knowles is how he makes jokes to help you. He'll make jokes and then you laugh and then he'll get serious." Along with his students, I also found myself laughing frequently during my observations in Knowles' class. As an example, during a lesson comparing series and parallel circuits, Knowles created an illustration to demonstrate the problem that could arise if "your house" had series circuits that connected "the television, the refrigerator, and grandma's heart machine." Noting on the illustration that if one circuit blew out, the power supply would be cut to the others, Knowles commented, "So, if your TV goes out, all of your food is going to go bad." After a beat to realize that grandma's heart machine would also fail (and that Knowles did not bother to point this out), we all erupted with laughter. As one student told me, "It's fun. Even if it's hard, it's fun. If it's easy, it's fun..... I guess it's Mr. Knowles' personality. He's always cracking jokes and laughing." Another noted, "He's up there joking half the time. He's fun altogether. He's pretty cool. I'd take his class next year if I could."

Students' comments on how much they learned in Knowles' class and how much they enjoyed his instruction aligned perfectly with Knowles' teaching philosophy, which he cited as building "a love for learning." He explained, "If I can get them to where they like to

learn, then my job is easy." Critically then, the key factors in engagement in Knowles' class appeared to be a particular facet of lively instruction—his ability to entertain students with humor—and something that is not accounted for in the Classroom Engagement Framework—instructional clarity. It appears that students were engaged because they could feel themselves learning *and*, as many of them noted, learning "everything." In Chapter 5, I discuss how these comments on the self-satisfaction of learning forced me to reevaluate my understanding of affirmation as a source of engagement in the classroom.

Mr. Lifsky's World History Class—"He's there for us."

Around Riley High, Mr. Lifsky is known for his devotion. One administrator conveyed, "He truly invests his life into these kids." Another shared, "He'll volunteer for anything. He'll go to basketball games and he'll work the books. He works in our credit recovery program. If I need him to stay after school for an hour, I can go to him and he'll be, 'Yes, sir. I'll do it.' He's very much a team player. He always says 'I'm here for the kids,' and I truly believe that's what he's here for." Inside the classroom, Lifsky's tenth- and eleventh-grade students reported positive experiences, and he had the highest levels of engagement among the school's history teachers. In Table 10, I show that student respondents in Lifsky's fifth-period, A-day world history class reported not only high levels of engagement, but also high levels of academic rigor and very high levels of connective teaching. Notably, however, they also rated Lifsky's class as almost at the mean in lively instruction. These results suggest that Lifksy's A5 class shared one key difference with Knowles' B4 class—a substantially less lively classroom environment. Thus, in comparing Lifsky's class to Knowles', I was able to begin to peel away the layers of the Classroom Engagement Framework to explore what is lost in the absence of liveliness and the

potentially different role of connective teaching for engagement in this less lively environment. On the right-hand side of Table 10, I parse out the students' perceptions of Lifsky's class along the dimensions of connective teaching, revealing that Lifsky's strengths are his abilities to provide students with a sense of affirmation and to convey care for his students

Table 10. Class scores on the four survey composites and the five dimensions of connective teaching for Mr. Lifsky's A5 world history class (n = 15 surveyed out of 25 observed).

Survey Composite	Class Score	Dimension of Connective Teaching	Class Score
Classroom Engagement	0.74	Self-Expression	0.94
Connective Teaching	1.26	Relevance	0.35
Lively Instruction	0.02	Care	1.58
Academic Rigor	0.70	Understanding	1.01
		Affirmation	1.60

Note Class scores are standardized scores calculated by averaging the responses for all survey respondents in each class and then standardizing across all classes in the sample

Lifsky came to Riley High three years ago following eight years in the military, eight years teaching in an alternative junior high school, and a few years substituting in a neighboring district. A former high school dropout who was "asked to leave" college his first time through due to his 1.4 grade point average, Lifsky followed family tradition and enlisted in the military. After breaking his back twice, Lifsky left the military, and (honoring three influential teachers in his own life) returned to college to earn a degree in education. Lifsky saw his duty in the classroom as going well beyond academic instruction. He explained, "These kids need role models, especially now, especially with the mixed families that we have, with the latchkey kids, which about seventy percent of our kids are latchkey kids They need role models that they can respect, and I work very hard to do that."

One of the key ways Lifsky served as a role model was through sharing his life experiences with students, hoping that doing so would inform their thinking about their own

lives. Lifsky's students commented on how his story inspired them. Chris, a Latino student who was very vocal in class, explained, "He had some hard times before. They kicked him out of school and just like a lot of things went wrong in his life, and then all of a sudden, he went back to college and to the army and it worked out good for him. So, I look up to him in a way for being that type of person that has failed before, but then has achieved after he failed—like learned from his failures." Chris explained Lifsky's experiences as a source of inspiration: "Just cause other people can be like failing and just be so negative about it and so sickening and be like, 'I'm never going anywhere' and turn out not being anything just cause they said it. And he didn't let that get to him.... It told me to push forward with whatever because you could be in a worse situation." Jessica, a Latina student and captain of Riley's dance team, explained how Lifsky's past made his encouragements more meaningful for her: "He always pushes us, like he says, 'I know you can do better.' He does know that because of what he came from, how he was in the past. He talks a lot about his past, which is really interesting.... He says how he use to be a really bad kid and he dropped out of high school and he got a GED and then he went to college and got kicked out of college and then went back in. Now he is where he always wanted to be." For Jessica, the message in Lifsky's story conveyed the idea of not wasting time in reaching her goals. She noted, "It was dumb for him, but eventually he got back on track, so why waste so much time? Why not do it now and get it over with?" These students' reactions suggest that Lifsky managed to convey his message.

Using his life experience as a motivational tool seemed to be a manifestation of Lifsky's sincere care for his students and was thus a foundational element of connective teaching for Lifsky. Perceptions of his genuine caring came through in student interviews. Among the statements made were: "I think he cares about everybody. Cause you know how

teachers will go to school and they treat their students as if they were their kids? Well, that is how Mr. Lifksy is with his classes." "That's what makes him stick out more than some other teachers—cause he actually does care about students." "He's outstanding when it comes to caring about your work and all that and caring about you, and he's always motivating students to do better." "He's there for us." "Mr. Lifsky lets [students] know that he's there for you." Rachel, a mixed white, Latina, and Cherokee student who asked not to be quoted directly and who came across in her interview as somewhat depressed, conveyed her appreciation for Lifsky by noting that if she came into class looking despondent and put her head down, Lifsky would inquire to make sure that she was okay. He also talked to her frequently after school, and when she returned to class after a meeting with a counselor, he let her know that if she needed to talk, he was there for her. Not surprisingly, Lifksy's teaching philosophy centered on relationships with students. He explained, "That's probably the key to my teaching philosophy—respect. I respect my kids as individuals and adults."

Lifsky also ran a tight ship, and students routinely spent the entire ninety-minute class period working independently or listening to lectures—revealing that academic press, an academic rigor practice, was a central aspect of engagement in Lifsky's class. During silent working, I frequently observed Lifsky urging students to "focus down" or "focus up" and emphasizing his expectations for productivity: "I need you focused. I need you serious. Thirty-five minutes is not a lot of time to do this." "You need to be getting your job done." "You need to push as hard as you can." "I need your A-game." "Make it happen now." "We've got a lot to accomplish." "You've got a ton and a half of work to do." "Does everyone understand my expectations today?" I also observed Lifsky give a mini-lecture about students needing to have "the discipline to study" as they moved up the educational levels. During silent work time, Lifsky also pointed out specific students who needed to get

to work: "Arielle, get to work, sweetie." "Corey, you stretch enough" (when Corey was stretching instead of working). "Marcus, I'm gonna need you to crack the book, man." At the same time, Lifsky also took silent working times as an opportunity to check in with individuals: "Jenny, you doing okay?" "Lisa, you okay, honey?" Students' interview comments reflected the industriousness of Lifsky's class: "You work the whole time and the class goes by super fast." "It's hard in a good way. I mean, if it was easy, then I'd be bored." "According to the other kids, they don't really do much in their [history] classes. And in Mr. Lifksy's you do a lot." Tina, a highly vocal white female, explained how Lifsky's care and demanding expectations created a reciprocal dynamic:

> Just the whole 'if you need anything from me,' 'if you need a recommendation from me,' 'will you check on this for me,' to 'Mr. Lifsky, I need a band-aid,' he's always willing to do it. It tells a lot. If he's willing to do that for me, then the reason goes back and forth. The students are also willing to put up the work for him, and he knows that.

Over the course of my interviews and observations, it became apparent that the interchange between hard work and care seemed to be the fundamental dynamic of Lifksy's class. In this way, Lifsky used the connective teaching practice of care to not only serve as a role model but, as Tina suggested, he also capitalized on this facet of connective teaching to push students through academic rigor. This interaction between these two elements of Lifsky's teaching illustrate the synergistic nature of the Classroom Engagement Framework in which complementary strategies focused on different elements of engagement can create a supportive yet challenging classroom environment that students experience as engaging.

Coach Connor's English Class—"He's just such an easygoing guy."

Clad in Riley High sports paraphernalia, Coach Connor began most mornings with a monstrous soda picked up from a drive-through on his way to work. As sleepy students

shuffled into his classroom for first period English, Conner often stood out in the hall, leaning over the second-story railing and watching the morning chaos of Riley's central corridor. Chatting and chuckling with another coach who taught English in a neighboring classroom, Connor would slurp on his soda and greet passing students with a grin and a friendly comment. His athletic wear, short haircut, and confident stance underscored Connor's status as a young, popular teacher and football coach. As I show in Table 11, the eleventh-grade students in Connor's first period English class on A days found themselves engaged and experiencing relatively high levels of connective teaching. Notably, however, Connor's A1 students did not perceive his class to be particularly lively or rigorous—rating the class below the school mean in both areas. Thus, by looking at Connor's class in comparison to Knowles' and Lifsky's classes, I was able to peel away yet another layer of engaging classroom practice and look at the role of connective teaching when it appeared to be the only type of engaging practice. In the example of Connor's A1 class, connective teaching seemed to be the central reason that students were engaged. Table 11 also reveals that self-expression, care, and understanding were the most prominent dimensions of connective teaching in Connor's class, suggesting that these dimensions of Connor's practice played a large role in engaging his English students.

Table 11. Class scores on the four survey composites and the five dimensions of connective teaching for Coach Connor's A1 English class (n = 17 surveyed out of 23 observed).

Survey Composite	Class Score	Dimension of Connective Teaching	Class Score
Classroom Engagement	0.74	Self-Expression	0.61
Connective Teaching	0.35	Relevance	0.23
Lively Instruction	-0.39	Care	0.52
Academic Rigor	-0.30	Understanding	0.40
		Affirmation	-0.30

Note: Class scores are standardized scores calculated by averaging the responses for all survey respondents in each class and then standardizing across all classes in the sample.

Following a short career in business, Connor was in his a fifth year of teaching and was happy to be working and coaching at Riley High School, his alma mater. Having grown up in Riley, Connor felt tuned in to the students, their lives, and the local community. Overwhelmingly, my student interviewees described Connor as laid back and likeable. In commenting on Connor's personality, Laura, one of Connor's most participatory students, noted, "He's one of my favorite teachers because right from the beginning he's one of the nicest teachers I have.... You can talk to him if you have any problems or anything.... He's just such an easygoing guy that you can totally get along with. He is not like a mean teacher who is no fun." Others concurred: "He shares with us his stories of his life. So, he talks to us. He's pretty funny." "He's cool. He's a teacher that teaches, but then too he's a teacher that understands, and he's a laid back teacher too. He's like all of them combined together." "Everybody likes Coach Connor cause he's so funny and just easy, really.... He doesn't like get too hard on you, like hammer down on you or whatever, like some of the other teachers. I look forward to going to his class cause I know I'm going to learn something and I'm going to have fun at the same time." Apparently, Connor was popular with female and male students for different reasons. Pete, a white male who sat in the front and often engaged in casual chitchat with Connor, described, "Everybody likes him.... The girls like him because they think he's cute, and the guys like him because he's a coach and you can go to him and talk about just about anything and he'll give you his point of view on it." Indeed, Kiana, a black female, told me, "Everybody like him. He's cool, and he's cute." Students also noted having fun in Connor's class. They remarked, "It is just a really fun class to be in." "It's just a fun class." "He's fun. He's a cool teacher."

From my observations, I noted that much of the 'fun' in Connor's A1 class appeared to be in relation to Connor's personality, a handful of jokesters in the class, and the

openness of class discussions. Often, I observed Connor joking around with students and seemingly being himself in the classroom. During one discussion that I observed, a student took a ridiculously loud sip of her Arizona Iced Tea, to which Connor replied, "Easy there," and got a laugh out of the class. He also often started class, particularly on Monday mornings, with a story about his family. During his interview, Pete relayed a number of long, funny stories about Connor and his young son—mix-ups about possums and what happened to them at a Pistons' game. Pete explained why he thought Connor shared such stories: "Probably just to wake us up cause it's first period, and to give us a good laugh before class starts." Connor also seemed really tuned in to students and who they were socially. For example, during one discussion in which Connor and the students were comparing slang from the era of *The Great Gatsby* with contemporary slang, some students asserted that 'cupcaking' was a slang term. Connor asked Mia—a particularly stylish and popular black student—if she had heard of cupcaking. When Mia said she had not heard of it, Connor replied, "It's not real if Mia hasn't heard of it." In that same discussion, students commented on the 1920's term 'big cheese.' Connor turned to one student and stated, "That's a different kind of cheese than where your nickname comes from." Such easygoing methods for relating to students and indicating that he knew students personally seemed to give many students the perception that Connor understood them. To this point, Shameeka, a black female who was somewhat quiet and serious in class, explained, "He understands us. Like, he gets where we're coming from.... When we have our discussion in class, he can relate to what we're talking about." These comments suggest that a key source of engagement in Connor's class was his being entertaining and demonstrating understanding of students. In this way, Connor combined a facet of lively instruction with a facet of connective teaching as a way to bond and build relationships with students.

In addition to liking Connor as a person and having fun in his class, students also reported that Connor's class was easy. This perception of easiness seemed to be in large part because Connor taught English, a subject students reported finding pretty easy across the board. They noted: "English is easy. It's an easy class.... I always pass English." "I think it's easy just cause like—I don't know—like we get the answers out of the book and stuff.... Yeah, it's English so.... English is like the easiest subject." Regardless of which English teacher students had, on the whole, the majority of the students I interviewed in this study seemed to perceive their English classes as fairly easy and basically covering things they already knew how to do. Coach Connor's class was no exception. Students described the content: "Pretty much the same English stuff we've been learning since our freshman year—nothing really that new. We pretty much repeated each year the same thing." "I'm pretty good with answering questions about stories. It's not that hard." "It's easy.... The majority of the time he's either reading to us or watching a movie or we're talking about something that is real-life related.... It's easy. It's all in the book." Critically, although the lack of rigor was a dominant theme for Connor's class, students' comments did not suggest that they were engaged *because* of this lack of rigor. Just the same, Connor seemed to still work to make the content in his course relevant to his students. He commented that he believed keeping students' interest was the most important element of effective teaching. He explained, "You have to keep their interests some way, whatever it is. Most of them are still sponges, if you can keep their eyes up and listening, you know they're taking it all in and they're going to get something out of it." Given his easy way, his sense of humor, and the accessibility of his content, Connor did seem to capitalize on his personality and his strong sense of youth culture to use elements of both lively instruction and connective teaching to engage students.

Ms. Ingels' Pre-AP Biology Class—"She's a good teacher."

In my six observations in Ms. Ingels' pre-AP biology class, only once did I stay in my seat for an entire class period. On two occasions, I found myself traipsing through the hallways heading to computer labs; other times I circulated amongst the lab tables in the back of the classroom watching students manipulate codes to build DNA or drop and catch meter sticks to measure reaction time. This did not surprise me as Ingels' ninth-grade students had rated her fifth-period, B-day biology class very high in both lively instruction and academic rigor. What was fascinating about Ingels' class, however, was that amidst these high levels of lively instruction and academic rigor, students experienced low levels of connective teaching—*yet they were still engaged.* In this regard, Ingels' class broke the connective teaching trend—revealing how students could experience engagement without feeling a strong connection to the teacher or the content. The class scores in Table 12 suggest that a key piece of this puzzle is Ingels' lively and rigorous instruction. That is, somehow Ingels' tight attention to high quality instruction through hands-on activities, group assignments, and challenging work seemed to compensate for students' lack of connection with Ingels and the content. Because of this countertrend, Ingels' class is a case in which connective teaching is *not* central to student engagement. In studying this class, I hoped to explore some of the nuance in connective teaching by examining how a teacher can foster student engagement without enabling strong connections between her students and either herself or the content. The right side of Table 12 reveals that the connective components that students experienced the least in Ingels' class were affirmation and teacher understanding, throwing into question whether these dimensions of connective teaching are as central to engagement as I expected.

Table 12. Class scores on the four survey composites and the five dimensions of connective teaching for Ms. Ingel's B5 Pre-AP biology class (n = 22 surveyed out of 20 observed[8]).

Survey Composite	Class Score	Dimension of Connective Teaching	Class Score
Classroom Engagement	0.44	Self-Expression	-0.29
Connective Teaching	-0.50	Relevance	-0.11
Lively Instruction	1.10	Care	-0.30
Academic Rigor	1.06	Understanding	-0.48
		Affirmation	-1.06

Note: Class scores are standardized scores calculated by averaging the responses for all survey respondents in each class and then standardizing across all classes in the sample.

In only her second year of teaching, Ingels was a new recruit who had been lured out of a career as a biologist and chemist in the nearby city so that she could work closer to home. Similar to Knowles, she was a trained scientist who had turned to education following solid grounding in her scientific discipline. As such, she shared Knowles' keen ability for explaining scientific concepts to students in ways that they understood, and students commented on the value of this skill. Claire, a vocal white female who was one of the top students in the freshman class, explained, "I think she's a good teacher, and I think the whole class kind of agrees.... A good teacher is able to explain new information in a way we can start to understand." Brian, a while male who sat in the front of Ingels' class and interacted with her almost continually, noted, "I think she wants to make a fun way that we will understand it better. Like, she tries to get down on our level and put something that we can relate to into the lesson." Marianne, another avid participator, explained, "She's not like most teachers. She doesn't give us multiple-choice tests. She gives us actually like, open-ended questions for our test, and I think that helps a lot because, you know, with all the labs and everything that we do in there, we are actually able to understand it—not just learn it, but we're actually able to understand it." Numerous students aligned Ingels' ability to teach well with their perception of her as a 'cool' teacher. Carter, a Filipino male, commented, "We

[8] Apparently, some students left this class between December and March.

all like her. She's a really cool teacher, and she actually teaches.... There's a few teachers in high school that people talk about like, 'Yeah, they're cool, but they don't actually teach anything. We don't understand anything that they teach.' But she's like really cool *and* we understand all the things that she teaches." Roxana, a Latina student, captured this perception of Ingels by relaying a conversation she had with a friend:

> I was talking to one of my friends. He has my same lunch, and he's like the kind of boys—he's Mexican, you know, they're always like trying to stand out and like being funny and stuff? Well, we were talking. And I was like, "Hey, you're gonna be late for Ms. Ingels' class." And then he said, "No, I'm always late to her class anyway." And I was like, "She's cool." And he was like, "Yeah, she is." He was like, "It's one of the teachers I get along with... with her." And I was like, "Yeah." I said, "I don't like that subject, but I really like her." And then he said, "I know. That's how I feel." And I was like, "For real?" He said, "Yeah." He said, "Cause I actually get it when she explains it to us, not like the other science teachers I've had before."

In telling me this story, Roxana (an advanced student) seemed to want to convey that all kinds of students—even the Mexican boys who like to 'stand out and be funny' and were maybe not as focused on school as she was—recognized the value in Ingels' ability to teach science. In this way, Ingels' students seemed to have the same positive and engaging experiences with the self-satisfying feelings of learning as Knowles' students.

In addition to instructional clarity, the other key theme that emerged from my interviews with Ingels' students was her general likeability, which was particularly striking given her low scores for connective teaching. Marianne spoke the most enthusiastically: "I think everybody loves Ms. Ingels.... I think it's because she's so young and fun.... She laughs at our jokes and she makes other jokes and she's just really cool, I guess." Other interviewees also appeared to be fond of Ingels, but their comments were a bit more tempered: "She treats me kindly. She treats everyone kindly." "She's nice, and she actually helps us." Initially, I found these types of comments puzzling because, as shown in Table 12, students had not rated Ingels highly on care. As I studied students' comments more closely, however, I noted

a fondness for Ingels yet a simultaneous distance, such that liking Ingels and feeling an emotional connection with her seemed to be two different things. For example, Roxana noted, "She's not the kind of teacher that will talk to you about your personal life if you don't bring the subject up." Ingels herself commented on her orientation toward students:

> I like to know what they're doing as far as what takes their time, as far as work, or what their parents are expecting of them. But some of them are involved in extracurricular activities that are not legal, and I don't want to know. That's something that makes me judge them in here and when they walk through that door I want them to be all level, I guess. I don't want to know who's popular, I don't want to know who's that kind of thing, cause that doesn't matter to me in here, cause everyone in here is equal.

Because Ingels intentionally kept her distance to deter any bias in her opinions of students, it was not surprising that students did not feel a strong personal connection with her. Just the same, they picked up that Ingels' wanted to do right by students, which seemed to manifest in an even temperament. Claire noted, "The thing I like about her is that some days she'll come in and she'll be like, 'This has been a really bad day.' But she doesn't let her bad day affect how she teaches the class, which is good, you know. I've heard about teachers who they have a bad day and so they are mean to all their kids." Others shared: "One day when I was really tired, without getting mad or anything, she was like, 'You need to stay awake.' Not really getting mad like other teachers do." "If you have questions, when you go to her desk, she won't be in a mood, she will actually tell you what it is and stuff."

Overall, Ingels seemed to have a professional orientation toward her work, which was evident in her devotion to lively instruction and academic rigor. Additionally, even though she was friendly with students, she did not get highly personal. In this regard, it seemed that Ingels made a conscious choice to not demonstrate individual care or get too close. Instead, she focused her efforts on being friendly yet fair as she delivered high quality instruction that capitalized on lively instruction and academic rigor.

Ms. Warner's Physics Class—"She's a really caring person."

When a student finished his work in Ms. Warner's physics class, it was customary for Warner to smile warmly and hand him a bunny rabbit to nuzzle at his desk while he waited for others to finish. Students reacted differently to the bunnies—some held them delicately and made doting noises, while others addressed them loudly with comments like "What's up, fool?"—yet they all seemed to accept Warner's bold gesture of trust with an air of responsibility and care. Such was the way in Warner's second-period physics class on A days, where her eleventh- and twelfth-grade students experienced levels of connective teaching just above the mean. Like Ingels' B5 class, however, Warner's A2 class broke the connective teaching trend—but in this case, the countertrend went the opposite way, such that students experienced some connective teaching in Warner's class but not engagement. In this regard, Warner's class provided insight into how connective teaching did not necessarily engage students. As I note in Table 13, Warner's students also experienced high levels of lively instruction, but only average academic rigor. On the right side of Table 13, we see that Warner's connective strengths were understanding, care, and self-expression. Thus, in studying Warner's class, I was able to explore potential limitations of connective teaching in regards to student engagement in the presence of lively instruction.

Table 13. Class scores on the four survey composites and the five dimensions of connective teaching for Ms. Warner's A2 physics class (n = 19 surveyed out of 19 observed).

Survey Composite	Class Score	Dimension of Connective Teaching	Class Score
Classroom Engagement	-0.58	Self-Expression	0.29
Connective Teaching	0.15	Relevance	-0.51
Lively Instruction	0.93	Care	0.29
Academic Rigor	0.03	Understanding	0.67
		Affirmation	-0.10

Note Class scores are standardized scores calculated by averaging the responses for all survey respondents in each class and then standardizing across all classes in the sample

A 24-year veteran of the teaching force, Warner had been at Riley for five years. Over the course of her career, she had taught all kinds of science—from biology to chemistry to environmental science to physics—and she had worked in various educational settings, including an inner city school and a school for emotionally disturbed kids. As Warner's use of animals in the classroom suggests, one of her strengths as an educator was making emotional connections with her students. Davon, an African American male who had recently moved to Riley from the inner city, described how students felt about Warner: "Students like her.... They like them animals in there.... She let us play with them, and hold them and stuff. They like that.... I like it." Warner described her approach: "I call it 'bunny therapy.' There is something about being able to approach a kid when you have an animal, and so they can reach out to that.... There's still a child in these kids, and it's reaching that child, and the nurturing, caring part of them.... It finds the softer side of them." Not surprisingly, students' comments about Warner revealed their appreciation for her warm, nurturing approach. They shared: "She's just always nice.... She cares about everybody." "I think she's a nice lady. She's always smiling." "I really like Ms. Warner. She's real nice." "It's hard not to like somebody like Ms. Warner." "She's a really caring person. I mean she runs the food drives and all that stuff." "She's always honest, and she's happy.... I think she likes everybody... because she's always smiling." "I love Ms. Warner. That's the teacher!"

As a mother to seven children and grandmother to fourteen, nurturing came naturally to Warner. One administrator noted, "She's kind of like a mother figure.... She's very knowledgeable about just stuff in general, like life issues and stuff like that. And she'll help kids that are having life issues. So she's not just an academic teacher. She's a teacher for kids to vent or if they don't have somebody at home they can talk to. She's that kind of person." Students also acknowledged this. Brianna, a mixed black and white female who

shared a strong bond with Warner, explained, "She'll just start talking to you about [your problems]. But it's kind of like a counselor would.... Ms. Warner will be there, you know. Like if I had to go to court, she'd probably go with me type stuff." Caesar, a Latino male who was not particularly close to Warner, also noted, "A lot of people do go talk to her and stuff if they have a problem. A lot of my friends just tell me all the time, like 'I want to go see Ms. Warner about this.' There's always people in the mornings in her class." Warner recognized her inclination to fill this role, saying, "I probably mother them somewhat.... I think in some cases it's necessary to understand that they're going through some tough things. There are certain ones of them, especially the ones that are young moms, that I'll migrate towards mentoring them." In this regard, it was clear that care and understanding were central facets of connective teaching in Warner's class.

Instructionally, Warner focused on making physics fun through the lively instruction techniques of projects, labs, and games. Students recounted some of the labs: "We were talking about gears and stuff, like simple machines. And we had to make a robot and describe what the simple machines were and what their functions were with the robot." "We went outside and we got drawing chalk and made a hopscotch. She wanted to know how fast we could do it and our average, and all that stuff, and the cause of how our feet move." "We did the roller coaster. We tried to figure out the gravitational force of letting a marble slide down a roller coaster." They also described numerous games: "We play basketball to questions. You get the question right and you get to shoot the basketball. At the end you get 300 for your next daily grade. Stuff like that, I mean you can't beat that." "We play basketball and golf with all the classroom. We have a ball and then she made these things and sets up obstacles. You hit it off the desk over books set up all around the room.... She turns [physics] into a game so you have to answer the question correct and then you get to shoot."

Despite these lively learning experiences, however, three of my interviewees complained that they did not learn much: "Ms. Warner's class—yeah, uhm, she like makes it all fun, but I don't learn anything from her class." "Really we don't do a whole lot of learning in there. It's pretty much busy work." "She tells us to write stories about stuff that I don't think is important, and I'll be like, 'I thought this was a physics class, not an English class.'"

I do not present these comments to discount Warner's efforts at lively instruction, which were certainly well received by her students. Rather, students' responses suggest that they were also eager to learn more substantively in Warner's class in addition to enjoying lively instruction. Seemingly, unauthentic, non-rigorous learning experiences may be part of the reason for students' lack of engagement in Warner's class, suggesting that even though the survey results in Chapter 3 identified connective teaching as being more strongly linked to classroom engagement than academic rigor, a complete absence of rigor may be detrimental to engagement. In Chapter 5, I will also illustrate that Warner's emphasis on nurturing students might have been engaging only for those students who wanted to be nurtured. It may be the case that for students who did not reach out for Warner's care, there was little left in her class to engage them.

As a Group

Collectively, these five case study classes present different windows into the Classroom Engagement Framework and the role of connective teaching practices within different classroom contexts. Although the focus of my analysis in the next two chapters is on the relationship between connective teaching and engagement, I will continue to note some ways in which lively instruction and academic rigor work alongside or in place of connective teaching in the service of student engagement. In doing so, I continue to

emphasize the ways in which different teaching practices for engagement are dynamic and synergistic and that students' experiences of engagement rely not only on particular practices but also in the relationships among them.

Although the five case study classes represent different patterns in the survey results so enable exploration of connective teaching in different classroom contexts, there are limitations of this small sample of five classrooms. First, all five teachers are white, which may impact their abilities to connect with the 56% of Riley students who are of other racial and ethnic groups. I did not observe or hear about large differences in relationships with teachers by student race, but this does not mean that differences do not exist or that students of color would not feel *more* connected with teachers of color. Indeed, some research argues that students of color do better with same-race teachers (Dee, 2005). In this study, however, I was unable to consider this aspect of the student-teacher connection because over 90% of the teachers at Riley High were white.

Furthermore, in observing these classrooms and talking to students about these five classes and the nineteen comparison classes they discussed in their interviews, I was only able to compare across the practices and conditions that students actually experienced in these classes. As a result, I was unable to account for practices that I did *not* see that could also contribute to connective teaching and help to engage students. For example, I did not observe any teachers using culturally relevant pedagogy—in which content and instructional strategies enable students to affirm their cultural identity and challenge social inequities (Ladson-Billings, 1995)—even though such practices have been shown to help students connect their identities to the classroom and experience high levels of engagement (Ladson-Billings). Because I did not see these practices, however, I was not able to consider them as a

facet of connective teaching. The same could also be true for many other instructional strategies to which I was not exposed during this study.

On another point, there were subject matter limitations in the sample of classes, which were three science classes, one history class, and one English class. Seemingly, there would be some variations in how connective teaching plays out in math classes, foreign language classes, and an array of elective courses. Yet, because of sampling decisions I made along other important dimensions—such as to get instrumental variation by survey results, to facilitate data collection by studying classes at different periods of the day, and finding teachers who were willing to participate—I was unable to study classes in all subject areas. Therefore, reports on other subjects are captured solely in students' reports on comparison classes during their interviews. Despite these limitations of the sample, analysis of the practices and student perspectives in these five classes revealed some important insights into the Classroom Engagement Framework and connective teaching in particular. In the next two chapters, I examine each of the five dimensions of connective teaching—self-expression, relevance, care, understanding, and affirmation—and explore how teachers effectively enact these connective teaching practices, how students experience them, and why they appear to engage students.

Chapter 5

Connective Teaching—Effective Implementation for Engagement

In the Classroom Engagement Framework, I assert that connective teaching strategies are likely to engage students because they emphasize individual students and help them to develop emotional connections to teachers and to classroom content. I identity five dimensions of connective teaching for analysis: self-expression, relevance, care, understanding, and affirmation, which emerged in the survey results as being collectively important for classroom engagement, much more so than practices of lively instruction or academic rigor. In the present chapter, I argue that these five practices are not straightforward and do not simply *exist* or *not exist* in a given class. Rather, there are variations in how teachers implement these five practices, and particular forms of implementation are more effective in engaging students than others.

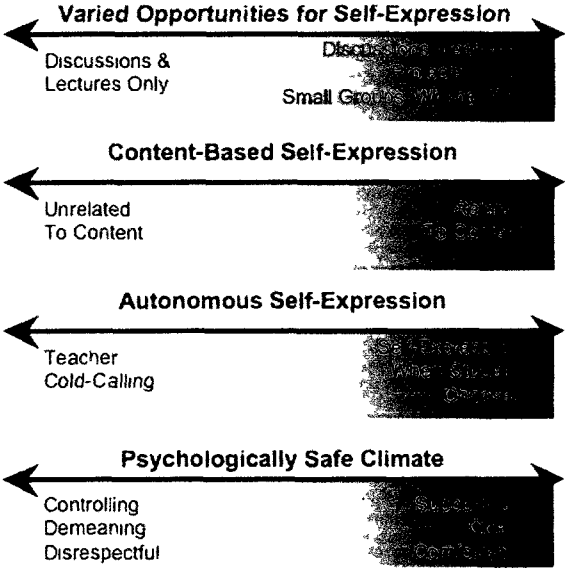
Below, I address each of the five dimensions of connective teaching in turn and discuss the variations in implementation and how students experienced these variations to answer my second research question: *How do teachers most effectively implement connective teaching in the classroom*? For each dimension, I outline distinct findings regarding the most effective implementation for student engagement. I also provide a graphic for each dimension to illustrate the various continuums along which these practices occur, and I note the most engaging forms of implementation in purple shading. For self-expression, I argue that students need varied, content-based, and autonomous opportunities to share their thoughts and opinions in class as a way to integrate their sense of self into the learning environment. I further illustrate that classrooms that students experience as psychologically safe are the most effective for eliciting authentic self-expression. I then turn to relevance and

demonstrate key distinctions regarding how teachers can make content relevant for students—noting the differences between present and future utility and between life- and career-focused relevance. Through explicating the connections students make between their lives and classroom content, I illustrate that students experience the most engaging forms of relevance when teachers help them to see content as having present utility for their everyday lives. I then discuss variations in how students experience care in the classroom, noting distinctions between personal and academic care and between care that occurs on individual and universal levels. In presenting these data, I highlight the ways in which individual personal and academic forms of care are the most meaningful and engaging for students. I similarly analyze teacher understanding of students in personal and academic terms and on individual and universal levels. Again, students seem to experience the highest levels of engagement when understanding is individual, personal, and academic. Importantly, however, students express starkly different expectations in regards to teacher care and understanding, and I note that individual personal understanding is fairly rare and unexpected from the student's point of view. Finally, I consider the variations in students' sources of affirmation in class—comparing the engagement potential of feelings of success, teacher praise, grades, and participation patterns in class. Through this analysis, I note that affirmation is most engaging when it stems from students' genuine experiences of success. Across these findings on the most effective implementation of each connective teaching practice, I demonstrate the complexity of teaching for engagement and highlight the variations in individual students' experiences. My intention here is to help educators think about the nuances within these practices and visualize how each connective teaching practice—even when already present in a classroom—could be honed and refined to increase engagement.

Self-Expression—Settings & Structures for Integrating the Self

The first facet of connective teaching is the opportunity for students to express themselves in the classroom, rather than be passive recipients of information and ideas from others. The extent to which, and the means by which, students experienced self-expression varied across the classes I studied. Among the five case study classes, self-expression was one of the highest scoring elements of connective teaching on the student survey in three of the classes—Knowles, Connor, and Warner—yet, the classroom structures, student responses, and overall effectiveness of self-expression differed across these learning environments. Ingels' class also provided insight into how teachers created differential opportunities for self-expression among students, even within whole-class lectures. Overall, as illustrated in Figure 5, I found that, in order to reach and engage students, opportunities for self-expression needed to be varied, content-based, and autonomous, and the classroom needed to be psychologically safe—meaning that students needed to feel comfortable, encouraged, and supported (Baker, 1998; Ladson-Billings, 1994).

Figure 5. Variations in implementation of self-expression. Purple shading denotes the most effective implementation for student engagement along each continuum.



Psychological Safety & Varied Opportunities for Self-Expression

Among the case study classes, Knowles' class received the highest survey results for self-expression at 2.23 standard deviations above the school mean. From my analysis, it seemed that there were two primary and interconnected ways in which Knowles elicited self-expression from students—first, by creating a psychologically safe classroom climate that encouraged self-expression, and second, by offering a variety of forums in which students could share their ideas and opinions. In regards to classroom climate, one reason that Knowles' class scored so high on self-expression appeared to be the high level of interpersonal respect students perceived. These students stated: "He talks to us like actual students, like actual human beings." "It's a respect thing that Mr. Knowles gives." "He really thinks he has to earn our respect." Additionally, Knowles seemed to create an open classroom climate by making himself vulnerable through his jokes. Possibly, the magic behind Knowles' humor as a source of interpersonal connection between him and his students was his honest dorkiness that made his classroom a space in which anything goes. Indeed, one administrator likened Knowles to Peewee Herman, and noted that he overheard students describing Knowles as "off the charts" and "way out there." Pete, who sat in the back of Knowles' class and was actively involved in classroom activities, described how jokes—even "stupid" ones—contributed to a positive climate. He noted of Knowles, "He's always cracking jokes and laughing, even though sometimes they are way over my head and I'm like, 'That was stupid!' But everybody else is laughing so it makes it a little easier."

This open and positive climate seemed to make the classroom a safe space for many students to speak up. In my observations, I noted high levels of participation and frequent commentary from the majority of the students during lectures. In their interviews, all seven students commented on this, with statements such as:, "He asks us for our opinions and our

ideas. He stops and says, 'What do you all think of this?'" "If you feel a certain way about something, yeah, you can say it. He's very open to it." "He lets us ask any question—even if it's off topic, and he'll answer it." Clearly, students perceived that their thoughts, ideas, and inquiries were welcomed and taken seriously. As a result, self-expression was the norm in Knowles' class. Of course, even this openness did not entice every student to speak up, and two of my interviewees continued to express reservations. Steve, who was Latino and white mixed-race and who sat quietly in the front row, explained: "I don't want to disturb class. Because I'm the shy type, remember? And I don't really like to say a lot." Carmen, a Latina female also sitting in the front, similarly expressed, "I'm shy.... If I get called on, then I'll answer the question. But if I don't have to answer the question, I'd rather not." In this regard, even in a relaxed classroom climate, lectures did not elicit the voice of every student.

Critically, Knowles also offered other instructional forums that enabled students to contribute ideas and opinions. For example, during one of my observations, Knowles provided bare bones instructions to his students about how to run a radiation experiment and then sent the class to the back of the room to work. I observed:

> Knowles tells the students to go for it. They all move to the lab table and sit around it. Pete takes it upon himself to start the experiment. The other students all watch and call out guesses for the amount of counts per minute that the radiation counter will rack up as Pete starts timing. Knowles is walking around the room, not participating. (This totally caught me off-guard.) The students are all with pencils poised, seated on stools around the lab table. Knowles wanders around the room putting away materials—conspicuously not participating but laughing to himself at students' jokes. A student places the first sheet of paper over the radioactive bowl. The timer has started. The students are discussing their predictions for how high the counts will go. Three are standing. The other twelve are seated on stools. Knowles is now lurking three feet away.... The students are having a group conversation about how many pieces of paper they should go up to (the number of sheets doubles each time—1,2,4,8,16...). Someone asks Knowles how high they should go. He says, "Talk to the group."

Steve provided his interpretation of why Knowles' stepped aside at times like this: "When we're doing labs, he'll sit at his desk and do some stuff while we're trying to figure out the lab.... [He does this] to let us figure [it] out.... There has to be one of us that knows what they're doing so I think that's why he does that." In this way, Knowles encouraged and facilitated student autonomy and problem solving, which enabled students to bring themselves into their work and come up with original ideas. Importantly, both of the student interviewees who said they did not speak frequently during lectures described contributing to group assignments. Carmen noted, "When we work in groups, like there's some times I know everything, and then there's some times I don't know what to do. Then I'll ask for help and then I know what to do. But I guess it's kind of equal because we help each other in our groups." By creating a safe space and varying his classroom structures, Knowles enabled all students to find ways in which to safely integrate their voices, knowledge, and ideas into the classroom.

When Opportunities for Self-Expression Are Not Varied

In Connor's English class, self-expression was also the highest scoring dimension of connective teaching at 0.61 standard deviations above the mean, but opportunities for self-expression were not varied as in Knowles' class. Rather, self-expression in Connor's class almost exclusively took the form of contributing to class discussions, which limited who participated. For students who were outspoken and comfortable, discussions appeared to be a time to let loose, share wacky ideas, defend original thoughts, and enjoy witty banter—all the while creating connections between themes in American literature and life today. Laura, a white female who participated frequently, described the benefits of discussions:

> We have certain talks about certain subjects, about what we're reading and what it really means. And we'll have discussions, and sometimes it leads to

> things that have been happening about the world, and we will talk about that. He helps you be able to talk about certain things and to be able to express your opinion. And when you get out there [in the world], you won't be afraid to speak up if you need to.

For Laura, the opportunity to speak enhanced her feelings of competence at expressing her opinions, and she saw this skill as contributing to her future. In addition, open discussions provided students with opportunities for interjecting their cultural identities into the classroom. For example, during the comparison of 1920's slang with contemporary slang described in Chapter 4, students introduced contemporary slang terms with phrases such as, "Black people say...." Such observations illustrated that students felt comfortable bringing their cultural selves into Connor's class.

Despite the high levels of self-expression for about half of the class in these exchanges, the troubling notion with public discussions as the primary forum for self-expression is that many students are too shy, quiet, or self-conscious to participate. In Connor's class such students—the other half of the class—had no option but to keep their thoughts to themselves. In this way, they were not only silent; they were also *silenced.* Shameeka, for example, was an African American female whom I observed sitting quietly during discussions in Connor's English class. In her interview, she described, "I have something to say, but I just don't want to say it because I'm a shy person. I don't like to talk in front of a lot of people." Importantly, however, Connor would have been hard-pressed to coax participation out of Shameeka, who admitted, "I don't want many people to notice me that much.... I don't want all the attention towards me." Thus, Shameeka needed alternative forums for self-expression, such as small-group discussions, open-ended projects, or writing assignments. Yet, Connor offered such opportunities only rarely. As a result, Shameeka had few means by which to express herself in the classroom and play a role in shaping her own

learning experiences. Thus, the low levels of self-expression for students like Shameeka suggest that single venues for self-expression were insufficient for engaging all students.

When Self-Expression is Not Content-Based

Self-expression was also a relatively high-scoring form of connective teaching in Warner's physics class (at 0.29 standard deviations above the school mean), where students described both a safe classroom climate that enabled them to be themselves and a variety of creative projects that required original ideas. Unfortunately, however, unlike Knowles' class, these elements in Warner's class were not linked to high levels of engagement. My assessment is that the below-average engagement in Warner's class was due to the lack of physics-based learning objectives appropriate for high school juniors and seniors even when projects did offer opportunities for self-expression. I observed:

> Warner explains that students are to build a house out of playing cards—it must be two stories, have ten rooms, and be strong. Students have to start by drawing the house and writing an essay about it. The students ask a few questions. Jack wants to know how he's supposed to write an essay about this.... [Later,] Rubi is coloring a yellow sun in the corner of her house picture. A few others are also coloring their pictures. A number are using rulers to draw straight lines.... [Later,] each group will build two houses—one made out of cards and one made out of marshmallows and popsicle sticks. Warner sends the students to their lab stations: "Go get busy".... They will have a contest for the best house, the prettiest.... [A few minutes later,] the students seem to be mostly on task. The card houses keep falling, and the students seem to be getting frustrated.... I overhear Jack tell his group that school is a waste of time.

There were numerous elements in this ninety-minute class period that illuminated why the students were likely not engaged in Warner's class, despite opportunities for creativity, self-expression, autonomy, group-work, and projects. In large part, the downfall of this lesson appeared to be its lack of physics content and its inappropriate level of rigor for eleventh- and twelfth-grade students. In his interview, eighteen-year-old Jack, a white male who came

across as confident and candid, elaborated on what he learned in Warner's class: "How to stack cards!! Really, we don't do a whole lot of learning in there. It's pretty much busy work.... Like puzzles, things in our workbooks, crossword puzzles, a lot of crossword puzzles, and every once in a while she'll give us a list of definitions and we have to know the definitions." Illustrating the developmental inappropriateness of this class, Jack conveyed a personal sense of ambition and determination over the course of his interview. He held down three jobs, including running his own business and taking care of an elderly man with whom he lived, and he anticipated a career as a care-flight paramedic because "a year ago, my brother died in a motorcycle accident, and a care-flight then would have made a big difference." Given the seriousness, responsibility, and real-world implications with which Jack approached life, it is easy to understand his frustration in Warner's class, where opportunities for self-expression did not seem to compensate for academic tasks that were too simple and seemingly irrelevant to physics. This example suggests that content-based relevance of self-expression opportunities is important for engagement.

When Self-Expression is Not Autonomous

Although Ingels' students did not give her class relatively high scores on self-expression as a whole (-0.29), my observations revealed an important nuance in how teachers do or do not facilitate self-expression in the classroom. Specifically, I noted a stark contrast between the roles of outspoken and quiet students in Ingels's ninth-grade biology class, where about half of the students talked almost continually throughout Ingels' lectures while the other half remained virtually silent. Notably, student talk during lectures was mostly of the clarifying nature for vocal students and responses to cold-call questions for the quieter students. During a lecture on meiosis, I observed:

> The class is now quiet as students begin to copy notes from the overhead. The students call out questions about the notes, and Ingels answers. Student: "But don't we have more than forty-six chromosomes?" Ingels: "No." Student: "Don't we make more as we get older?" Ingels: "No." She contrasts chromosomes with cells that increase as you age and grow. Ingles: "Okay so far?" Student: "So..." and clarifies what he understands. Ingels: "Yes." Marianne does the same thing and explains her own understanding. Ingels explains where she is off. Ingels is using a smart board now, and she is behind the front desk pointing at slides and writing on the dry erase board. The students take notes. Ingels discusses haploids. Student: "How's it different from diploid?" Ingels: "What's a diploid?" They discuss. The students in the front center participate the most. Ingels cold calls Angela who is quietly sitting on the side. She answers. Another student calls out a clarifying question. Ingels draws on the smart board to explain. Vocal participators say, "Ohhh." Five girls on the right side of room are quiet—not calling out. Neither is Roberto in the back left. Brian clarifies and comments a lot. Ingels cold calls Trisha, who answers.

In all five of the lectures I observed Ingels give, the pattern was exactly the same. About half of the students, particularly those sitting in the front center, interacted with Ingels almost continually, interspersing her lecture with frequent comments, clarifications, and questions. Carter, a Filipino male who seemed to enjoy the class even though he was often sleeping on his desk, explained, "She lets you say what you want to say and what's on your mind—ask questions of the material. You can express yourself."

Much like in Connor's class, the other half of the students refrained from the general sharing of their classmates, opting instead to sit quietly and keep to themselves. Unlike Connor, however, Ingels attempted to draw quieter students into the class through cold calling. Belinda, a soft-spoken Latina who appeared to be the shiest and most reserved among my interviewees, described, "I don't ask a lot of questions in class. I'm too shy." She explained what happened when Ingels called on her, "I kind of hesitate." She stated that she usually knew the answer but when she got cold called, she felt, "Like aahhh, I don't want to do it." Ironically, the students in Ingels' class who were the least sure of themselves and the most afraid of public speaking were the only ones whom I observed Ingels cold call. The

vocal students seemed to participate under their own conditions, contributing when they felt confident they had something to say or asking questions when they wanted additional information. As a result of staying in the public space of the classroom, they were not the ones the teacher called on to answer direct questions in which there was a right or wrong answer. Problematically, the different participation styles seemed to mirror the racial breakdown of the class fairly closely. From my assessment, the outspoken students appeared to be eight white students and one Latina, while the quiet students appeared to be six Latino students, one white student, and one black student. (A few remaining students were not clearly in either group.) These different patterns reveal possible cultural differences in self-expression and reinforce the idea that self-expression should be varied in format to suit various preferences, and it should be autonomous, such that it comes on students' own terms rather than the teacher's. If self-expression occurs only when the teacher demands it, then it is not really authentic self-expression at all. In fact, the threat of being cold-called and put on the spot unwillingly may even make Ingels' classroom psychologically unsafe for some students. Luckily, in Ingels' class, daily labs meant that lectures were only a small portion of the instruction, and this unequal dynamic only occupied part of the class time.

Unsafe Classes & A Lack of Self-Expression

In contrast to these examples of classrooms that offered at least some space for self-expression, a number of the comparison classes provided examples of teachers who inhibited self-expression by creating unsafe spaces or conveying disinterest in hearing from students. Christine, who seemed happy and invested when she was in Knowles' class, reported of her English teacher Ms. Dexter, "She doesn't really communicate with us, and she doesn't care what we think.... When we are trying to express our view to her, she goes, 'I

don't care. I don't care. We're doing this. I've put my mind to it. I don't care.'" Caesar, a Latino male whom I observed as always being in good spirits in Warner's class, similarly described how his math teacher Mr. Brown alienated students by being too controlling: "He's a control freak. He loves to be in control, and if he's not in control, he'll just freak out and go crazy on you.... He'll get angry at you because he wants you to be looking at the board and just to be looking at him the whole time. And if you're not, he will literally just freak out and yell at you." Through disregard and excessive control, these teachers created unsafe, non-autonomous classroom climates in which students who were otherwise motivated in their classes felt dismissed or were frightened into compliance and silence. For other teachers, self-expression was just something that did not fit into their classroom structure. When I asked Carter whether his world geography class was a place where he got to express his ideas and opinions, he replied, "Not really. We just take notes. It's one of those long grueling classes." On the whole, classes in which the settings and structures did not enable students to bring themselves into the classroom space were typically low on student engagement, emphasizing the critical role of student voice in the classroom.

Writing as a Forum for Self-Expression

I argued above that opportunities for self-expression in the classroom need to be varied so as to reach different students through different forms of instruction. One obvious forum for self-expression in school is writing. However, I conducted thirty-five ninety-minute classroom observations at Riley High School, and I only observed students writing two essays—the one in Warner's class that accompanied the house lab and a group assignment in Connor's class in which students wrote a second part to a story they had read. In addition, students reported in interviews that writing essays was highly uncommon in

their classes, including their English classes. Students who had Ms. Dexter for eleventh-grade English reported at the end of the year: "We've written two essays and that was it." "We just wrote two [essays] this year." Another student described writing experiences in Connor's class: "We did when TAKS[9] was coming up. That was about it." Despite the seeming rarity of writing at Riley High, a few students spoke about writing assignments as means by which they had opened up to teachers. Jack and Jeremy both described how their English teacher, Ms. Andrews, reached students through writing assignments. Jack explained, "Second semester after TAKS is pretty much self-reflection. Everything we write is about ourselves, our goals, our personality, our qualities, just everything. It's really self-reflective in all the papers we have to write. Right now we are working on a slide show of pictures and writing about them. And it has to be about qualities about ourself. So it's relating English and real life." Note that for Jack writing about himself is writing about "real life." This comment clearly captures the centrality of self for adolescents and the potential of writing to enable self-expression. Similarly, Roxana described how she built a relationship with her human development teacher Ms. Moore through a written assignment: "She said she was interested in me because we did a paper, and I guess I was the one that wrote the answers that really... like I really, I don't know... came from the heart or something." Like Jack, Roxana found an opportunity to express herself through writing, and doing so helped her to build a relationship with her teacher.

These analyses of self-expression offer critical lessons for how teachers can effectively design classroom settings and structures that enable students to share themselves. Importantly, classes that offered varied means of participation, such as Knowles' class where students could contribute ideas and opinions to lectures, labs, and group work, enabled shyer

[9] TAKS is the Texas Assessment of Knowledge and Skills and is the high-stakes accountability exam in Texas

and less vocal students to find safe, non-public outlets for their contributions and still bring their own voice into their learning. Additionally, as illustrated in the contrast between Knowles' and Warner's physics classes, opportunities for self-expression that seemed to be more effective in eliciting emotional engagement were rigorous and content-based rather than simple and irrelevant to the subject matter. A third critical characteristic of effective self-expression was autonomy—meaning that self-expression cannot be forced or coerced but must occur naturally on the student's own terms if it is to be authentic expression of the self. Further, because the student must choose when and how to express herself, a positive and open environment is critically important so that students will feel safe in electing to open themselves up.

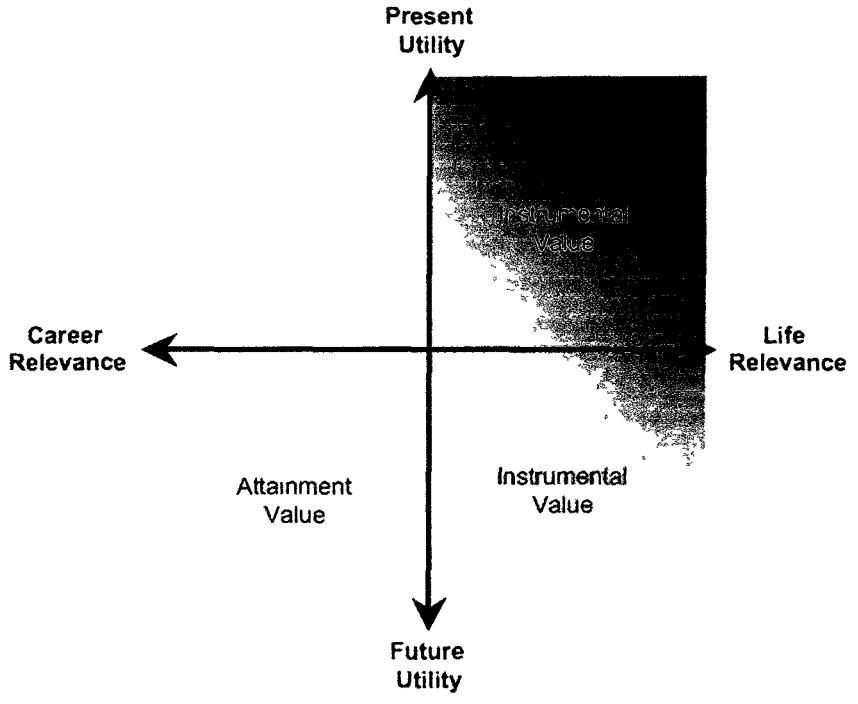
Relevance—Enhancing One's Present Life

The core premise of connective teaching is that it helps students see a link between who they are as individuals and what happens in the classroom. Thus, the extent to which students perceive that what they are learning is relevant to the person they are and the person they expect to become is a central feature of connective teaching. Indeed, much of the literature on making high school meaningful and engaging asserts the critical role of relevance (National Research Council, 2004; Schussler, 2006; Yazzie-Mintz, 2006). In this literature, a key element of relevance is the future utility of what students learn—that is, how content will impact and inform students' future life goals through career or college preparation (Conchas, 2001; Howard & Wu, 2009). In my findings at Riley High School, however, this future-oriented focus did not emerge as central to engagement, particularly because many students had fairly strong, specific ideas about what they would and would not need to know for their aspirations—which included, for example, nurse, fashion designer,

soldier, psychologist, and music teacher. Thus, students deemed a fair amount of what was covered in school to be professionally irrelevant for them. Even if they would not ultimately end up in the careers to which they aspired, at that moment in time most students had a particular profession in mind. For this reason, it seemed that teachers who focused on the *present* utility of material—as opposed to the *future* utility—conveyed higher levels of curricular relevance. In addition, students responded more strongly to material that seemed universally relevant to life for all people rather than relevant to particular careers, in large part because a focus on particular careers usually excluded their anticipated career.

As shown in Figure 6, these findings translate into part of the value framework I described in Chapter 1, where the value of content falls into three categories—intrinsic value, instrumental value, and attainment value (Blumenfeld, Kempler, & Krajcik, 2006). In my analysis, content with intrinsic value, such that students enjoyed it for its own sake, was always engaging by definition and was really a separate issue from relevance. Within the other two categories, which did seem to relate to relevance, content that held instrumental value—focused on what would enhance students' understanding of their daily lives—seemed more engaging in general than content that held attainment value—focused on what would help students get into college or perform a particular job. Needless to say, content that did not hold any of these values was less engaging overall. Below, I consider students' experiences of relevance in three of the case study classes to make these points.

Figure 6. Variations in implementation of relevance. Purple shading denotes the most effective implementation for student engagement.



Present Utility & Instrumental Value

Notably, relevance was not a dominant dimension of connective teaching in *any* of the five classes. In fact, it emerged as the *least* prevalent connective teaching practice in Knowles', Lifsky's, and Warner's classes, and the second lowest in Connor's class. Just the same, Knowles' class scored 1.13 standard deviations above the school mean on relevance, suggesting that there is still much to be learned from looking at students' experiences of relevance in Knowles' physics class. One of the things I noted most in watching Knowles' instruction was how he continually related physics to students' immediate world, which gave his instruction present, life relevance that held instrumental value for students. For instance, in one lesson Knowles asked the students to estimate how much it cost to provide electricity to the school for a day. As students spontaneously hunched up in small groups to figure it out, I observed:

> The students start multiplying and talking about the number of watts in this room. A few groups of students are working together to estimate the number of classrooms in various hallways. A student says, "Mr. Knowles, this is actually kinda fun." Someone else: "Yeah, it is... kinda." This student has been in a long, animated conversation trying to figure out all the rooms in the school. Knowles wanders about checking in with various groups. A group near me is now counting computer labs. A student comments, "I would not want to pay this electricity bill." There are lots of conversations about how many "classrooms" (with 1600 watts) would fit in various spaces (cafeteria, media rooms, band room, offices, etc). Knowles stops them and tells them to add up their estimates so far. The students start punching in sums on their calculators to come up with their estimates for the number of rooms. Then they multiply by 1600 watts/room to get an estimate of the total watts for the school. Knowles instructs them to change their watt estimates to kilowatts and then multiply by eight hours and five cents per kilowatt hour. The students calculate this. Everyone seems to be punching numbers into their calculators. Knowles tells them to also change this to dollars. Students start sharing their estimates. Knowles writes them up on the board. A few students check their work with others in their groups (especially those who have numbers way higher than the estimates that are going up on the board). Someone calculates the average of all the estimates (without being asked). Knowles writes the average up: $161.58. Knowles calculates percent error (with students prompting his work) to compare the class average with $176.97, which is the theoretical answer (average over all the estimates of this across all the years).

The behavioral engagement among the students in this excerpt was quite clear as students actively calculated their estimate of the school's electricity bill. In addition, there was evidence of emotional engagement as students commented on their enjoyment of the activity, and there was evidence of cognitive engagement as students checked their estimates and reworked them if they were off. In describing what they learned in Knowles' class and how it related to real life, a number of students referenced this activity. For example, Carmen, the fairly quiet Latina who sat in front, described, "We did a lab, and we had to find out how many classrooms were in the school. It wasn't accurate, but like we were learning about electricity and he related it to outside—like how much you would pay for so many hours of light. And you're going to use that your whole entire life—use light and everything. Our whole world is electronic." Here, Carmen noted the lifelong utility of knowing how to

estimate the cost of electric light, revealing that this skill had instrumental value for her and was part of the reason she was engaged.

Other students noted additional instrumental lessons they learned in Knowles' class. For example, Sarah, a white female who continuously and enthusiastically participated in Knowles' class, saw connections to her present life in much of what she learned in physics. She described, "He's actually made me think about a lot more things, even when I'm not in school. Like, one time we were talking about like momentum and force and stuff, and he used an example of driving. And a week later, I got in a car wreck, and I was thinking about it even after my wreck, like how it happened and how it was the force of this and everything. It was really weird actually." When I asked whether she thought physics applied to life outside of school, Sarah responded,

> Yeah, I think it does a lot. That's probably the main thing I've noticed about it. Even with soccer I've used it. Like, you have to think about angles a lot, like on the other team where they're gonna be, where you should be, like what the next play is gonna be. I thought about it a lot actually during soccer season.... Actually in choir too. I was actually talking about this the other day with our director. Like your vocal chords. Mr. Knowles was talking about one time how the air works, like when you're breathing and everything. And we were talking about that in choir too, and it just fit together.

These types of comments were typical of Knowles' students—so much so that I began to wonder if they were exaggerating, as illustrated in the following exchange from my interview with Steve:

> Steve: Maybe when I'm driving, I do think about it, like when to slam—well, not when to slam on the brakes—but when to stop sooner or later, which is like velocity and all that.... I think that comes to mind whenever I'm driving.
> Kristy: Are there any other times when you think about it?
> Steve: When I'm throwing a baseball or any kind of ball, you know. How high do I have to throw it for it to land in a certain spot so...
> Kristy: Wow. You really do think about that?
> Steve: Yes, I do. Yes. (laughs)
> Kristy: Are you just telling me that, or do you really do that?
> Steve: No, I really do.

Importantly, Steve did not see physics as relevant to his anticipated career in business, noting, "Maybe my math class about investments and stuff like that, but not so much physics." Thus, Steve did not see attainment value in learning physics, yet he saw that it applied to his daily life, and thus physics held instrumental value for Steve. If Knowles had not taken such great efforts to tie his physics lessons to students' daily lives and had instead focused on promoting the role of physics in certain careers, Steve may have been less likely to see the relevance to his own life.

A Lack of Present Utility & Instrumental Value

As a contrast, relevance was also the lowest scoring dimension of connective teaching in Warner's class, but unlike Knowles' class, students reported below average levels of relevance in Warner's physics class (at -0.51 standard deviations), making the two classes good points of comparison. Although this was not exclusively the case, seven of the eight students I interviewed from Warner's class could not see any present relevance of physics to their lives. Two noted its attainment value as a school requirement while two others noted its relevance for particular careers. For example, when I asked Brianna whether she thought it was important for people to learn physics, she replied, "To get through high school, yeah." Ana's response was, "Not really, unless you are going to be a scientist or a science teacher." Isabel, a Latina student who came across in her interview as somewhat frustrated with Warner, did not see any relevance in learning physics and even went so far as to claim it had no value for her at all. She exclaimed, "I don't think it's really important because I don't care how far a pencil goes." Unlike Knowles' students, most of Warner's students whom I interviewed framed the relevance of physics in terms of its future utility, and they did so without much enthusiasm. One notable exception was Javier, a chatty and optimistic Latino

senior, who remarked, "A lot of people say if you are not going to be a scientist or nothing then don't learn it, but it has a lot of little things in it that just blow your mind and you think like, 'Oh wow, this is how we get this.'" Here, Javier displayed a perception of intrinsic value in physics as a science, but this did not seem to be the dominant perspective among his classmates. A large part of the difference in perspective between the bulk of Knowles' and Warner's students likely rests in the differences in instruction in each class—as suggested by the contrast between the instructional activities I have described in Knowles' classroom thus far (students conducting a radiation experiment and estimating the school's electricity bill) and in Warner's classroom (building card houses and drawing pictures). Quite starkly, it is evident that the differences in both rigor and relevance between these two classes were linked to their differences in student engagement.

Attainment Value & Relevance

Within the five case study classes, Ingels' biology class was the only one in which relevance ranked the highest of the five connective teaching practices. However, as Ingels' class was half a standard deviation below the school mean on connective teaching, relevance—even with the highest scores among the connective teaching practices—was still below the school mean (at -0.11). Thus, relevance was Ingels' connective strength, although student engagement in her class appeared to be mostly influenced by lively instruction and academic rigor. Despite the negative value of relevance in Ingels' class, some interesting findings emerged in comparing Ingels' students' comments about relevance with those of the other classes in my sample. As a group, my interviewees from Ingels' class referenced higher levels of intrinsic value and attainment value in evaluating the relevance of biology for their lives compared with the statements of students in my other case study classes. Although

there are many possible reasons for this difference, a key source of the difference seemed to be the stronger academic orientation of the Pre-AP students in Ingels' class, which was the only advanced class among the five. As they discussed their thoughts on biology, three of the seven students referenced their intrinsic interest: "I find it personally interesting. I like learning about things. I like knowing a lot of stuff, and I take interest in all of my classes because I just like learning." "Maybe because I'm kind of student-oriented, I enjoy knowing how things work... It's valuable to know some of it." "There are a lot of things that actually are very interesting tidbits that you keep in there.... It's just random interesting info." Two others commented on the attainment value of biology: "If you go to college, you'll definitely have to know it, just so you are educated." "It will [relate to life] when we get older and we get into our jobs and everything, but right now, not really. I think we just need to know it for school." Considering that students in other classes, when commenting on relevance, were less likely to mention the course's relationship to college or an inherent interest in the material, it is possible that students in different academic levels looked for different forms of value and relevance in their classes. Interestingly, however, even though my interviewees in Ingels' class identified biology as having intrinsic and attainment value and relating to the future, the class's survey score for relevance was below the school mean. In this regard, it seems that without having present utility, life relevance, or instrumental value, students are less likely to identify class content as relevant to them.

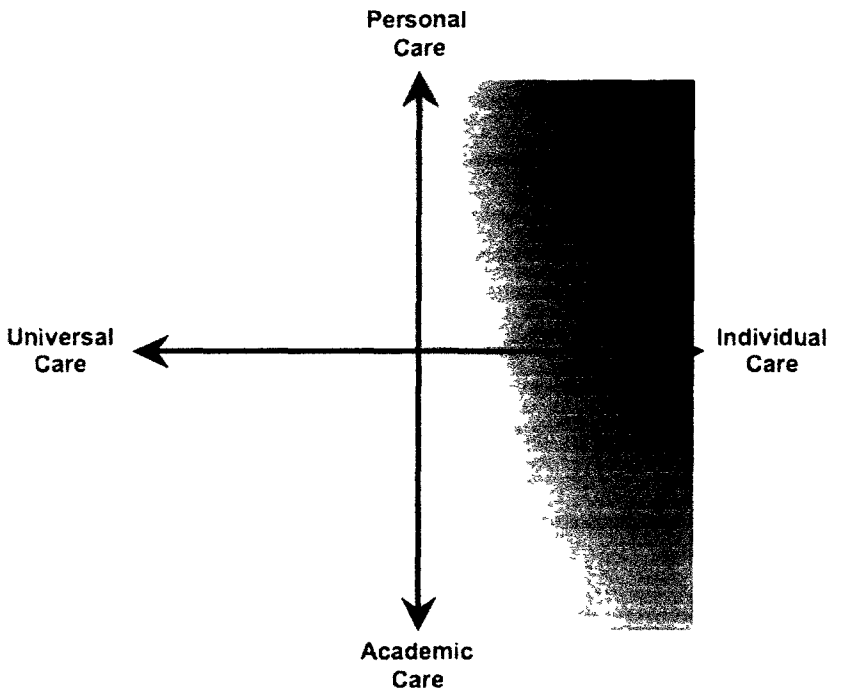
On the whole, students seemed to be considerably more connected with the content in a class when they could relate that content to their daily lives in the present and when that content held instrumental value for them—that is, content that was useful for enhancing one's present daily life. For the most part, the careers students anticipated were fairly specific. Given this, students were quick to dismiss many academic subjects as irrelevant.

However, a non-career-focused application of content that emphasized utility for all people, particularly in the present, did come across as relevant and thus engaging to students.

Care—Concern for Students' Well-Being

A central facet of connective teaching is a student's connection with his teacher, much of which rests on his perception of whether the teacher cares about him. Schussler and Collins (2006) identified three types of teacher care—academic care, personal care, and social care—relating to teachers' concern about students' academic performance, personal development, and social relationships, respectively. Students at Riley High School clearly referenced *academic care* and *personal care* in their interviews, but I did not see evidence of social care. Further, I found that students credited teachers with caring on two levels—*individual care*, in which students perceived that a teacher cared for them in particular, and *universal care*, in which students concluded that a teacher cared generally about all students. Below, I use four case study classes to illustrate variations along these dimensions, and I draw in some comparison classes to reveal the consequences when students perceived that teachers did not care. Across these examples, I demonstrate, as illustrated in Figure 7, that the most engaging student experience of care included both personal and academic care on an individual level.

Figure 7. Variations in implementation of teacher care. Purple shading denotes the most effective implementation for student engagement.



Individual Personal & Academic Care

Students' perceptions of the care Lifsky showed in his world history class effectively illustrated both *individual personal care* and *individual academic care*. One way students detected Lifsky's personal care was through the attention he gave them—expressed, in part, as an interest in their extracurricular activities. For example, Jessica, a Latina who sat close to Lifsky's desk, shared, "He can be almost like your friend, cause he'll ask you about your day, or he'll be like, 'Oh, so you're in dance, I'm going to go watch you.' And then he'll say, 'Oh, you did really good.' It makes me happy." Two students also described Lifsky reaching out to them with concern during times of need. Arielle, a white female with something of a theatrical personality, described Lifsky's support during a turbulent relationship with a boyfriend: "Whenever something would go wrong—well, he used to be a student of Mr. Lifksy's before he got kicked out of school, and Mr. Lifsky really liked him or whatever—so

he would ask me what was wrong and I would tell him. He would be like, 'Don't worry about it. Things are going to be fine. It's just Alex.'" When I asked Arielle why she shared her personal life with Lifsky, she replied, "Just the fact that he cared, like he asked." By contrast, Arielle detected less care from other teachers. Referencing a break-up the day before our interview—when Arielle did not have Lifsky's class—she described, "Yesterday, when he broke up with me, I cried all day long and none of my teachers asked what was wrong with me." Arielle was certain that had she been in Lifsky's class that day, he would have asked why she was upset.

Critically, individual personal care was usually accompanied by academic care, such that—because teachers were concerned for the personal wellbeing of students as individuals—they were also concerned with how well students did academically. This was certainly the case in Lifsky's class, where Mike, a while male who seemed intensely focused in class, explained, "He'll give me little pats on the back and just say like individual 'I'm proud of you' and stuff like that.... If I mess up on a paper, he'll actually be disappointed and say, 'You really need to step this up.'" My observations confirmed this. During one class period, I observed,

> The class gets to work quietly. It is now totally silent. Lifsky talks to a student about another student who seems to be missing. He tells her to call him and tell him to get in here. Lifsky calls another student to his desk and talks to him about his grade on a recent test. He then starts calling students up one at a time. He tells those students that need it how to get extra credit to raise their grade for the reporting period next Friday. He tells a student who did well, "Good job. I'm proud of you." He tells another to "Rock the house, girlfriend. I'm proud of you" and bumps fists with her. (His enthusiasm and fondness seem so sincere that my eyes fill with tears.) He goes over to one student at her desk instead of asking her to come to him. (I'm not sure why. Is she injured or something?) Lifsky tells Arielle who did better than she expected, "Arielle, I've always known you were capable."

These examples illustrate Lifsky's overt personal interest in his students as people and his genuine respect and concern for their academic performance. Seemingly, his actions

influenced students' desire to work hard for him and to make him proud. As Mike noted, "The way he talks to us and treats us—I mean, you can tell the way he talks to us that he expects a lot of us, and so we give him a lot back. We don't want to disappoint him." One particularly telling example came from Chris, a Latino student who struggled some in school—as indicated by his frequent placement in in-school suspension and the fact that he was repeating world history. Chris explained how Lifsky motivated him:

> After class he called me out and he said he likes how I work and stuff like that.... He just knows it's hard for me to concentrate.... There's one girl in there, you might know her—Tina. I guess she's gonna be like a history major when she grows up because she knows a lot of history and... sometimes Mr. Lifsky points her out and is like, "What is that again, Tina, about that one time in history?" And then she'll be like "Oh yeah, you know...." I would want him to ask me for something like that. Not that I'm being envious and all that. It's just I would want to make him proud—for him to ask me a question about history or something and just like out of nowhere to pop out with something.... Just cause I know he cares about us.

Chris's comments revealed an indebtedness to Lifsky for investing in him and a reciprocal hope of meeting Lifsky's investment by making him proud. Importantly, among the five classes, Lifsky received the highest scores on care at 1.58 standard deviations above the school mean, and care was his highest scoring dimension of connective teaching, suggesting that his obvious emotional commitment to his students on an individual level played a large role in their engagement.

Knowles also demonstrated both personal and academic care on an individual level. His expression of these two types of care is best illustrated through his relationship with Ray, a somewhat gruff white male who usually lounged in the back of the class—half lying on his desk and struggling to keep his head up after late-night work shifts. Sarah, one of Ray's classmates, alerted me to the fact that Ray's relationship with Knowles was different from those he had with other teachers. Sarah described of Ray,

> He's not very good outside of school. I know he gets in a lot of trouble. And uhm, like his family used to be friends with my family. And I know he's into a bunch of bad things and stuff, and I noticed like one day—it was towards the beginning of the year—he was actually paying attention in class, which is weird. I mean sometimes he'll still sleep in there, but he's not rude to Mr. Knowles like he is with most other teachers—like, he'll back talk. But I think it's a respect thing that Mr. Knowles gives.

During his interview, Ray confirmed that he was into the types of "bad things" Sarah referenced—using drugs, getting into fights, and talking back to teachers. Most notably, at the time of our interview, Ray was on probation for breaking into a store and cleaning out the cash register while he was high on drugs. Ray also exhibited a generally tough demeanor, peppering his interview with comments like, "I'm rude to some people when people are rude to me. I don't care. I can be just as rude. I'm mean. I'm mean. I'm hateful sometimes." But, in Knowles' class, I witnessed the positive, mutually respectful relationship the two shared. On one occasion, I observed,

> Knowles directs the class to page 751 in the textbook: "I'm gonna let you have a turn. See how far you can get on your own, being an amateur electrician." All but one student start on the problem. Ray, in the back, is asleep with his head on his book. Knowles walks over to Ray, shaking his head on the way. He leans down and whispers something to him. Ray sits up.... Knowles tells me after class that Ray works nights from 11pm to 4am to help his family pay the rent.

Another time, I noticed Ray approach Knowles and ask, "Hey Mr. Knowles, what's up?" They then engaged in friendly chatter for a few minutes. I also observed Knowles integrate Ray into numerous classroom activities, asking him to run the timer during one radiation experiment and having him demonstrate how a metal rod could be used as a conductor to create sparks in another experiment. Ray described the treatment he received from Knowles,

> He acts like you're real people. He talks to you. If you have problems, he'll talk to you about it, you know. He'll say, "You need to get your work in. I need it so you don't fail. So, can we do the work? Or just pay attention." He tries to keep you up.... Treating me like a friend is the best relationship between a teacher and a student. Cause when they treat you like a student,

> they act like you're dumb and you don't know what you're doing.... Mr. Knowles, he treats you like you're a regular person.

In both my observations and Ray's description of how Knowles treated him, there was a clear level of high personal regard and a sense that Knowles was concerned with Ray's academic performance and cared for him both personally and academically. Although not all of Knowles' students shared such explicit details about how they perceived care from Knowles, his class score for care at 1.48 standard deviations above the mean revealed an overall sense that students perceived high levels of care from Knowles.

Universal Personal Care

Although not all teachers conveyed such clear individual levels of personal and academic care, many students asserted that teachers were caring by nature because of their choice of profession. Through claims that teachers displayed *universal personal care*, students expressed faith that teachers probably cared for them even if they did not see explicit signs. This appeared to be the case in Connor's English class. When I asked Connor's students if they thought Connor cared about them, four of the seven students provided comments such as, "I think a lot of teachers care mostly about all their students—like care what happens to them and if they do good and don't want them to fail. I think it's just the whole teacher thing—they care about all their students, not just one." "Well, all I can say is he's a teacher. I mean if he didn't care, he wouldn't be a teacher." The universal, generic nature of such students' comments suggest that these students did not see Connor as particularly caring but that they were willing to credit him with being caring because there did not seem to be a reason not to. Possibly, these students were generous in their attribution of caring qualities to Connor because he was fun and generally likeable and they wanted to believe he cared. One exception to this universal notion of caring from Connor was Tampa, an outgoing

black male who played football and was a vocal jokester in Connor's class. Given Connor's position as a football coach, it was not surprising that Tampa perceived that Connor had a special interest in him. He described, "He never lets anything happen to me. Like if I'm like having trouble in class, he'll pull me aside and say, 'What's going on?'... He likes me, and he believes in me.... He wouldn't be on me if he didn't like me." Given the stark difference between Tampa's comments and those of his classmates, it seemed that perhaps the average student in Connor's class perceived a more universal level of personal care, while Conner conveyed more individual personal and academic care for those he knew well through his other role in the school.

Universal Academic Care

Illustrating another form of care, Ingels' class appeared to be a good example of *universal academic care*, such that her care was directed towards serving all her students well academically and ensuring that they learned. As noted in Chapter 4, Ingels' students found her to be fair and focused on doing her job well, even if she was somewhat distant personally. Seemingly, this professional orientation toward her work carried into Ingels' universal focus on academics. Roxana explained, "I think she cares about everybody. I mean, every teacher wants them, their subject, their grades on the TAKS tests, that's how teachers know. Because our teachers will be like, 'Well, our group got a higher grade than the other group.' And then she'll be like, 'I'm proud of ya'll.' I think she cares about everybody in the aspect of the class, and she tries to make sure we understand stuff and learn." An interesting facet of this particular comment is Roxana's sense that Ingels considered her students' TAKS scores to represent her "grade" as a teacher. Quite in contrast to students' comments on Lifsky's personal investment in them as people, Roxana suggested that Ingels' investment

was in her students' learning as an element of her professional responsibility. Other interviewees from Ingels' class did not go quite this far, but the comments of two other students revealed a similar perception of academic care for all students: "I think she cares about everybody... because she tries to help everybody." "I think she cares about all of her students... because one time I was getting the missing work from her and I was trying to get it before I left, and she was really, you know, hurrying up and trying to get the missing work for me."

One specific teacher action that many students interpreted as revealing academic care on either a universal or individual level was when teachers, such as Ingels, moved around the classroom frequently and interacted with students as they worked. Students contrasted such mingling with teachers who retreated to their desks when students worked independently, a gesture they interpreted as signaling a lack of care regarding students' work or their need for help. For example, Claire noted of Ingels, "She helps the class a lot which is nice—the interaction with us.... I'd say she does a pretty good job of spreading out. I see her all over the room, just going around, and I'll be like, 'Hey, I need your help now!'" Indeed, during one class period, I observed,

> As the students work, Ingels stops to help various students. She seems to stay for quite a while when she stops. She has been helping Mark for about two minutes. She stops at another desk for ten seconds. Brian calls her back for help: "Mrs. Ingels, I don't know if this is right." She walks over to help. Two girls argue over who gets Ingels' help next. Marianne: "I called her over before Brian. It's not even fair." Ingels spends over a minute with Brian. She goes to help Marianne. It takes only a second. She moves to help another student. On the worksheet, the students have to summarize meiosis and compare it to mitosis. Ingels talks to a student about helium: "My son did that and he passed out." She gets into a side discussion about this with students for about twenty seconds and then resumes helping others. A student to Ingels: "So that goes there and that goes there?" "Yes." "Ohhhh." Ingels: "Be sure to compare it to mitosis. I want to make sure you know the difference."

This snippet from Ingels' class demonstrates her investment in her students as they worked, and among the five teachers I observed, Ingels seemed the most diligent in circulating and helping students. Belinda concluded that Ingels interacted with students more than other teachers. In comparing Ingels to other teachers, Belinda commented, "She interacts with us more... like, asks us questions and helps us more." She explained how this differed from what other teachers did: "They just teach it and then go do their work." Roxana similarly described of Ingels, "Whenever I ask a question, she helps me. Like some of my teachers, I've heard them say, 'Ask somebody around you.' But, she always tells us." Collectively, Ingels' students interpreted her willingness to answer their questions and interact with them throughout the class period as showing her care and her academic commitment to her work and to her students.

In the survey results, however, the universal level of academic care in Ingels' class did not seem to emerge as constituting high levels of care overall, as her class earned a care score of -0.30, which was below the school mean. By contrast, in Connor's class, students seemed to interpret Connor's universal *personal* care as an indication that he cared about them (rating care in his class at 0.52 standard deviations above the mean). Thus, somehow the universal care in Ingels' class—focused on academics—came across as too impersonal to provide much of a sense of care at all. I found it surprising that students did not consider Ingels as showing more care, but the survey results suggest that many students interpreted the survey item on care ("How much do you feel like your first period teacher cares about you?") as referring to personal care, rather than academic care. In addition, the student interviewees differed on whether or not they viewed academic care as particularly caring in the traditional sense. In fact, two of the seven students I interviewed in Ingels' class reported having no idea whether Ingels cared for them, stating, "I can't say she does, and I can't say

she doesn't. I wouldn't really know." "I don't know. I really don't know." It was clear that these students did not perceive Ingels to be *uncaring*, just that she was not particularly demonstrative with her care so they could not tell. In Chapter 4, I quoted Ingels as purposefully keeping her distance from students so that she could maintain a space in which she did not "judge" students and in which "everyone is equal." Reflecting this orientation, Ingels' students seemed to sense that she kept even, somewhat impersonal relationships with students that enabled her to focus on being fair, consistent, and professional. Marianne, a high-performing white student, noted personal value in this evenness: "Usually, I'm all of the teachers' favorite, which is good for me, but it doesn't give me motivation to do well in their class. Because I know if I'm their favorite, I can make a couple of good grades, and if I bomb a couple of quizzes then they'll just, you know, not count them or give me a higher grade.... Ms. Ingels doesn't do that." In this regard, then, Marianne interpreted Ingels' even coolness in regards to students as positively serving her academic needs even though other students did not seem to interpret this as "caring."

A Lack of Teacher Care

There was also something to be learned about the impact of teacher caring by considering what happened when students did not perceive that teachers cared, as was the case in a number of the comparison classes. A handful of students experienced not only a lack of individual personal care from some teachers but also what they interpreted as teachers actively disliking them. For example, Caesar experienced conflict with his math teacher, Mr. Brown, whom he described as "a control freak." When I asked Caesar whether he thought Brown cared about him, he described, "He really doesn't. Like you know if I don't understand something, he'll just get all over my case. And you know when other

students need help, he'll just like rush to their aid and stuff.... I kind of feel like that's unfair." More generally, students perceived that some teachers did not have universal personal care for students. One indicator was when teachers were short-tempered. Claire described her art teacher: "She's just not interested in us as people.... Sometimes she'll get real excited helping you because she loves art so much, but other times she'll just be completely distant and frustrated, and she'll be like, 'Okay, here. Do it.' Just like, 'Figure it out.' You know?" Christine described how her English teacher signaled her lack of care:

> She acts like she doesn't care. Like if there was something going down at this school, she probably wouldn't care, because she's always out of the classroom. Like she gives us the group work and all that stuff and then she leaves, like she goes to the bathroom, or she is never really in the classroom.... She doesn't care about the kids. If something bad happened and she were out of the classroom, she wouldn't know about it. So we would have to think for ourselves.

Clearly, Christine sensed a disregard for students' safety and was concerned about being in an unattended classroom. She read these actions as a lack of teacher care. In many regards, students' negative experiences with uncaring teachers captured incidents and conditions in which teachers were disrespectful to students—insulting them, demeaning them, and failing to look out for their safety. In regards to engagement, the uncaring and disrespectful teachers that students described were uniformly low on classroom engagement and low on connective teaching. Tampa provided an intriguing example of one teacher's class:

> Sometimes she calls us stupid, or whatever... like individual people.... I think it's wrong. I never say anything about it because it's none of my business, but some people will just walk up and be like, "I'm just going to play around in this class."... It just seems like they want to be cool, I guess. I don't think it's cool [that the teacher does that] cause why would you want to do somebody else like that when you know you don't want to be done like that.

In this instance, Tampa suggested that his classmates' "playing around" in the class was a direct response to the teacher's insulting them. This suggests that a lack of personal care—or even respect—can result in low levels of both emotional and behavioral engagement.

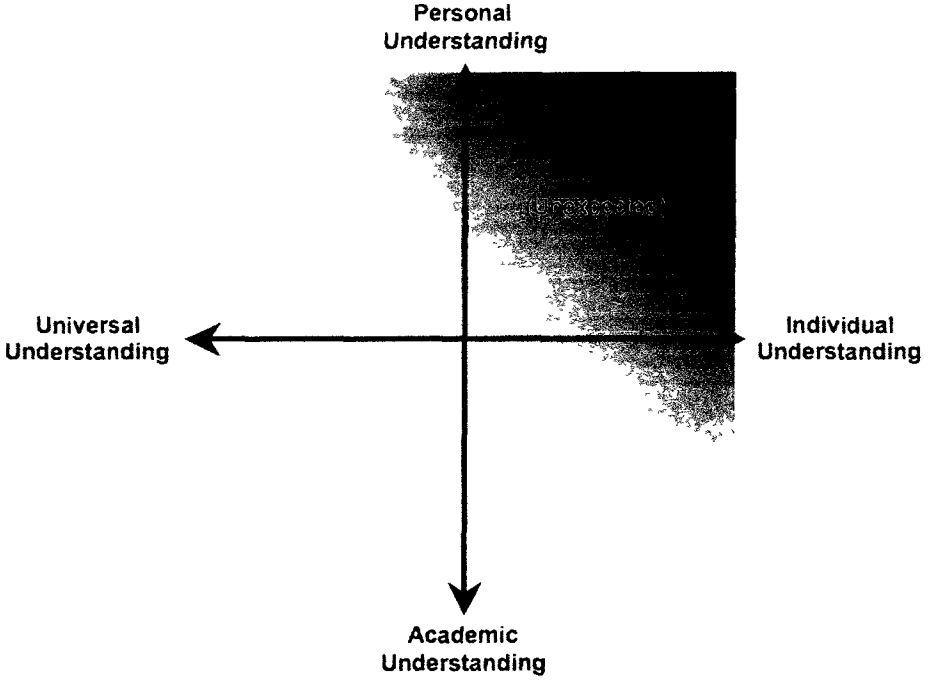
Across these examples, it is clear that many students had strong convictions about whether or not teachers cared and what shape that care took. On the whole, variations in students' perceptions of care along dimensions of personal and academic care and at both individual and universal levels seemed to have implications for students' connections with teachers and their engagement. In cases in which teachers conveyed individual personal and academic care, students appeared to respond not only with positive emotions but also with an eagerness to deserve the gestures of care by working hard or making teachers proud. Thus, in many ways, students' evaluations of care directly influenced their behavioral and emotional investments in their classes. Perceptions that teacher care was more universal—particularly if it was only academic without a personal dimension—seemed less engaging.

Understanding—When Teachers Really Know Their Students

As stated in Chapter 1, many theorists assert that understanding is a critical foundation of care, such that one cannot care for another without understanding their perspective (e.g., Noddings, 1992; 2005). In the present study, however, I separate out these two dimensions of student/teacher relationships—care and understanding—to emphasize that students did not always experience understanding when they experienced care. Further, perceptions of care were much more common, while perceptions of understanding were relatively rare—revealing that, although understanding usually involved gestures of care, the opposite was not true. Students often described feeling cared for, even when they felt teachers did not have a strong sense of them as people. Here, I define teacher understanding as the students' perception of whether the teacher knew him and was able to see his point of view. Like care, understanding had both *personal* and *academic* dimensions, such that teachers could understand students as people and/or as learners. Students also credited teachers with

understanding on the same two levels as care—resulting in *individual understanding*, in which students perceived that a teacher understood them in particular, and *universal understanding*, in which students felt that a teacher was generally understanding or understood teenagers as a group. Much like care, understanding seemed to be most effective when students perceived it to be individual and personal. Interestingly, however, as noted in Figure 8, although most students expected some degree of teacher care, few expected teachers to understand them—and some even questioned whether teachers *could* understand them. For example, when I asked Rachel whether she felt Lifsky understood her, she stated, "I don't think anyone does honestly—even I don't." Just the same, when students encountered individual personal teacher understanding, they found it to be exceptional and important, and such relationships were often at the root of high levels of connection to a teacher and engagement with a class.

Figure 8. Variations in implementation of teacher understanding. Purple shading denotes the most effective implementation for student engagement.



Individual Personal & Academic Understanding

Among the five case study teachers, Warner was the only one for whom understanding was the highest scoring dimension of connective teaching (at 0.67 standard deviations above the mean). Not all of my interviewees perceived high levels of understanding from Warner, but among the two that clearly did, the critical element appeared to be specific instances in which Warner conveyed intuition about who the student was as a person and a high level of faith in the student as a learner. Brianna, for example, was particularly profuse in her appreciation of her personal relationship with Warner, who had been her science teacher for three years. Brianna described Warner as "very understanding" and relayed a particular incident: "I have the teacher next door to Ms. Warner too.... She's my biology teacher, and she was talking to her about my grades slipping. It was like the second six weeks of school. And Ms. Warner was just like, 'Well, maybe we just sit down and talk to her.' And then they both started talking to me—saying that I could be a brighter kid, like I have brains but I just don't use them at times." Struggling with dyslexia and a heart murmur, yet anxious to maintain her standing on five of Riley's varsity sports teams, Brianna found immense value in the extra time and investment her teachers put into keeping her grades up—and she took this not only as an indication that they understood her academically but also that they thought she was smart.

In addition, Brianna perceived that Warner understood her on a personal level: "Some days I have my good days, and like she knows, and then some days I have bad days, and then she... I don't know. She just knows what's going on sometimes.... I ask her can I go off somewhere or if I can go to the back by myself, and she'll let me do it. I guess she just knows when something's wrong." In many ways, Brianna perceived high levels of individual personal and academic understanding from Warner, which appeared to be evident not just in

Warner's ability to see Brianna in an authentic way, but also in helpful gestures of care that illustrated Warner's ability to identify and provide what Brianna needed at critical moments.

Warner also had a particularly powerful relationship with Davon, a popular black student who had recently moved from the inner city and who starred on two varsity sports teams. Warner seemed to not only understand Davon as a person but also his social reputation and how it impacted his participation in class. In her interview, Warner described Davon: "He's probably one of the most brilliant kids in that room, but his background does not allow him to admit it and to be a part of the nerd kind of group.... He runs with a group of people that expect him to be a non-achiever." Indeed, I noted during my observations that Davon did not carry himself like an academically oriented student. Rather, he spent a lot of his in-class time wandering around socializing and pestering classmates who were trying to work. He also checked in with Warner frequently during class, seemingly as a way to get attention and reassurance. During the house lab observation, I noted,

> As Warner preps the lab tables in the back, Davon goes up to show her his drawing. She says it's good and that he now needs to write his essay. She gives him some story ideas. He wanders off slowly. He walks over to Caesar, who sits in the last seat of his row and is the designated leader for Davon's group. I can't hear their conversation but Davon's pointing to his paper, seemingly asking about the directions. He then walks slowly back to his seat and sits down.

While I was in Warner's class, she frequently and purposefully commented on Davon's intelligence, suggesting that Davon's proclivity for walking around the class and asking questions was more about socializing and interacting with others than truly needing the guidance of Warner of his classmates. During her interview, Warner described a recent event regarding Davon's performance on a practice science TAKS test:

> The first test he scored real high, and the other students were all like, "Yeah, he cheated"—even his girlfriend in the other class. It's like other people were not believing him. So better than argue with them, he just brought a new test up to the very front and he faced the door where there was no one he could

> see and no one could see his paper and redid the test. And he still got a 96 on it.... I mean, he aced it.... He could be anything he wants to be if he can break away from those people that he hangs around with.

Although Davon took it upon himself to retake the test, the fact that he did so in Warner's class—a place where she frequently praised his intelligence—suggested that her understanding of Davon and her faith in him played a role. In describing Warner, Davon exclaimed, "I love Ms. Warner. That's the teacher!" Through laughter, Davon relayed how he knew Warner thought he was smart: "The way she keep talking about it. The way she keep talking and bragging about it to other teachers. [She says] I'm smart and I can do it but I just don't put my head into it." Davon shared his own perspective on retaking the test: "All the fools talking about how I was cheating.... [So] I faced that way, and I did it all by myself.... I passed it again." When I asked Davon what that proved, he responded, "A lot. People didn't say nothing then cause they couldn't say nothing—especially people that's in my class, they can't say nothing." He laughed and added, "They couldn't believe it." Although he did not say this directly, I would surmise that a key source of Davon's fondness for Warner was her understanding and her support in helping him to prove himself. Despite the fact that Warner's class-wide engagement score was below the school mean, my sense from talking to Brianna and Davon was that they were engaged in Warner's class and emotionally invested in their relationship with Warner, even if their classmates on average were not. In this regard, understanding appeared to be primarily a case-by-case basis rather than something experienced class wide.

Academic Understanding & Universal Understanding

Brianna and Davon's experiences with individual personal and academic understanding were the most powerful in my data and clearly demonstrated the potential of

understanding to create influential connections between teachers and students. By comparison, many of the other references students made to teacher understanding described either solely academic understanding without a personal dimension or universal understanding of teenagers as a group without an individual dimension. This was true of some of the comments made by Knowles', Lifsky's, and Connor's students—all classes for which understanding scored third highest out of the five dimensions of connective teaching (at 1.42, 1.01, and 0.40, respectively). For example, within the realm of individual academic understanding, Jeremy described of Knowles, "I think he understands the way I learn or apply myself toward his class." Regarding whether Knowles understood who he was outside of school, however, Jeremy theorized, "I doubt really if any teacher does." Another student in Knowles' class and three students in Lifksy's class made similar comments, revealing a sense that these teachers had a good understanding of them as learners but not much beyond that.

Additionally, four students noted that their teacher displayed an understanding of teenagers collectively. For example, in describing how she came to the conclusion that Connor thought the students in her class were smart, Shameeka stated, "I guess the way he treats us.... Like he'll be asking us questions, and then we answer them. He understands us.... Like he gets where we're coming from.... When we have our discussions in class, he can relate to what we're talking about." This comment illustrates the validation Shameeka inferred from Connor's ability to see students' point of view. During my observations, I also saw evidence that Connor easily integrated references to youth culture into his class, illustrating that he understood the teenage world. On one day the students viewed a film of F. Scott Fitzgerald's short story "Bernice Bobs Her Hair." Following the conclusion of the film, Connor led a discussion relating the issues in the film to contemporary life. I observed:

> Connor begins by announcing, "Okay, let's talk about Bernice and her popularity." He asks what Bernice was like. Some students call out answers. Connor repeats some of the answers. He then prompts, "As the movie goes on, what happens to her popularity?" He graphs Bernice's popularity on the board. The students call out where he should mark the high point. Connor entertains ideas for what the contemporary equivalent would be: "The 2010 version." He suggests (with student prompting), "Ashley shaves her head" or "Ashley gets a tattoo." Connor situates this fictitious Ashley in "our school cafeteria." Students who are vocal have a lot of opinions on this.

By relating to his students collectively in this way and translating a film about adolescent rebellion in the 1920's into "our school cafeteria" in 2010, Connor sent a message that he understood students' world and knew where they were coming from. On this same note, Mike described of Lifsky, "I think he gets all of us. I mean, like he messed up a lot in classes when he was younger, and he knows that, he knows what a teenager likes. I mean he acts like he was a teenager once. Some teachers are like they forget that."

The Power of Individual Personal Understanding

Despite students' positive responses to individual academic understanding and universal understanding, when students reflected on the most significant teachers in their lives, they were usually those who provided individual personal understanding. Ironically, many students asserted that personal levels of teacher understanding were unnecessary—even in the same breath in which they praised such understanding. This point is illustrated in my interview with Rubi, a quiet, serious Latina who spent most of her out of school time babysitting. At one point early on, Rubi stated, "I don't think teachers should really know about our lives.... It just doesn't matter." Later, we had the following exchange:

> Kristy: What do you think the ideal relationship between a teacher and student would look like?
> Rubi: Just them helping them pass—and that's it.
> Kristy: So, you don't think that teachers and students need to be kind of friendly with each other?
> Rubi: No.

Kristy: Do you think it should be really like business and serious?
Rubi: Probably, I mean like joke around yes a bit, but not get into your life.
Kristy: Okay. What teacher have you had at Riley High School that you think is the closest to the perfect teacher?
Rubi: (long pause) Probably Ms. Moore.
Kristy: Ms. Moore. How?
Rubi: Because she asks about our lives sometimes. So, she's like—she's probably somebody that you could go talk to.

Although Rubi explicitly stated that she did not believe teachers should "really know about our lives" or that teachers and students should be friendly, she then reported that the best teacher she had was one who talked to students about their lives and whom she felt she could talk to. This immediate contradiction between what Rubi advocated and then what she valued was common among the students I interviewed—suggesting that students actually valued those relationships that extended beyond their expectations of how well teachers should or could know them.

Communication & Understanding

Another critical point illustrated in Rubi's example with Ms. Moore is the role of communication in teacher understanding. That is, in most cases, when students described teachers whom they felt understood them on an individual personal level, they referenced talking to these teachers about topics outside of school. For example, Tina explained the source of her perception that her chemistry teacher understood her: "Because he has actually talked to me and we've had conversations other than about school. We've had conversations as friends and not just teacher/student." Even when students talked about teachers whom they felt did not understand them, communication seemed to play a key role. In a representative quote, Pete said of Knowles, "He don't know me... cause he don't talk to me, he don't hang out with me, he doesn't know my family." Phrases such as "I don't really talk to her" and "She probably doesn't talk to me enough to be able to understand who I am"

are representative of the reasons students gave for not feeling like teachers understood them. There are clear links here to self-expression, suggesting that one critical reason to promote opportunities for self-expression in class is to enable students to communicate themselves to their teachers and increase teacher understanding.

Students' Expectations for Teacher Understanding

Importantly, despite the number of comments revealing that students felt overwhelmingly unknown by their teachers, seventeen of the thirty-three students I interviewed claimed that teachers needed to know students in order to teach them. For example, Mike stated, "I think the teacher needs to know you. I mean, he doesn't need to know everything about you, but they need to know a little bit about you. You have to have some clue how somebody is to be able to teach them, right?" Shameeka advocated for at least a universal level of understanding: "We need someone who understands us, not someone who doesn't understand us... cause adults are mature, and teenagers are immature." She described the potential consequences of teachers not understanding teens: "A lot of problems because when we're acting up or something like that, they will understand why and we won't always be getting in trouble in her class—like that. Because if you snap at us, nine out of ten we're going to snap back at you." In this regard, Shameeka illustrated how teacher understanding, much like care, was critical for both behavioral and emotional engagement.

Just the same, most students asserted that there was a critical boundary line in how close students and teachers should be—what Arielle described as, "Not too personal, but personal enough." In a representative comment, Christine explained, "It depends on what's going on in their life. If the kid is like sexually involved or something, the teacher shouldn't know about that. But, if the kid has lost his parents or something and it would affect his way

of working, then the teacher should know about that." Importantly, five students argued that individual students should be able to decide for themselves how well their teachers would know them. Tina asserted, "I think teachers should know what the student wants them to know. If I want to tell you something I want you to know, I will come up to you and ask you about it... If you try to get into the student's business, the student will not want to talk, to do anything anymore, not want to be in your class, not anything." There was a clear sense here that—although student/teacher relationships were important to students—teachers who crossed the boundary line would earn students' disfavor and undermine student engagement.

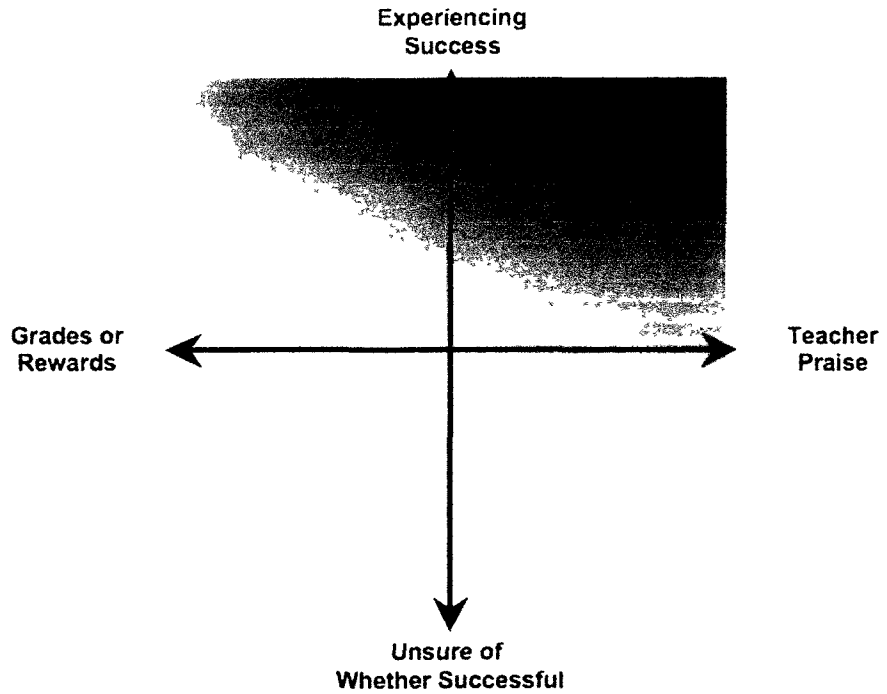
Collectively, the students I interviewed raised valuable questions about whether teacher understanding was a reasonable expectation given the limited circumstances of the typical student/teacher relationship. Regardless, most students were able to identify at least one teacher in recent years who had exceeded their expectations and seen them more authentically than the typical teacher. Overwhelmingly, these teachers played important roles in students' development—as Warner did for Brianna and Davon. In general, however, teacher understanding was experienced more commonly in academic and universal terms, and students asserted that they were comfortable with this arrangement.

Affirmation—Messages of Success

Among the five dimensions of connective teaching, what I learned about affirmation strayed the farthest from what I had anticipated. In conceptualizing affirmation as an element of connective teaching, I theorized that students would feel a greater connection to classes in which teachers acknowledged and praised their efforts and successes. I suspected that such reinforcement would feed students' needs for competence and thus support their engagement. As it turned out, however, students' feelings of affirmation appeared to be most

effective when they came from the students' own perceptions of success, rather than teacher praise. Importantly, as Brophy (1981) found, there were students who reflected positively on teacher praise and some who even seemed to thrive on it—yet praise was not meaningful for all students. Across the board, the seemingly more significant source of affirmation came from within rather than from without. In other words, the experience of feeling competent in the classroom far outweighed the impact of the teacher telling a student she was competent. For this reason, instructional clarity and appropriate scaffolding around challenging material that enabled students to *feel* a sense of success was the greatest source of affirmation of a student's capabilities and played a key role in classroom engagement. As depicted in Figure 9, external affirmation, such as praise from the teacher or a good grade or reward, was most often simply the icing on the cake—more of a celebration of the success the student was already feeling, rather than the source of those feelings.

Figure 9. Variations in implementation of affirmation. Purple shading denotes the most effective implementation for student engagement.



Experiencing Success as a Source of Affirmation

Only two of the five case study classes—Knowles and Lifsky—were above the school mean on affirmation, yet students' experiences of affirmation appeared to be quite different in these two classes. In Knowles' class, more than in any other class that students discussed, feeling competent seemed to be rooted in students' perceptions that they understood the material. Four students described how they knew that they were doing well in physics: "Because I actually understand it.... I can actually think about it, and I can figure it out." "I just understand it all, like I know it." "If you know it, you know it. If you don't, you don't. I think I know it pretty well." "I get it. Like the papers will say do this, and I will write down the formula or whatever it is, and I'll do it. And I get it." In Chapter 4, I noted that a key element of Knowles' class was the quality of his instruction and students' general appreciation for how much they learned from him. Seemingly, this instructional clarity played a key role in engagement for Knowles' students because they enjoyed the feelings of competence.

Christine described how she felt about "getting" the material in physics: "I like that feeling.... I don't like being confused. I don't like not knowing. I like when somebody asks you, 'Hey, do you know how to do this?' I like being, 'Yeah, I know how to do this,' instead of 'Oh, I don't know.' I don't like that." In describing her English class, however, Christine cited her grades as her source of knowing how well she was doing. Christine mused on why she looked to different sources of affirmation in physics and English: "I guess because in physics, I've never really gotten science before, and whenever I do, I get that feeling. But, in English, I have always gotten it." Seemingly, there was an element of challenge here, such that Christine experienced a greater reward—in the form of feeling competent—by achieving success in a subject that had previously been difficult for her. This suggests that

feelings of competence were particularly important in challenging classes as compared with easier classes.

Praise as a Source of Affirmation

Critically, a student in Knowles' class noted that Knowles was not one to dole out excessive praise: "He doesn't really tell you, 'Hey, good job' or whatever." Just the same, the students I interviewed did not identify this as a major problem. Steve, for example, described how teacher praise was only "sort of" helpful:

> My math teacher, Ms. Cunningham, she tells me that I've been doing a good job in her class and that if I keep it up, I should be doing good. And Ms. Parker. There's a lot of teachers that would say that—good job, yeah.... I kind of feel like they're just saying it just to boost us up a little bit, which is good. You know, it makes you work harder. I'd say that it's pretty good.... But, I'm not always sure they really mean it. They're just saying it to help you out a little bit.... Sometimes it affects me when teachers don't say good job or whatever because you feel like you're not doing what you're supposed to be doing in that class. And other times, when they do, you know, you feel like you're doing all right.

Steve clearly had mixed feelings about teacher praise. On the one hand, he questioned whether praise was authentic, but on the other hand, he also saw praise as confirmation that he was on the right track. Ray, the student who often nodded off in the back of Knowles' class, similarly shared that he had heard much teacher encouragement over the years, but that because of saturation (Brophy, 1981), it had become somewhat meaningless: "It goes in one ear and out the other. I've heard it so many times, I just blow it off." Just the same, he acknowledged appreciation for the gesture: "It makes everybody feel better. 'You're doing good. You're very smart.' You know, it just makes them feel better." Importantly, both of these students would fit what Brophy outlined as types of students that often find praise meaningful—Steve as an introvert and Ray as someone who does not typically experience a lot of success in school. Even so, these students appeared to identify praise as more of a

helpful gesture—akin to an act of care—rather than an authentic source of information about their abilities.

Because praise appeared to be a gesture of care, experiences of praise were common in Lifsky's class, where affirmation and care were the two top-scoring dimensions of connective teaching (at 1.60 and 1.58, respectively). As described earlier in this chapter, praise and encouragement were frequent occurrences in Lifsky's class. I observed him regularly acknowledging students for their good work and celebrating their accomplishments with them—providing words of encouragement for students whom he felt could do better and bumping fists with students who did well. In their interviews, although all of the students from Lifsky's class expressed fondness for Lifsky himself, they reported different perceptions of the meaning of his encouragement and praise. Arielle, for example, found positive messages in Lifsky's encouragement. When I asked her whether she perceived that Lifsky thought she was smart, Arielle replied, "Yes, he tells me all the time.... He tells me if I make a bad grade, 'You know you can do better than that.' And I go, 'Yeah, I know.' [Then,] I try harder because Mr. Lifsky is one of my favorite teachers so I try to make him like me, so I want to do good in his class." Here, not only did Arielle infer from Lifsky's encouragement that he thought she was smart, she also noted that his belief in her made her work harder in his class in an effort to gain his approval. By contrast, Jessica interpreted similar comments as negative. When I asked her whether she perceived that Lifsky thought she was smart, she commented, "I'm not sure about that, but I do know that he's always telling me I can do better. So, I don't think so." Jessica inferred that Lifsky's encouragement indicated that he did not believe she was smart because she was not meeting his expectations. Lifsky's feedback to both Arielle and Jessica—that they could do better—appeared to be almost verbatim the same phrasing, but the two young women interpreted

this comment as having different meaning. This suggests that, in the absence of other sources of affirmation such as feelings of success, praise from the teacher can have multiple interpretations so is likely insufficient as a wide-reaching strategy for engaging students.

Even Tina, who did exceedingly well in Lifsky's class, did not see praise as entirely positive. She described how Lifsky's high regard for her based on her strong performance limited his ability to see her for who she really was. She reported feeling like the praise may have crossed a line of comfort:

> I feel kind of bad and now anytime he says, "There was a perfect score in this," all eyes turn to me. It's embarrassing.... I know I shouldn't feel bad about knowing things or doing well, but I also feel like he puts me on a pedestal, and I feel like I shouldn't be treated like that because there are students working harder than me and not getting that same treatment. I don't like it. I haven't liked it for a while.... I think that all he sees is the grades. I think that he doesn't recognize how much work is done in that class, cause you do work in that class. I don't think he recognizes people that do work. I think he only looks at the grades.

Tina described a clear sense that Lifsky only saw her and her classmates for their academic performance and did not acknowledge other accomplishments in class, such as working hard. Although Tina spoke positively of Lifsky in other regards—commending him for being a mentor and going the extra mile for his students—she seemed to sense that Lifsky's view of her made her more one-dimensional in the classroom than she actually cared to be.

Relying on Grades & Other Ambiguous Sources of Affirmation

Unlike the high levels of affirmation students experienced in Knowles' and Lifksy's classes, the other three case study classes all had levels of affirmation below the mean: Warner at -0.10, Connor at -0.30, and Ingels at -1.06. These scores revealed that these were learning spaces in which students experienced relatively fewer messages about how well they were doing in class as compared with other classes in the school. In many cases, students in

these other classes looked to formal assessment from teachers as the primary source of information on how well they were doing. For example, three of Connor's students described how they knew when they were doing well in his class: "I just know from my grade. I'm getting an A." "I guess cause the grades." "Because of my report cards and progress reports." Notably, across my interviews, grades—as assigned by the teacher—were often the source of affirmation in classes that students described as generally easy, such as English classes, which I noted in Chapter 4 were often considered easy because they covered the same content from year to year. In this regard, students seemed to rarely feel they were struggling in English so grades were the only available source of feedback on performance. As Christine described above, because English did not present a particular challenge for her, feeling competent was less informative in English.

Participation as a Source of Affirmation

In others of the case study and comparison classes, students' sources of information on their performance varied across the interviewees within each class—and included grades, teacher comments, rewards, and feelings of understanding or confusion, as described above. One additional source of information on competence was students' perception of their participation level during class discussions and lectures. For example, in describing how he knew he was good at the work in his history class, Steve commented, "I answer a whole lot of the questions.... I'm probably the only one in the class that actually knows a lot of stuff." Laura commented on why she thought Connor perceived her as smart: "I can just tell cause like I'm usually the one asking questions and talking to him during class. And so I think he kind of appreciates that, so he knows I'm trying. So I think he thinks I'm smart." On the other side of this equation, Shameeka stated that she was not sure whether or not Connor

saw her as smart. As her rationale for not knowing, she stated, "I really don't talk in his class. I'm not really a talkative person, except with friends." Linking these comments to students' comments regarding self-expression earlier in this chapter, participatory students seemed to draw affirmation of their abilities from their own in-class behaviors, while less participatory students most often looked to other sources such as grades.

In sum, affirmation from teachers in the form of praise or grades seemed to play less of a role in engagement than internal feelings of success in challenging work or classroom participation. These findings suggest that building students' feelings of competence rests more in teachers enabling students to experience authentic success on challenging material rather than commenting on students' abilities. As Steve and Ray described, praise was important for making students feel good and ensuring they were on the right track, but it was less meaningful than high-quality instruction that lead to understanding of challenging content and self-derived feelings of competence.

Effective Implementation of Connective Teaching

Across this chapter, I have demonstrated many nuances in how teachers enacted the five dimensions of connective teaching and how students perceived their experiences in these domains of classroom practice. In all five areas, there was substantial variation in teachers' actions, and students drew different messages from these varying manifestations of practice. In sum, I argued that each of the five dimensions of connective teaching had particular features of implementation that made them most effective at engaging students. I asserted that opportunities for self-expression were most engaging when they were varied, content-based, autonomous, and nestled in psychologically safe classroom environments. I concluded that relevance had the greatest impact on engagement when students found

content useful for their present lives and for all people rather than those headed for particular careers. I argued that both care and understanding were most engaging when they constituted personal and academic dimensions at the individual level; yet I demonstrated that students had much higher expectations of teacher care than understanding. Finally, I found that affirmation was most engaging when students experienced feelings of success for themselves; teacher praise was often appreciated but it was less central to feelings of affirmation. Across these dimensions of connective teaching, I have illustrated subtle differences in classroom practice that could create vast differences in how students interpret their classroom experiences and respond with engagement or disengagement. In the next chapter, I link these findings to students' experiences around self and identity formation and argue that strengthening connective teaching practices could capitalize on the adolescent focus on the self to increase classroom engagement.

Chapter 6

Connective Teaching, The Self, & Engagement

The central premise of connective teaching is that these practices, when well implemented, engage high school students because they contribute positively to students' perceptions of themselves. Building on my prior exploratory research that suggested a critical relationship between identity formation and classroom engagement among six Latino students (Cooper, 2009), I designed this study, in part, to examine whether or not this trend held for a broader group of students. Thus, I posed my third research question: *Why does well-implemented connective teaching engage high school students?* In preparing to answer this question, I theorized that the five connective teaching practices would provide means by which students drew conclusions about themselves. Because I entered with this a priori theory yet was open to rival hypotheses, I wrote my interview questions to bring up the five connective teaching practices without prompting students to talk about what these practices meant for their sense of self. For example, regarding care, I simply asked, "Do you think (teacher) cares about you? How do you know?" Yet in many cases, as students elaborated upon their responses, they alluded to messages they inferred about themselves based on their experiences with self-expression, relevance, care, understanding, and affirmation.

Not surprisingly, because identity formation is largely subconscious (Erikson, 1968), students did not explicitly discuss identity formation in the context of connective teaching. Yet, in this chapter, I dig into students' comments to illustrate that identity formation and its associated self-evaluation appear to be prominent, underlying mechanisms by which the five dimensions of connective teaching, when well implemented, engaged students in the classroom. Specifically, I demonstrate that connective teaching practices appeared to support

students' positive identity formation in three key ways: (a) by promoting feelings of self-worth, (b) by positively influencing perceptions of intelligence, and (c) by facilitating self-definition. As I will illustrate below, the role of connective teaching practices in these three processes provides evidence to support my theory that the engagement potential of connective teaching lies in its direct link to students' perceptions of themselves and the developmental focus on identity formation among adolescents.

Promoting Feelings of Self-Worth

A critical facet of identity formation during adolescence is developing a sense of self worth, which is an individual's sense of their personal value and deservedness—often influenced by one's perceptions of how others view them (Arnett, 2010; Harter, 2006). In my analysis, four of the five dimensions of connective teaching—self-expression, relevance, care, and understanding—seemed to contribute to students' emerging views of their self-worth in three key ways. First, students revealed that care and understanding imparted messages that their teachers liked and valued them. Second, opportunities for self-expression and teacher understanding conveyed to students that what they had to say was important. Third, students described how teacher understanding and relevance validated their adult status and enabled the feelings of dignity inherent in such recognition. Below, I present evidence to illustrate how effective implementation of these connective teaching practices supported students' inferences of positive self-worth in these three ways.

Overwhelmingly, students indicated that teachers whom they perceived to personally care for them on an individual level thought highly of them and treated them in ways that suggested that they liked and valued them. For example, Tampa had known Coach Connor since seventh grade, when Connor coached football at the middle school. Describing what

he liked about Connor, Tampa stated, "He likes me, and he believes in me." As evidence, he cited, "Because he tells me, 'Tampa, I believe in you.'" He described Connor as giving him "pep talks," and he asserted, "He wouldn't be on me if he didn't like me... If a teacher is just always constantly getting on you or whatever, then you know they care about you in like some sense." Here, Tampa equated Connor caring for him with Connor liking him, and he seemed confident that his coach was genuinely invested in him and valued him as a person. In another example, I described in Chapter 5 how Roxana, a somewhat quiet Latina student, opened herself up to Ms. Moore through a writing assignment in which she wrote something that "came from the heart." Following Roxana's expression of herself in this assignment, Moore began exhibiting care for Roxana, particularly by helping her plan for college. Roxana noted of Moore,

> She likes me. And she's one of the teachers that I can say she likes me because she's always telling me.... I went in her class before school because I had left something there, and she said, "Oh look, Ms. Lee, there's Roxana. She's one of my favorite students this year. She's real sweet and nice." And she's always pointing me out, like she said, "Oh look, Roxana did this." Or something like that. It makes me feel good.

In this instance, Roxana clearly perceived that Moore liked and valued her. Seemingly, the opportunity for Roxana to share herself with Moore through a writing assignment and the ensuing caring and understanding relationship that developed all fed Roxana's positive feelings of self-worth in Moore's classroom.

In response to teachers' messages of individual personal care, a number of students indicated a desire to be worthy of such respect, encouragement, and time. For example, in commenting on Lifsky's class, Chris, a Latino student whom I described in Chapter 5 as somewhat struggling in school, spoke about wanting to make Lifsky proud by "popping out" with some unexpected history facts in class. As rationale, Chris stated, "Just cause I know he cares about us." He described Lifsky's gestures of individual personal and academic care:

"He pulls me aside from everybody else and after everybody else is gone or something, and he says, 'Well, I know you can do better than this and just push forward, and I'll give you a better grade just for doing that.' And stuff like that." There was a clear sense in Chris's comments that his desire to make Lifsky proud by doing well in history was a reflection of Lifsky's faith in him and fondness for him. In this way, Chris seemed to want to earn the high regard that Lifsky had bestowed upon him so as to validate his feelings of self-worth. Similarly, Jessica—who had described Lifsky as being like a friend and revealed that his attending her dance events made her happy—stated, "I don't want him to give up on me." Like Chris, Jessica referenced a feeling of indebtedness to Lifsky for his investment in her, and she expressed a desire to continue to deserve his positive gestures of care.

Some students were also convinced that those teachers whom they perceived to understand them were highly invested in them as individuals and would go the extra mile on their behalf. For instance, Brianna—a mixed black and white athlete who expressed feeling that Warner understood her personally—noted, "Ms. Warner will be there, you know. Like if I had to go to court, she'd probably go with me type stuff." She also stated in reference to Warner, who had been her teacher for three years, "If I was to have some kind of really bad disease and I was fittin' to die the next day, I'd probably go to school smiling because I wouldn't want anyone else to know I was going to die. Because if it was a lot for me to handle, it's probably a lot for my teachers that I've had for three years to handle." In these comments, Brianna conveyed a strong sense that Warner was emotionally committed to her and valued her. Brianna's feelings of self-worth seemed to have an impact on her emotional and cognitive engagement in Warner's class. For example, in response to Warner's and another teacher's specific message to Brianna that she could "be a brighter kid," Brianna worked harder and pulled up her grades. She noted, "It kind of made me think, and that's

when I actually started getting As and Bs, the second six weeks of school. It was right after we had that talk... [And now in May,] I'm still doing good." In this instance, the individual personal care and understanding that Brianna experienced seemed to have a direct impact on her perceptions of herself and her engagement in Warner's class.

By contrast, when messages of care and understanding were experienced only at the universal level, such that messages were not about particular individuals but instead were perceived to be about 'all students,' individual students did not allude to inferences about their self-worth, either positively or negatively. Seemingly, this was because they did not perceive the teachers' behavior to be about them specifically in any way. Going even further, in cases in which students perceived a lack of *any* care or understanding—not on either individual or universal levels—students seemed to interpret this as teachers not liking or valuing them. For example, when Arielle, a theatrical while female, described crying all day after she broke-up with her boyfriend, I asked why she wished teachers had asked after her. She replied, "Because it would show that they actually have some kind of a sense of caring for me, like I'm not just some kid." Arielle's language here was particularly telling—revealing her fear that uncaring teachers saw her as "just some kid." Clearly, Arielle did not want to just be part of the crowd without any unique value, and when she perceived that teachers did not care about her, she took that as an indication that they did not think she mattered.

In another example, Caesar described his negative, uncaring relationship with his math teacher, Mr. Brown, which seemed to be rooted in the conflict between Caesar's need for independence and what Caesar inferred as Brown's need to control students. As a point of comparison, Caesar commented on the high levels of independence in Warner's class: "I love being independent and just doing my own thing.... I just love feeling like I'm in control of what I do, and I don't gotta do what everybody else is gonna do." By contrast, he

described Brown as a "control freak" and noted, "He just likes to fight. He likes to bicker and stuff, and I'm just the same way. I'm not getting pushed around and stuff." Caesar could not recall the origins of his negative relationship with Brown, yet he concluded, "I'm probably like one of the best math students in there, and he still just doesn't like me." Caesar's anger was evident in his tone at this point in his interview, and he described having reported his conflict with Mr. Brown to school administrators. Seemingly, Caesar took the conflict as a sign that Brown devalued him.

Jessica similarly inferred that the ways teachers helped students not only conveyed academic care or a lack thereof, but also sent students messages about whether or not teachers liked them: "If they don't really like you, they won't really help you, or if they do, they won't help you in the right way." She provided an example: "I have a class with my brother, and that teacher doesn't really like him. And so if I ask what time it is, she'll tell me nicely. And if he asks, she'll be like, 'I don't know. Look it up.'" In all of these examples, there was a sense of disregard and of feeling disliked and devalued by teachers who did not express either care or understanding of students. As noted in Chapter 5, Tampa perceived that such disregard often lead to student misbehavior and disengagement, and he described his classmates intentionally playing around in response to a teacher calling them stupid. Collectively, this evidence suggests that students responded to messages of likeability and value with an interest in doing well and making teachers proud, and they responded to messages of being disliked with frustration, anger, and even misbehavior. In this regard, positive indicators of self-worth through teacher care and understanding seemed instrumental in students' classroom engagement.

Students' inferences around self-worth also tapped into their sense of voice in the classroom and whether or not classroom conditions enabled them to feel that what they had

to say was important. Varied and safe opportunities for self-expression and perceptions of teacher understanding appeared to be particularly powerful in regards to students feeling that their voices were important in the classroom. In Chapter 5, I described some ways in which students were silenced in the classroom, and I contrasted these with classrooms that had an open climate and varied opportunities for self-expression in which many voices were valued. Here, I dig into students' interpretations of these contrasting conditions and illustrate the different messages of self-worth that were inherent for students in each of these types of classroom spaces. For example, in Chapter 5, I argued that Shameeka had few opportunities to express herself in Connor's English class because whole-class discussions were the primary forum for self-expression, and she did not feel comfortable contributing to such a public forum even though she "had something to say." As a result of not being a vocal participator in Connor's class, Shameeka did not seem to feel like a particularly important member of the class. At the end of the school year, when I asked what she thought Connor knew about her, she responded, "Probably nothing—just my name and I'm a junior." However, Shameeka strongly advocated that teachers needed to know and understand students in order to teach them, asserting, "If you don't understand me, you don't really know anything about me, basically... like what I like to do, who I am." Seemingly, without ways to integrate herself into Connor's class and the resulting bond with him, Shameeka seemed to felt unknown and unimportant in his class.

Rubi, a Latina, was another quiet student in both Connor's and Warner's classes—watching her peers during discussions but refraining from jumping in. When I asked Rubi why she did not participate, she explained, "Cuz I don't want to... If I say the wrong answer, I don't want to feel dumb. So that's why I kind of keep to myself." Critically, however, Rubi's silence in class seemed to contribute to feelings of invisibility in school, and she

expressed a longing for ways to share herself. In her interview, this idea came out in an unprompted criticism of the school's dress code. Rubi stated, "We have to wear a uniform, and I think everybody should wear what they want to... so they can show their personality, how they are outside of school. Maybe that's how teachers could know how they are." Because Rubi was quiet and dressed like everyone else, she seemed to feel that she just blended in with the crowd—unseen and unknown. In Chapter 5, I noted that Rubi cited her human development teacher Ms. Moore as being the closest to the perfect teacher and gave as her rationale, "Because she asks about our lives sometimes." This response illuminated that Rubi wanted to know and be known by her teachers. Yet, like Shameeka, Rubi did not seem to have opportunities to share her voice and express herself in many of her classes, and she conveyed a sense of feeling invisible and somewhat unimportant in school.

The link between student voice and perceptions of self-worth was also evident in two students' contrasting opinions on Ingels' interest in them as people. First, Belinda was a shy Latina student from Ingels' class whom I introduced in Chapter 5 when she described how she hesitated when Ingels cold called her. Belinda conveyed that Ingels did not talk to her about things unrelated to school, but she acknowledged that she heard Ingels talk to other students about their hobbies and interests. She rationalized, "Maybe she's interested in what they do"—suggesting that potentially Ingels was interested in other students more than her. At the end of Belinda's interview when I asked her to describe the ideal relationship between a student and a teacher, she remarked, "It would be that the student was more comfortable asking them questions." When I asked how teachers could make students more comfortable, she replied, "Maybe talk to them more." Belinda did not seem to feel that Ingels saw her as being of particular interest because she did not talk to her. By contrast, Claire, a white female who participated frequently, talked about bonding with Ingels because

each had lost a pet dog. Claire noted, "Ms. Ingels, because of the dog thing, we definitely have that kind of thing where we can talk about anything." She inferred, "I think she likes me. I don't think she would spend that much time on a person she didn't like." This line of thinking seemed to be exactly why Belinda felt disconnected from Ingels—because she did not convey a similar level of interest in Belinda. I surmise that Ingels' method of drawing quieter students into her biology lessons exclusively through pointed questioning potentially created interpersonal distance between her and students like Belinda. Were Ingels to reach out personally to Belinda and others—rather than only through cold-calling during lectures—perhaps such students would feel more valued and important.

As a counterpoint to these examples, when students were in open, safe classroom climates in which there were varied ways to integrate their voices, they seemed to feel more valued and had higher levels of engagement. Across the sample of classes covered in the interviews, students seemed to experience among the highest feelings of self-worth in two exemplary classes that were high on all four constructs in the survey—Knowles' physics class and Ms. Sander's English class. Although Ms. Sanders was not one of the case study teachers, eight different students mentioned her during their interviews—often spontaneously identifying her as a good example of something we were discussing. For example, Sanders was the only teacher that Belinda perceived as knowing her well. Belinda explained: "She talks to all of us.... She talks to us, like all of us... when we're done with our work." In this regard, Belinda experienced a clear difference between Ingels' and Sanders' classes, with Ingels' class being a place where particular students were valued and Sander's class being a place where all students were valued. Sanders' apparent success in making students feel valued was also evident in her ability to garner participation from Rachel, a highly self-doubting, seemingly depressed student who asked that her interview not be

recorded and who spoke very negatively about herself—even declaring that she could not cite one positive self-attribute. When I asked Rachel if she ever expressed her ideas and opinions in Lifsky's class, she replied, "I don't have any." At another point in her interview, she also expressed that she did not have any opinions about anything. Surprisingly, though, when I asked her about sharing ideas and opinions in Sanders' class, Rachel explained that everyone in her Pre-AP English class—including her—had opinions on *Julius Caesar*, and she reported that she sometimes participated in the class discussion. Not only did Rachel acknowledge *having* opinions in Sanders' class, she also reported that she shared them aloud. In regards to how Sanders elicited Rachel's voice in the class, Rachel noted that Sanders explicitly and frequently asked students what they thought and that Sanders had told her that she had potential. These approaches appeared to be effective as Sanders was seemingly able to connect with Rachel and help her to suspend her usual apathetic outlook during her class.

Another way in which students inferred messages of self-worth was when they perceived that teachers credited them with having a particular level of developmental status that went beyond what they experienced from other teachers. Such perceptions included both that teachers treated them as adults rather than children and as "people" rather than just students. Jack's description of his English teacher, Ms. Andrews, captured these ideas:

> She seems more like, not a friend, but more of a person than a teacher. A teacher and just a regular person are completely different in a manner of sense. Like to a teacher you are just another number, you're a student, you're a patient, but to another person you're just another human being. She treats you like an adult, which I respect. Ms. Warner treats you more like a child. She doesn't give you a chance. You're a student, a child right off the bat, you know.... [It's] the disrespect in a way, like the way she talks down to me as if I'm a child. I'm an adult. If you're 17 or 16, if you give respect you get it, I know. As a student it's also nice to get it back sometimes.

Here, Jack contrasted Andrews and Warner and the ways in which he perceived that these two teachers saw him differently and so treated him differently. Across the interviews, it was

clear that students inferred messages of self-worth when they were treated with a level of respect and acknowledgment that signaled their transition from childhood to adulthood. Often, such respect was conveyed when teachers knew students well and understood them personally. Such was the case with Ray, whom I noted in Chapter 5 made a similar comment to that made by Jack. Ray stated, "When they treat you like a student, they act like you're dumb and you don't know what you're doing.... Mr. Knowles, he treats you like you're a regular person." Both Jack and Ray revealed a sense that being treated with the dignity of an adult and not just a child or a student was important to them and helped them to maintain their sense of self-worth.

Other students reflected a similar orientation toward wanting to be acknowledged for their adult status. For example, Shameeka noted that the ideal teacher was "someone that teaches you what you need to know in life and in school." She explained why this was important: "Because we're about to get out of school, and you need to know what you need. So like you need to know stuff for college. You need to know the basics of college stuff. So if you don't know the physics, you're not going to be able to know what you need to know for college." Even though Shameeka was only in the eleventh grade, she was looking forward and anticipating where she was going and what she needed to know, and she felt strongly that content with instrumental and attainment value acknowledged her developmental status. Similarly, in describing her expectations of the ideal teacher, Sarah advocated, "I think helping students, like teaching them what they need to know, like during the class and about the subject and everything, but also teaching them life lessons." Again, Sarah attributed value to teachers who helped students prepare for life and recognized students' needs to learn content that held relevance beyond just that which helped them in school.

This idea taps into the engagement potential of class content that has present utility and life relevance for students. That is, seemingly, one of the reasons that students found value in learning things that held present utility and life relevance is that these forms of relevance acknowledged their need to know about the broader world because they were on the verge of participating in it as adults. For example, when Carmen spoke of learning to estimate the cost of electricity in Knowles' class, she remarked, "You're going to use that your whole entire life—use light and everything. Our whole world is electronic." On this same curricular unit, Jeremy noted, "Electricity. We learned about that. We depend on it. Power plants—just like we learned the other day, you gotta have those to run electricity. And just whenever you're older and you gotta do stuff, you can know what's in it—know how electricity works and stuff like that." Seemingly, students perceived that learning things they would need for life when "you're older" validated their position as being on the precipice of adulthood. As noted in Chapter 5, however, this same interpretation did not hold for academic instruction that was promoted as relevant to particular careers because many students had strong conceptions of where they were headed professionally and only a narrow slice of curricular content was relevant to their chosen career. Thus, instruction aimed at general knowledge that had utility for all and acknowledged what students needed to know as participating members of adult society was more globally engaging.

In all of these examples, connective teaching practices provided a number of conduits by which students experienced positive feelings of self-worth. The implication here is that more effective implementation of self-expression, relevance, care, and understanding could potentially lead to more positive feelings of self-worth among more students, which in turn is likely to translate into higher levels of classroom engagement because students

perceive their classes to be places that make them feel good about who they are and who they are becoming.

Positively Influencing Perceptions of Intelligence

In addition to self-worth, students also inferred various classroom messages regarding intelligence—including perceptions of which members of their classes were smart, which were not, and where they personally fell in these distributions. As I will demonstrate, three of the connective teaching practices—self-expression, understanding, and affirmation—seemed to inform students' perceptions of intelligence. Notably, most of the data I present here illustrate that students assessed intelligence in the classroom based on who took advantage of opportunities to express themselves—concluding that vocal students were in large part the smart students. Although I cannot determine the causal direction here, I argue that we need to broaden students' perceptions of what indicates intelligence in the classroom by offering more and varied opportunities for self-expression and higher levels of teacher understanding.

A number of students described ways in which self-expression influenced their notions of who was intelligent. For example, as I discussed in Chapter 5, students drew conclusion about intelligence—theirs or their peers'—by tracking participation patterns in class. Undoubtedly, there was a well-ingrained belief that students who spoke up in class were the smart ones. For example, Shameeka described the smart students in Connor's class: "They'll be the ones that always have the smart answers, or they'll be the ones that always have the answers to the questions that he'll be asking." In a similar vein, three students in Lifsky's class identified Tina as being smart because she always knew the answers in class. Chris, for example, commented, "I know she's smarter than me when it comes to history...

just cause sometimes Mr. Lifsky points her out and is like, 'What is that again, Tina, about that one time in history?' And then she'll be like, 'Oh yeah, you know.'" Jessica similarly referenced Tina's participation when I asked her if she thought the other students in Lifsky's class were smarter than her. She commented, "Not that they're smarter than me, well I guess it is smarter if they know more, cause they talk more... because they know the stuff. They know the facts and everything. They know what's going on... and whenever he asks us questions like, 'So what happened here?' Tina will be like, 'Da-da-da-da-da-da.'" Here, Jessica hesitated at first, seemingly unsure as to whether or not talking more in class indicated that students were smarter, but she ended up concluding that Tina and others were smarter because they could rattle off answers in class.

This notion of participation as an indication of intelligence also held for students who talked about their own participation patterns in class. In Chapter 5, I described how Steve and Laura inferred that particular teachers probably saw them as smart because of their high levels of participation in class. Claire similarly described why she believed that Ingels' must have thought she was smart: "Just because of the questions I ask. Just the questions that come to mind about what she's teaching, I usually want to know why or what happens to this when it gets out of the picture. I ask a lot of questions, and I think she sees that I have the mental capability of looking beyond what she's explaining to us." Across my sample, students revealed a strong sense that participatory students who expressed themselves regularly in class had particular insights that quieter students did not share. In fact, when I asked Claire why she thought other students did not participate in biology as much as she did, she suggested,

> I don't think they understand it. Before you can ask questions, you have to have a little bit of knowledge to go off of. And then the questions help you get more knowledge. But if you don't understand the first tidbit she gives you, then you can't ask questions.... I know if I have an idea in my head I

> want to know the answer. But some kids are probably like, "Well, it's probably not true anyway." It's just the skepticism of, you know, doubting themselves.... Sometimes even I will ask a stupid question. Everyone will be like, "Didn't you know that?" And that's kind of the confidence. I'm like, "Okay, I didn't understand it. I needed help and now I know." But some kids don't have that. They're like, "I'm afraid of looking stupid."

Here, Claire suggested that there were elements of both intelligence and confidence among students like her who asked questions in class. From the quieter student's perspective, Belinda stated that she believed that other students in Ingels' class were smarter than her, and as evidence she noted, "Because they make better grades... and the way they are in class.... They speak out more." Just the same, she described her own quietness in class as being due to her shyness, not her lack of understanding. She asserted, "Most of the time I know what they're talking about.... Sometimes they're the same questions I'm thinking, and they just ask it and she answers it." Seemingly, Belinda did not really see a need to speak up in Ingels' class. She seemed content to sit quietly and let the other students ask the questions. This in itself did not appear to be a problem, except for the fact that Belinda cited the other students' participation as an indication that they were smarter. In this regard, a broadening of the participation patterns in Ingels' class could broaden students' perceptions regarding who is intelligent.

The other potential problem in the different levels of participation was that there were clear racial patterns in two of the case study classes, which may have had implications for the ways in which students viewed intelligence across racial groups. In Chapter 5, I described two distinct patterns of questioning in Ingels' class—with highly vocal students *asking questions of* the teacher and less vocal students *being asked questions by* the teacher—and I argued that these two participation styles closely mirrored the racial breakdown of the class. White students were more likely to participate on their own terms by asking questions, while Latino students were more likely to only participate when cold called by the teacher. Of

course, Ingels seemed merely trying to draw non-participatory students into the class by including them in her teaching through pointed questioning. But, the byproduct of this questioning pattern was that the more outspoken students, who were primarily white, emerged as being the ones who were viewed as "intelligent" simply because they spoke up, while the quieter students, who were primarily Latino, appeared to be the ones who were considered less intelligent simply because they did not speak up. Critically, I noted above that Belinda, a Latina student, considered the students who talked in class to be smarter than her, even though she was in advanced classes and earned all As and Bs.

In Connor's class, I did not detect racial patterns of participation, but Shameeka seemed to. I reported above that Shameeka considered the smart students in her English class to be the ones who answered questions, even though she also reported earning As and Bs and understanding what she was learning. When I asked whom she was thinking of when she referred to the students who answered questions, she replied, "Like Laura or Jenna or Ashley or Sharon." In saying this, Shameeka listed all four of the white females in the class—and only the white females. Notably, however, I only observed two of these young women contributing frequently, and I noted at least two particularly vocal black students. Yet, the fact that Shameeka drew a different conclusion suggests that she may have inferred race-based messages regarding whose opinions were valued in class and who was intelligent. Such inferences make a clear case that greater attention to either inducing more equitable patterns of participation or broadening the definition of what constitutes classroom participation by offering alternative forums for self-expression is critical for addressing race-based perceptions of intelligence. Given that prior research has established negative race-based stereotypes regarding academic ability (Davidson, 1996; Oyserman, Brickman, & Rhodes,

2007), I argue that teachers need to be particularly attentive to perceptions of intelligence along racial lines, even when students are not consciously aware of them.

In some cases, participation patterns also seemed to break down according to academic identity—students' perceptions regarding whether doing well in school was central to who they were (Nasir, McLaughlin, & Jones, 2009). For instance, two of the vocal students I interviewed from Ingels' class made a point of telling me that they (and other outspoken members of their biology class) were ranked within the top ten of the freshmen class—out of over four hundred students. By contrast, the four quieter students that I interviewed described themselves more cautiously as either pretty good students who needed to study harder or fairly smart students who needed to procrastinate less. For example, Roberto, a serious and contemplative Latino student who sat in the way back, described why he did not excel in Ingels' class, "I'm a procrastinator... cause I put everything off until about the last couple of days, and even then I put that off until the last day. The last day comes down to the night and then I'm just lucky if I can get a good grade half of the time." Notably, Ingels' class is the only advanced class in my case-study sample—at the level of Pre-Advanced Placement (the equivalent of Honors in other schools). Potentially, students' sense of their academic competence or diligence may play a critical role in participation patterns in this class in ways that are not mirrored in general education classes—with Pre-AP students who are less sure of themselves academically opting to keep themselves out of the public space of the classroom that is dominated by the freshmen class's top-ranking students. Again, this example calls for attention to broadening inferences around what it means to be intelligent and how intelligence is demonstrate in the classroom.

Across these examples, it became clear that when forums for self-expression were not varied and self-expression occurred primarily during whole-class discussions, only

particular voices were privileged, and students often viewed those voices as the "smart" ones. As I argue in Chapter 5, one potential solution to limited self-expression in the classroom was expanding the definition of what it meant to "participate" through offering varied opportunities for self-expression. In addition to integrating more students, more voices, and more ideas into the classroom, more and varied opportunities for self-expression could also broaden the view of whose voice counts and who is intelligent. There was some evidence of such a broadened view in Knowles' and Warner's classes. Carmen, for example, commented that sharing original ideas during group work in Knowles' class made everyone "kind of equal because we help each other in our groups." Her choice of the word 'equal' here suggested that including more voices in groups put everyone on equal ground intellectually. It also appeared that experiences with feeling supported and understood enabled students to prove themselves as intelligent. One telling example in this regard is the story of Davon retaking his physics test in Warner's class to prove his intelligence, which I describe in Chapter 5 as being linked to Warner's understanding of Davon on personal and academic levels. In a context in which Warner frequently praised Davon's intelligence, he stepped up to prove his intelligence—likely not only to his peers but also to himself. In comparing himself to his classmates, Davon remarked, "They work hard, but I don't work hard. But I know that I can do it. I don't think nobody else smarter. I don't think nobody smarter." Clearly, Davon did not link effort to intelligence, and he saw himself as being as smart as any of his peers. Seemingly, the support from Warner helped to emphasize this point and provided Davon with an opportunity to put his theory of his own intelligence to the test, literally. From these examples, it seems that more varied and autonomous opportunities for self-expression and greater degrees of teacher understanding could broaden perceptions of who is intelligent in a given class.

Another effective approach to broadening inferences around intelligence could be creating classroom spaces in which contributions based on cultural identity are recognized as valid and smart. This appeared to be the case in Connor's class. As I described in Chapter 5, students made contributions to a class discussion about slang by opening with phrases such as "Black people say...." I also noted that when I asked Shameeka whether or not Connor thought she and her classmates were smart, she responded with, "He understands us.... Like he gets where we're coming from.... When we have our discussions in class, he can relate to what we're talking about." Interestingly, Shameeka provided this explanation about understanding in direct response to a question about intelligence, suggesting that because Connor understood peer culture and various racial and ethnic cultures he conveyed to students that he thought they were smart. This was the only example I found of a teacher validating cultural identity in the classroom, but I surmise that additional opportunities for being recognized as intelligent for culturally driven contributions could also broaden conceptions of who is intelligent and what constitutes intelligence.

As described in Chapter 5, experiences of affirmation—especially those in which students experienced success first hand—were another source of students' perceptions of intelligence. Four of my seven interviewees in Knowles' class expressed confidence in their abilities because they felt smart and successful in their work. Among the statements to this effect were, "I just understand it all, like I know it," and "If you know it, you know it. If you don't, you don't. I think I know it pretty well." Clearly, students' experiences of success held implications for their perceptions of intelligence. Taking this even further, Sarah, an enthusiastic participator in Knowles' class, reported coming to realize that she could figure things out by applying herself. She described the source of this realization: "Probably in Mr. Knowles' class—the experiments we did. Like, first time we do it, we'll be in groups or

something. If we try something and we don't get it right, and then I think a couple times we'd go back and try it again and we'd get it right. So, it helped a lot." In this regard, Sarah described her experiences of success as not only making her feel competent in class but as also making her feel more competent and intelligent generally.

Presently, there appears to be a fairly narrow understanding of the signs of intelligence in the classroom, and as such, there appears to be a fairly narrow group of students who qualify as being "the smart ones." I argue that by paying greater attention to offering varied forms of self-expression in the classroom, we can broaden the definition of who is considered smart. Further, I suggest that acknowledging the contributions that come from various racial or ethnic backgrounds could also broaden students' conceptions of who is smart. Given some of the current race-based patterns that emerge around participation and considerations of intelligence, this seems particularly critical in the interest of increased equity. Finally, I illustrate that teacher understanding and personal experiences of affirmation also contribute to students' perceptions of their intelligence, suggesting that greater attention to these facets of connective teaching is in order for eliciting higher levels of student engagement in the classroom.

Facilitating Self-Definition

During the process of identity formation, it is important for adolescents to have opportunities to try out different versions of themselves and begin to distinguish who they are as separate and distinct from others. When implemented effectively, I found that two of the dimensions of connective teaching—self-expression and understanding—played roles in helping many students to understand themselves and the ways in which they were distinct and unique. In this way, I found that positive experiences with self-expression and

understanding facilitated students' processes of self-definition—the construction of a coherent, stable, realistic, and positive sense of self that differentiates an individual from others (Shahar, et al., 2003). Interestingly, six of the thirty-three students I interviewed expressed concerns about being judged by teachers, and they acknowledged critical ways in which the opportunity to autonomously define themselves was of critical importance. As a caveat, there were also four students who actively worked against allowing teachers' perceptions of them to influence their self-concepts, and they were adamant that their teachers' opinions held little stock for them. Mia, for example, stated of Connor, "He's just another teacher.... I mean I want [teachers] to have a good impression, but like what they think, I don't really care." On the flipside, however, the six students who clearly feared judgment from teachers worried either that teachers knew too little about them so misunderstood them or that teachers knew too much and so formed judgmental opinions.

Students who worried about teachers knowing too little seemed to fear teachers misunderstanding them and thus viewing or treating them unfairly. For example, Jeremy, a white male whose brand-name clothing suggested he was among the more affluent students in the school, relayed a recent incident in which he was with a group of friends who were issued tickets for underage alcohol consumption. Even though Jeremy himself had not been drinking, the police had issued him a ticket. As a result, Jeremy was worried that teachers judged him. He noted, "Teachers here, they assume that people party every weekend, and do whatever. But I can go and tell some teacher right now what I just told you about not doing things that other kids do, and they laugh at me, you know." Jeremy explained that he did not participate in drinking with his friends, and he repeatedly worked to convey that he was indeed a good kid. He explained, "In English I've written essays about that kind of stuff. I'm at the point where [Ms. Andrews] knows, I could say she's the only teacher that knows."

Thus, because Andrews offered Jeremy an avenue for expressing how he truly viewed himself through self-reflective writing assignments, she was the only teacher who Jeremy felt truly understood him. In this way, self-expression through writing enabled Jeremy to connect with Andrews and define himself rather than having her make false assumptions about who he was. Jeremy stated that more understanding would be a positive thing and that teachers should know about students' lives outside of school "because it can affect the way that teachers think about them. Just like that drinking thing, if certain teachers knew that I didn't, they would possibly like me more." Along these same lines, in Chapter 5 I described how Tina perceived that Lifsky only saw her for her high grades in his class and that this limited his perception of her. She commented, "He don't know me. He only knows the grade. He knows the person that gets the grade, and he knows the grade. That's it. He knows that I make the grades." Tina's defensive tone in this example suggests that Lifsky's praise of Tina at the expense of a more authentic view of her as a complex person frustrated Tina by minimizing her ability to define herself in his class.

On the other side of the issue, some who feared teachers knowing too much about them worried that extra information might contribute to negative perceptions. Carter, for example, stated that he did not want teachers to know about a recent health incident with his mother because "it seems like it would be an excuse for them to treat me differently. I wouldn't like that." Similarly, Pete described of Knowles,

> He don't talk to me, he don't hang out with me, he doesn't know my family.... If one of my teachers were to hang out with my mom's family, it would probably be okay. But with my dad's family, with his bikers—cause my dad has his own bike club and it's a whole different lifestyle over there—then he would probably be like, "Oh, he grows up around bikers and stuff like that. He's going to be bad when he grows up." It's the judging. I don't like the judging for the character or whatever.

Clearly, Pete preferred to keep his distance from Knowles for fear that if Knowles knew too much about his home life and his family, he might judge him negatively and come to conclusions that would impact how he treated Pete in class. In this way, it seemed that Pete wanted to define himself rather than be defined by a teacher's misjudgment.

Seemingly, across these examples then, students feared judgment both when teachers knew too much and when they perceived teachers did not know enough. In the middle, there appeared to be a happy medium when teachers knew some things about students and accepted them without judgment. Tina, for example, relayed her perception of her English teacher, Ms. Sanders: "She is fantastic. She doesn't judge you, and she just pretty much embraces whoever you are, and I feel like I have learned the most out of that class, more than any other class I have ever been in." Brianna similarly stated of Warner, whom she felt knew her well, "It's not like some teachers. You know how some teachers will judge you and some will just actually talk to you about situations. Like if me and my mom were to get into it and I'd be like, 'Well, I hate my mom,' she'd be like, 'You shouldn't hate her.' And she'll just start talking to you about it. But it's kind of like a counselor would." There was also a sense that negative judgments represented negative opinions of students. Thus, when teachers did not judge students, students considered this to represent acceptance. Jessica noted of Lifsky, for example, "He likes everyone. He doesn't judge you." In this way, Jessica linked acceptance with being liked and known. Across the six students who talked about their fear of teacher judgment, it appeared that when teachers saw students as they saw themselves, students' attempts at self-definition were validated and reinforced.

One key element of classrooms that enabled self-definition was an open classroom climate, such that students felt they could express themselves and feel unique. Ana, a very talkative and outgoing Latina, explained how Warner's classroom climate made her feel in

control of who she was: "I can just be myself in there. It doesn't really matter. And she doesn't make it so strict. The more strict you make it, the more it's just going to turn out worse really." She also noted of her classmates in Warner's class, "Everybody in the class acts like themselves. Like really like themselves." In Ingels' class, which was lower on connective teaching, students did not really talk about being themselves in the classroom. For example, when I asked Carter, a somewhat unenthusiastic Filipino student, whether or not he perceived that Ingels understood him, he replied, "Not really, but I haven't really expressed myself that much in that class." As described earlier, this also seemed to be the case for a number of the students who were less vocal in Ingels' class.

In addition to classroom climate, open-ended assignments that enabled self-expression also seemed to facilitate self-definition. Ray, in praising expressive classes, described them as "having to do with individualism"—a phrase that suggested the intrinsic value of emphasizing the individual in classroom assignments. Caesar in particular relayed enthusiasm when talking about opportunities to generate ideas in Warner's class, and he explained why these opportunities engaged him. He explained, "When we're doing labs and stuff, you really gotta collaborate. You really just use your brain power and come together to make something happen." When I asked whether he liked classes where he got to give his own opinions and ideas like this, he enthused, "Yeah, I love it. I love being independent and just doing my own thing.... I just love feeling like I'm in control of what I do, and I don't gotta do what everybody else is going to do." Clearly, Caesar saw labs as an opportunity to autonomously distinguish himself from others by doing "his own thing." Caesar's interest in not doing "what everybody else is going to do" tapped into his process of self-defintion—as he developed a stronger understanding of how he was unique and how he could make original contributions to the world. Ana, made a similar statement, describing, "When we do

projects, we always turn them our way, like we decorate them. On our projects, we have to use our imagination. Like when we do essays or projects, she gives us something to do and we have to turn it into something of our own." Here, Ana described self-expression as the critical ingredient in essays and projects that engaged her. Clearly, Caesar and Ana were enticed by the opportunities for autonomy, control, and the definition of the self in Warner's assignments, even though, as discussed previously, students on the whole appeared to be disengaged for other reasons.

Connective Teaching & The Self

In reacting to their classroom experiences with connective teaching, my interviewees drew numerous conclusions regarding their self-worth, their intelligence, and their abilities to define themselves. Given the centrality of identity formation during adolescence, it seems that these messages regarding the self were key mechanisms that linked well-implemented connective teaching practices to emotional engagement. In promoting feelings of self-worth, positively influencing perceptions of intelligence, and facilitating self-definition, the practices of self-expression and teacher understanding emerged as perhaps the two most influential of the five dimensions of connective teaching because they played a role in all three self-processes. However, because of the exploratory nature of the qualitative portion of this study, the findings in this chapter are clearly tentative and suggestive, and they indicate a need for more research on the implications of these practices for students' perceptions of self. Regardless, the data presented here begin to establish potential strategies for increasing student engagement by linking students' classroom experiences with their developmental preoccupation with the self.

Chapter 7

Toward Higher Levels of Classroom Engagement

I opened this dissertation with an image of empty seats in our nation's classrooms. The ultimate goal of the enclosed research and my broader research agenda is to contribute to filling those seats and keeping them filled by helping educators strategize around classroom engagement. Given the size and complexity of the current engagement crisis, however, increasing student engagement can no longer be a class-by-class, teacher-by-teacher endeavor. For far too long, we have expected individual teachers to shoulder the responsibility for engaging students, and if they have failed to do so, we have barely noticed. Yet, this loosely coupled approach (Meyer & Rowan, 1978) to eliciting engagement in our nation's classrooms has resulted in a system in which almost a third of all students stop coming to school between the ninth and twelfth grades (Swanson, 2010), and the majority of those who stay in school report daily boredom and disinterest (Yazzi-Mintz, 2006; 2009).

Given that disengagement is one of the primary reasons students leave school (Finn, 1989; Rumberger, 2004), we can no longer dismiss it as just something that happens behind closed doors. Rather, if we want to see sweeping improvements in engagement and higher graduation rates, we must make more systematic efforts to increase student engagement across our nation's schools. Such efforts must begin with collective agreement on what engagement is and how it can effectively be elicited. The Classroom Engagement Framework, introduced here, is an attempt to do just this by establishing a clear definition of engagement, common language for discussing engagement, and collective understanding of effective classroom practices for engaging students.

As I explain in Chapter 1, the Classroom Engagement Framework acknowledges the three dimensions of classroom engagement—behavioral engagement, emotional engagement, and cognitive engagement—and theorizes that teachers can employ instructional approaches that use these different dimensions of engagement as inroads to increasing global engagement. As such, I have posited that lively instruction practices emphasize instructional delivery as a way to target such behavioral engagement actions as listening and participating in class. I have theorized that academic rigor practices emphasize academics as a way to elicit cognitive engagement through such practices as challenge and academic press. And, I have asserted that connective teaching practices emphasize individual students as a means to creating emotional connections between students and their teachers and class content. Through two phases of research, I have explored these assertions and conducted focused inquiry into what appears to be the most promising of the three types of practices for increasing student engagement. In the first phase of the research, I demonstrated that, among 1,132 survey respondents at Riley High School, all three types of practices—lively instruction, academic rigor, and connective teaching—were positively linked to classroom engagement, such that students were more engaged on average in classrooms in which these three types of practices occurred to a greater extent. I further demonstrated that, among these three types of engaging classroom practices, connective teaching had the strongest link to classroom engagement, such that among Riley's students, connective teaching practices were *more than 2.5 times* more strongly linked to engagement than either lively instruction or academic rigor. These findings highlighted connective teaching as a potentially critical tool for increasing student engagement.

Given the strength of the relationship between connective teaching and classroom engagement, in the second phase of the research I focused on the five dimensions of

connective teaching and sought to determine how they could be most effectively implemented in the classroom and why they engaged students. Through case studies of five classes and interviews with thirty-three students, I found that each of the five connective teaching practices occurred along various continuums of implementation, and I determined the variations under which each practice seemed to be most effective in eliciting student engagement. I asserted that opportunities for self-expression needed to be varied, content-based, and autonomous, and I asserted they had to occur within safe classroom climates. I found that relevance in the classroom was most effective when students perceived content to have present utility for their daily lives. I argued that care and understanding were both more meaningful for students when they manifested on individual levels and had personal dimensions. Just the same, I demonstrated that students held higher expectations for teacher care than they did for teacher understanding, and many asserted that teacher understanding was unnecessary although it was engaging when it occurred. Finally, I illustrated that students' experiences with affirmation were most engaging when they were rooted in personal feelings of success, rather than teacher praise, grades, or classroom reward systems. Across all of these findings, I presented classroom observations and student comments to illustrate how these variations played out in classroom interactions.

In the final component of this project, I used student interviews to determine that well-implemented connective teaching practices were engaging for three key reasons related to identity formation during adolescence. Specifically, the evidence illuminated that connective teaching practices promoted students' feelings of self-worth, positively influenced their perceptions of intelligence, and facilitated their self-definition. Thus, it seems that efforts to increase the presence of well-implemented connective teaching practices in our nation's high school classrooms could be a promising strategy for supporting students'

positive identity formation and increasing engagement in the classroom. Particularly when used in conjunction with practices of academic rigor and lively instruction, connective teaching practices appear to be fundamentally important for classroom engagement.

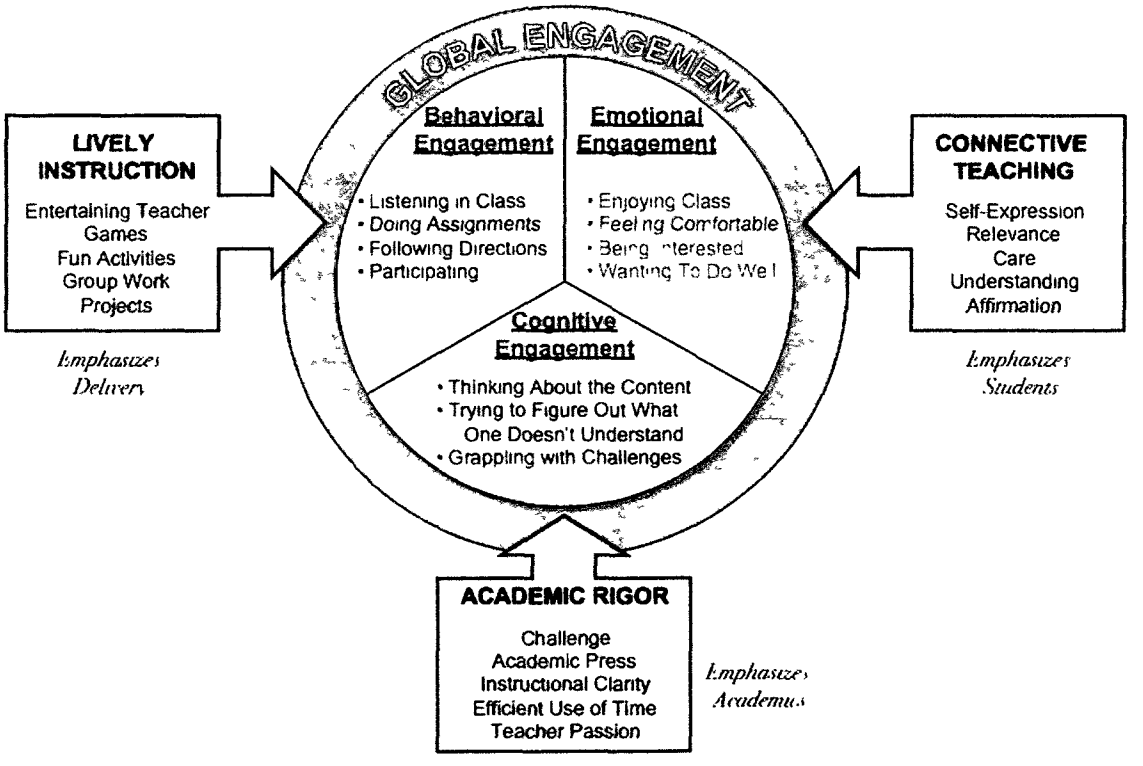
One Additional Finding

In Figure 1 in Chapter 1, I presented the graphic illustration of the Classroom Engagement Framework that formed the foundation of this study. Over the course of the study, my original conception of the Classroom Engagement Framework held up fairly well with one exception—it did not account for the engagement generated by true learning. That is, as I analyzed the qualitative data regarding students' experiences of engagement in their classes, it struck me how much students conveyed an interest in learning and how authentic opportunities for learning were tied to classroom engagement. The desire to learn and the appreciation for teachers who "actually" taught were prevalent. This contradicted much of the bad wrap that high school students get for being only interested in goofing around or being entertained. It seemed that for many of these students, cognitive engagement—in the form of learning—was the real goal of school and the reason they got up in the morning.

In particular, the high amount of learning students experienced in Knowles' and Ingels' classes appeared to be central pieces of the engagement stories in both classes, and in both cases students credited these teachers with high levels of instructional clarity. By instructional clarity, I mean that students perceived they could understand science when these two teachers explained it. In both cases, students remarked on this as an unusual phenomenon, and they seemed unaccustomed to "getting" science. This was an unexpected finding so was not accounted for in the original version of the Classroom Engagement Framework. Thus, in Figure 10, I pose a slightly altered version that adds "instructional

clarity" into academic rigor as a means for emphasizing the academics within a class and tapping into global engagement via cognitive engagement. In future research using this framework, I will use this modified version.

Figure 10. The Classroom Engagement Framework - Revised



Implications for Educational Practice

The purpose of this study is to directly inform educational practice by providing a conceptual framework through which educators can talk about engagement, analyze engagement, and strategize about increasing engagement. The focused, qualitative inquiry into connective teaching is intended to help educators understand the variations in these promising practices for eliciting student engagement and pinpoint the most effective forms of implementation for self-expression, relevance, care, understanding, and affirmation. In this way, it is my intention that educators will be able to diagnose their own utilization of

these practices to hone and refine their implementation. In exploring the underlying mechanisms by which connective teaching engages students, I also strove to provide educators with a rationale to help them understanding the goal of supporting positive identity formation through application of these practices in the classroom. Because connective teaching practices relate to the self and identity formation, and because identity formation preoccupies the adolescent mind, the findings here suggest that educators could make great use of this knowledge as a tool for engagement within high school classrooms. That is, if we can increase the availability and utility of positive opportunities for identity formation and diminish the negatives, we should be able to increase student engagement in the classroom.

In addition to these global takeaways, there were also a number of more specific applications of this research for instructional practice. Among the most important is the finding that well-implemented self-expression seemed to be rare in students' high school experiences. As illustrated in Chapter 5, not all high school students currently find ways to express themselves in classrooms. But, this does not mean that doing so would not lead to greater engagement for those students. On the contrary, it intuitively seems that greater integration of one's voice and ideas into the classroom through varied means of self-expression would be engaging for students—both behaviorally in the form of higher levels of participation, and emotionally through stronger personal identification with classroom space. Importantly, writing appeared to be a potentially underused tool for providing students with opportunities for self-expression, and more (and authentic) writing assignments could possibly enable more students to connect with teachers and content and feel engaged in the classroom. Certainly, writing assignments are not the magic bullet of self-expression because students respond to writing assignments in different ways—some opting

to open themselves up more than others. Notably, however, very little could be more relevant for high school students than themselves so a stronger integration of the self through more and varied opportunities for self-expression—via writing or other mediums—could potentially create more engaging classrooms for teens.

One critical point here is that teachers cannot possibly anticipate all the ways in which students' identities and sense of self will come into play in the classroom, but by leaving structures open enough and providing opportunities for independence and self-expression, teachers can enable students to find opportunities to bring in their conceptions of self on their own terms. The more that teachers hand the cognitive demand of thinking about the content over to students, the more opportunities students will have to tie in their outside lives, skills, opinions, and habits of mind, thereby bringing themselves more fully into the classroom. Paired with a classroom climate that is open and respectful, such structures for self-expression could create learning spaces that features students' voices and ideas and makes their personalities, views, and contributions central features of classroom practice and student engagement.

In regards to relevance, I found myself particularly disappointed that students did not have more opportunities to learn material that they perceived as having relevance to their daily lives in the present. In my mind, the finding that content with present utility and life relevance appears to be the most engaging holds great promise for educators. In response, I would suggest that secondary school teachers take time to think about why they teach particular content and how it could enrich and inform students' everyday lives—and then emphasize this utility in framing their instruction. From my research here, it seems that focusing on the career applications of content in general education classes does not elicit

overwhelming levels of student interest. Rather, utility needs to be a central consideration in teacher planning and deliver of instruction.

There were also clear implications for teacher care and understanding and how teachers can think about the ways in which they do or do not convey care and understanding to their students. I found that students expected teachers to care about them, and many were generous in attributing universally caring feelings to some teachers even where there were few signs of individual care. The data presented here suggest that teachers who do care about students and who want them to know that they care should make sure that they are enacting personal gestures to individual students, such as by checking in with them if they seem upset or by expressing an interest in learning about them and their interests. Further, although students seemed to appreciate academic care, I found that care addressed at personal issues in addition to academics was the most engaging. This is something for teachers to keep in mind, particularly when there are individual students that teachers would like to help and connect with.

Understanding appeared to be a bit trickier, and communication appears to be key for teachers who want to develop strong understanding relationships with students. Given that students identified personally understanding relationships with adults as meaningful and that understanding appeared central to many students' inferences regarding self-worth, intelligence, and self-definition, taking the time to get to know students and where they are coming from seems like a worthy effort for teachers. Just the same, the students in my sample made it clear that they were wary of teachers who pried into their lives when they were not invited. Thus, it seems that teachers should tread lightly in getting to know students but make the effort just the same. On another yet related point, it was clear that students who had been enrolled in courses with the same teacher for more than one year felt that

those teachers knew them better—and they spoke positively about those stronger relationships. This suggests that to the extent it makes sense within a given school, teacher looping with cohorts of students, even at the high school level, could be a promising practice for student engagement.

There were also critical findings for educators along the realm of affirmation. The central takeaway here was that students felt the most affirmed when they experienced academic success first hand. Such feelings seemed to far outweigh affirmation due to teacher praise, grades, or reward systems. The implication of this finding is that teachers looking to promote engagement in the classroom can do so by focusing on delivering challenging instruction in a well-scaffolded format. Efforts put toward praising students also seem worthy, particularly for certain students who seek such approval, but such efforts should not be at the expense of enabling students to feel successful in challenging tasks.

On a broader scale, the findings in this study suggest that there is much that can be done within high school classrooms to engage students and support them in persisting to graduation. Developments in recent years have confirmed that some structural and technical changes can help schools and district make some improvement in student persistence and graduation rates (Garland, 2010; Maxwell, 2010; Mezzacappa, 2010), but classroom engagement still seems to remain untouched in efforts to improve students' schooling experiences and prevent them from withdrawing from school. The findings presented here suggest that educators could take concerted steps to enrich students' classroom experiences in the interest of higher levels of behavioral, emotional, and cognitive engagement.

Reflections on Two Gaps in This Research

In embarking upon this study, I expected that students would draw links between connective teaching practices and perceptions of themselves along various dimensions. As part of this expectation, I anticipated more findings along dimensions of racial and ethnic identity, such that students of color would talk more about the various messages they perceived about what was expected of students of particular races. Such findings have certainly been found in previous research (e.g., Carter, 2005; Davidson, 1996; Nasir, McLaughlin, & Jones, 2009; Oyserman, Brickman, & Rhodes, 2007). In analyzing the data, I noted some race-related patterns, but these were mostly rooted in my observations, not in students' interview comments. My honest sense is not that there were not more race-related patterns in students' experiences and perceptions at Riley High School, but rather that I missed something in my data collection. There are a handful of potential reasons for this absence of race-related findings. First, I included five questions on the student survey about racial identity that were not well received by some members of the school community and that were taken up with the school principal. In addition, a few students hand-wrote in comments on the racial identity questions making statements such as, "What does this have to do with anything?" and "I thought we were past this." Sensing that racial issues were not confronted head-on at Riley High School and wanting to maintain my good relationship with the school, I regretfully did not push these issues. Unfortunately, for this reason, I believe there were some critical issues that I missed.

As another concern, I believe in retrospect that I should have gathered more direct evidence and more thoroughly tested some alternative hypotheses in my qualitative analysis regarding why students found connective teaching practices engaging. In designing the study, I decided not to ask students direct questions related to the self and identify formation in

response to connective teaching practices because I did not want to lead my interviewees to specific responses. I now realize that I likely would have gotten more informative data by inquiring specifically about my theory along with purposefully exploring some rival hypotheses in order to compare the validity of a few different theories. I think this approach would have provided more robust results than those I currently have.

Directions for Future Research

This first investigation of the Classroom Engagement Framework reveals that it appears to have some validity as an organizing framework for conceptualizing instructional approaches to increase global engagement among high school students. The comparison of the three types of instructional practices—lively instruction, academic rigor, and connective teaching—and the strength of their relationships with classroom engagement confirm that connective teaching is a good starting point for beginning to understand the engagement potential of various classroom practices. Most notably, I still feel that my findings around connective teaching are new and tentative and need to be re-examined in new contexts and with greater attention to rival hypotheses. These are directions for future research.

In coming research, I also plan to explore academic rigor and lively instruction more fully and decipher variations in implementation as I have done for the five dimensions of connective teaching. Once I have a fuller understanding of all facets of the Classroom Engagement Framework and their relationships to classroom engagement for high school students, I will begin to explore the utility of this framework for teachers looking to increase engagement and instructional leaders looking to work with teachers on increasing student engagement. Future research endeavors will involve direct collaboration with educators to refine and employ this framework.

Beyond the research questions, another takeaway from this study comes from looking collectively at the teachers who fell below the mean on connective teaching and below the mean on engagement. As I saw it, many of the comments students made about these teachers elicited images of tense, stressed teachers who became easily frustrated or short tempered with students. A critical question here is: *What is the source of all this tension for these teachers?* Collectively, they come across as possibly overworked, possibly exhausted or possibly disenchanted with teaching. A potential direction for future research seems to be examining how school leaders can address the issues faced by stressed, frustrated teachers and alleviate the tensions that are creating these negative classroom dynamics.

Conclusion

The ultimate goal of classroom engagement is to make schooling a rewarding and meaningful experience for the students who fill our nation's classrooms. As a community of educators, we need to acknowledge the shortcomings in engagement in our present educational system and attend to these with urgency. The Classroom Engagement Framework supports these efforts by integrating existing research on student engagement into an organizational scheme that can help educators strategize to diagnose and increase student engagement. More specifically, the findings here begin to unpack ways in which the five dimensions of connective teaching can support students in building connections to classrooms and teachers such that higher levels of emotional engagement can feed and support higher levels of global engagement. Given the centrality of the self for adolescents, it appears integrating more effective forms of self-expression, relevance, care, understanding, and affirmation into students' classroom experiences can be a critical stepping stone toward increasing student engagement and enriching students' experiences in school.

Appendices

Appendix A - ***Survey Scales, Sources, Items, & Alpha Coefficients***

Connective Teaching
Original Items
Response Anchors: 5-point Likert scale ranging from "Not At All" to "Very Much" *or* from "Never" to "Always"
Survey Items (and relevant constructs)
1. How often does the teacher tell you that you are good at the work in first period? (affirmation)
2. How much do the things you learn in first period relate to your life goals? (relevance)
3. How often do you get to express your ideas and opinions in your first period class? (self-expression)
4. How much do you feel like your first period teacher cares about you? (care)
5. How much do you fell like your first period teacher understands who you really are? (understanding)
Alpha = .85

Academic Rigor
Original Items
Response Anchors: 5-point Likert scale ranging from "Not At All" to "Very Much" *or* from "Never" to "Always"
Survey Items (and relevant constructs)
1. How often does your first period teacher give you challenging work? (challenge)
2. How often does your first period teacher push you to work hard? (academic press)
3. How often do you do nothing in your first period class? (efficient use of time- reversed)
4. How much would you say your first period teacher cares about the material in the class? (teacher passion)
Alpha = .66

Lively Instruction
Original Items
Response Anchors: 5-point Likert scale ranging from "Not At All" to "Very Much" *or* from "Never" to "Always"
Survey Items (and relevant constructs)
1. How often does your first period class include games or fun activities? (games & fun activities)
2. How often do you work on projects in first period? (projects)
3. How often do you find your first period teacher to be entertaining while teaching? (entertaining teacher)
4. How often do you work in groups with other students during your first period class? (group work)
Alpha = .66

Classroom Engagement
Source: Select items from the National Center for School Engagement (2006), reworded to apply to a particular class as opposed to school more broadly.
Response Anchors: 5-point Likert scale ranging from "Not At All" to "Very Much" or "Never" to "Always"
1. How happy are you when you are in this class?
2. How excited are you about what you are learning in this class?
3. If you don't understand something in this class, how often do you take the time to try to figure it out?
4. How often do you do all of your work in this class?
5. When you are in this class, how often do you just pretend that you are working? (reversed)
Alpha = .76

Appendix B - *Final Version of the Survey*

Student Engagement Survey

Dear Student,

My name is Kristy Cooper, and I am a researcher at the Harvard Graduate School of Education. I am conducting this survey to help teachers and school leaders better understand student engagement in high schools. Thank you for taking the time to share your important opinions and experiences.

Your participation is voluntary. So, you do not have to complete any parts of this survey that you do not want to, and you may stop at any time.

Your results on this survey are completely anonymous. Your name is not on it. No one will know how you answered. Thus, I hope you will take the time and care to be honest in your responses. This is your chance to tell the leaders at your school what your life is like as a student.

If you have any questions, or would like to contact me for any reason, you may email me at kristy_cooper@mail.harvard.edu.

Thank you for your time.

Kristy Cooper
Harvard Graduate School of Education

Section I. About You

1. What grade are you in?

2. How old are you?

3. Are you male or female?

4. What is your race and or ethnicity?

5. What is the highest level of education your mother completed? (Please circle one.)

Less Than a High School Diploma	A High School Diploma	Some College	A 4-year College Degree	A Masters or Professional Degree or Higher	Don't Know

6. What is the highest level of education your father completed? (Please circle one.)

Less Than a High School Diploma	A High School Diploma	Some College	A 4-year College Degree	A Masters or Professional Degree or Higher	Don't Know

7. What is the highest level of education you think you will complete? (Please circle one.)

Less Than a High School Diploma	A High School Diploma	Some College	A 4-year College Degree	A Masters or Professional Degree or Higher	Don't Know

8. List 3 words that describe you.

Section II. What Matters to You (Please circle one response for each question.)

9. How important is doing well in school to who you are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

10. How much do your grades matter to you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

11. How often do you take school seriously?

Never	Once In A While	About Half The Time	Quite Often	Always

12. How often do you consider yourself to be a good student?

Never	Once In A While	About Half The Time	Quite Often	Always

13. How strong are your feelings about what your race group means to you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

14. How often do you think about how your life will be affected by your race group membership?

Never	Once In A While	About Half The Time	Quite Often	Always

15. How happy are you that you are a member of your race group?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

16. How strongly do you feel like you belong to your race group?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

Section III. What Describes You (Please circle one response for each item.)

How much does each phrase describe you?

17. Into drugs

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

18. Drink too much alcohol

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

19. Get into fights

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

20. In trouble with the police

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

21. Failure

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

22. Pretty good at everything I do

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

23. Important

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

24. Loved

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

25. Really into a hobby

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

26. Enjoy the things I do

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

27. Get along with my parents

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

28. Pray often

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

Section IV. Your First Period Class on an A Day

A1. What is your first period class on an A day?

A2. Who is the teacher?

A3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A4. If you don't understand something in your first-period A-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

A5. How often does the teacher tell you that you are good at the work in your first-period A-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

A6. When you are in your first-period A-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

A7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

A8. How often do you find your first-period A-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

A9. How often does your first-period A-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

A10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

A11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

A12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

A13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

A14. How much do you feel like your first-period A-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A15. How much do the things you learn in your first-period A-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A16. How much do you feel like your first-period A-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A18. How much would you say your first-period A-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A19. How often does your first-period A-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

A20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

A21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

A22. What grade do you expect to get in your first-period A-day class on your next report card?

A	B	C	D	F

Section V. Your Second Period Class on an A Day

B1. What is your second period class on an A day?

B2. Who is the teacher?

B3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B4. If you don't understand something in your second-period A-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

B5. How often does the teacher tell you that you are good at the work in your second-period A-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

B6. When you are in your second-period A-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

B7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

B8. How often do you find your second-period A-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

B9. How often does your second-period A-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

B10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

B11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

B12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

B13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

B14. How much do you feel like your second-period A-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B15. How much do the things you learn in your second-period A-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B16. How much do you feel like your second-period A-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B18. How much would you say your second-period A-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B19. How often does your second-period A-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

B20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

B21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

B22. What grade do you expect to get in your second-period A-day class on your next report card?

A	B	C	D	F

Section VI. Your Fourth Period Class on an A Day

C1. What is your fourth period class on an A day?

C2. Who is the teacher?

C3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C4. If you don't understand something in your fourth-period A-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

C5. How often does the teacher tell you that you are good at the work in your fourth-period A-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

C6. When you are in your fourth-period A-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

C7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

C8. How often do you find your fourth-period A-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

C9. How often does your fourth-period A-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

C10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

C11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

C12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

C13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

C14. How much do you feel like your fourth-period A-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C15. How much do the things you learn in your fourth-period A-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C16. How much do you feel like your fourth-period A-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C18. How much would you say your fourth-period A-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C19. How often does your fourth-period A-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

C20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

C21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

C22. What grade do you expect to get in your fourth-period A-day class on your next report card?

A	B	C	D	F

Section VII. Your Fifth Period Class on an A Day

D1.What is your fifth period class on an A Day?

D2. Who is the teacher?

D3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D4. If you don't understand something in your fifth-period A-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

D5. How often does the teacher tell you that you are good at the work in your fifth-period A-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

D6. When you are in your fifth-period A-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

D7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

D8. How often do you find your fifth-period A-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

D9. How often does your fifth-period A-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

D10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

D11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

D12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

D13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

D14. How much do you feel like your fifth-period A-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D15. How much do the things you learn in your fifth-period A-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D16. How much do you feel like your fifth-period A-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D18. How much would you say your fifth-period A-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D19. How often does your fifth-period A-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

D20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

D21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

D22. What grade do you expect to get in your fifth-period A-day class on your next report card?

A	B	C	D	F

Section VIII. Your First Period Class on a B Day

E1.What is your first period class on a B day?

E2. Who is the teacher?

E3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E4. If you don't understand something in your first-period B-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

E5. How often does the teacher tell you that you are good at the work in your first-period B-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

E6. When you are in your first-period B-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

E7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

E8. How often do you find your first-period B-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

E9. How often does your first-period B-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

E10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

E11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

E12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

E13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

E14. How much do you feel like your first-period B-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E15. How much do the things you learn in your first-period B-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E16. How much do you feel like your first-period B-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E18. How much would you say your first-period B-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E19. How often does your first-period B-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

E20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

E21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

E22. What grade do you expect to get in your first-period B-day class on your next report card?

A	B	C	D	F

Section IX. Your Second Period Class on a B Day

F1. What is your second period class on a B day?

F2. Who is the teacher?

F3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F4. If you don't understand something in your second-period B-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

F5. How often does the teacher tell you that you are good at the work in your second-period B-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

F6. When you are in your second-period B-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

F7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

F8. How often do you find your second-period B-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

F9. How often does your second-period B-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

F10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

F11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

F12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

F13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

F14. How much do you feel like your second-period B-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F15. How much do the things you learn in your second-period B-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F16. How much do you feel like your second-period B-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F18. How much would you say your second-period B-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F19. How often does your second-period B-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

F20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

F21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

F22. What grade do you expect to get in your second-period B-day class on your next report card?

A	B	C	D	F

Section X. Your Fourth Period Class on a B Day

G1.What is your fourth period class on a B day?

G2. Who is the teacher?

G3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G4. If you don't understand something in your fourth-period B-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

G5. How often does the teacher tell you that you are good at the work in your fourth-period B-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

G6. When you are in your fourth-period B-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

G7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

G8. How often do you find your fourth-period B-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

G9. How often does your fourth-period B-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

G10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

G11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

G12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

G13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

G14. How much do you feel like your fourth-period B-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G15. How much do the things you learn in your fourth-period B-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G16. How much do you feel like your fourth-period B-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G18. How much would you say your fourth-period B-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G19. How often does your fourth-period B-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

G20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

G21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

G22. What grade do you expect to get in your fourth-period B-day class on your next report card?

A	B	C	D	F

Section XI. Your Fifth Period Class on a B Day

H1. What is your fifth period class on a B Day?

H2. Who is the teacher?

H3. How happy are you when you are in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H4. If you don't understand something in your fifth-period B-day class, how often do you try to figure it out?

Never	Once In A While	About Half The Time	Quite Often	Always

H5. How often does the teacher tell you that you are good at the work in your fifth-period B-day class?

Never	Once In A While	About Half The Time	Quite Often	Always

H6. When you are in your fifth-period B-day class, how often do you just pretend that you are working?

Never	Once In A While	About Half The Time	Quite Often	Always

H7. How often do you get to express your ideas and opinions in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

H8. How often do you find your fifth-period B-day teacher to be entertaining while teaching?

Never	Once In A While	About Half The Time	Quite Often	Always

H9. How often does your fifth-period B-day teacher push you to work hard?

Never	Once In A While	About Half The Time	Quite Often	Always

H10. How often do you do nothing in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

H11. How often do you work in groups with other students during this class?

Never	Once In A While	About Half The Time	Quite Often	Always

H12. How often does this class include games or fun activities?

Never	Once In A While	About Half The Time	Quite Often	Always

H13. How often do you work on projects in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

H14. How much do you feel like your fifth-period B-day teacher cares about you?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H15. How much do the things you learn in your fifth-period B-day class relate to your life goals?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H16. How much do you feel like your fifth-period B-day teacher understands who you really are?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H17. How excited are you about what you are learning in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H18. How much would you say your fifth-period B-day teacher cares about the material in the class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H19. How often does your fifth-period B-day teacher give you challenging work?

Never	Once In A While	About Half The Time	Quite Often	Always

H20. How often do you do all of your work in this class?

Never	Once In A While	About Half The Time	Quite Often	Always

H21. How much do you feel like you fit in with the other students in this class?

Not At All	A Little Bit	Somewhat	Quite A Bit	Very Much

H22. What grade do you expect to get in your fifth-period B-day class on your next report card?

A	B	C	D	F

Appendix C - *Classroom Observation Checklist*

Class A B C D E **Date** _____ **Attendance** _____

How frequently did each of the following occur?

1. Teacher made positive statements in response to student's spoken remarks (good, exactly, yes).
Never Once 2-4 Times 5-8 Times Continually

2. Teacher made negative statements in response to student's spoken remarks (no, not quite, wrong).
Never Once 2-4 Times 5-8 Times Continually

3. Teacher asked open-ended questions.
Never Once 2-4 Times 5-8 Times Continually

4. Teacher asked yes/no questions.
Never Once 2-4 Times 5-8 Times Continually

5. Teacher asked about a student's wellbeing in a one-on-one interaction.
Never Once 2-4 Times 5-8 Times Continually

6. Teacher asked about a student's wellbeing in front of a group of students or the whole class.
Never Once 2-4 Times 5-8 Times Continually

7. Student(s) asked about the teacher's wellbeing.
Never Once 2-4 Times 5-8 Times Continually

8. Teacher explicitly connected lesson content to life outside the classroom.
Never Once 2-4 Times 5-8 Times Continually

9. Teacher explicitly connected lesson to students' futures.
Never Once 2-4 Times 5-8 Times Continually

10. Student(s) made comment(s) that connected lesson to life outside the classroom.
Never Once 2-4 Times 5-8 Times Continually

11. Student(s) made comments(s) that connected lesson to their futures.
Never Once 2-4 Times 5-8 Times Continually

12. Teacher referenced students' personal interests.
Never Once 2-4 Times 5-8 Times Continually

13. Teacher referenced students' families.
Never Once 2-4 Times 5-8 Times Continually

14. Teacher referenced students' ambitions.
Never Once 2-4 Times 5-8 Times Continually

15. Teacher referenced students' habits.
Never Once 2-4 Times 5-8 Times Continually

16. Teacher referenced students' personalities.
Never Once 2-4 Times 5-8 Times Continually

Was each of the following observed?

17. Teacher returned work with feedback.	Yes	No
18. Academic task required original ideas.	Yes	No
19. Academic task required opinions.	Yes	No
20. Academic task allowed for original ideas.	Yes	No
21. Academic task allowed for opinions.	Yes	No
22. Class discussion required original ideas.	Yes	No
23. Class discussion required opinions.	Yes	No
24. Class discussion allowed for original ideas.	Yes	No
25. Class discussion allowed for opinions.	Yes	No

26. How many students in the class verbally shared original ideas?

0-1 2-4 5-8 9-12 Majority of Class

27. How many students in the class verbally shared opinions?

0-1 2-4 5-8 9-12 Majority of Class

28. How warm was the teacher's tone?

Not Warm At All A Little Warm Somewhat Warm Quite Warm Very Warm

29. How cool was the teacher's tone?

Not Cool At All A Little Cool Somewhat Cool Quite Cool Very Cool

30. Was the teacher's tone consistent with different students? Yes No

Appendix D - *Student Interview Protocol*

Introductory & Identity Questions

- So, let's start by talking a little bit about who you are so I know where your opinions are coming from. How old are you?
- And what grade are you in?
- How long have you been going to Riley High School?
- In general, do you like it here? What do you like (or not like) about it?
- What activities are you involved in here at the school?
- What kinds of things do you do when you're not at school?
- Tell me a little bit about your family. Who do you live with? Can you tell me a little bit about each of those people?
- If you could do absolutely anything after high school, what would you ideally do?
- How did you realize that this was what you wanted to do?
- What are some things you're really good at or that you really enjoy?
- How would you describe yourself as a student?
- Are you the kind of person who gets in trouble at school? [Probes: What for? Or Why Not?]
- What is your race and/or ethnicity?
- Do you feel like being (race/ethnicity) is an important part of who you are? Why or why not?
- How do you think your friends would describe your personality?
- What do you like about yourself?
- What would you like to change about yourself?

Feelings of Competence in the Focal Class

- So, let's talk about (focal class). In general, what kinds of things do you learn in that class? [Probe for whether or not they learn much.]
- Do you think this class is hard or easy? Why?

- Are you good at the work in this class? How do you know?
- Do you think (teacher) thinks that the kids in your class are smart? What makes you say that?
- Do you think (teacher) thinks you're smart? How do you know?
- Do you want him/her to think you're smarter? [Probe: Why? Do you care about his/her opinion of you? Why or why not?]
- Are the other kids in this class smarter than you? [Probe: How do you know? Do you care?]

Feelings of Autonomy as Control in the Focal Class

- Do you feel like you personally have any control over what happens on a regular day in this class, or is it out of your control? Why? [Probe: Do you care about whether you have control?]
- Do you get to express your own ideas and opinions in this class? How?

Feelings of Autonomy as Relevance in the Focal Class

- Do you think this class relates to life outside of school? How?
- So, you told me that after high school, you're thinking that you'll probably (what they said). Is this class going to help you with that goal? [Probe: How or why not?]
- Do you think that it's important for people to learn (this subject)? [Probe: Why?]

Feelings of Relatedness in the Focal Class - Teacher

- So, when I was in (teacher)'s class with you guys today, I was trying to figure out what you guys think about him/her, but I wasn't quite sure. Is he/she the kind of teacher people like, or not really? [Probe: Why?]
- Do *you* like him/her? [Probe: Why?]
- Do you think he/she likes you? [Probe: Why? How do you know?]
- Do you think he/she cares about you? [Probes: How do you know? Do other teachers do this?]
- Do you think he/she understands who you really are as a person? [Probe: How do you know?]
- Do you every get angry at this teacher? [Probe: Why?]

- If you had gotten stuck on (what they did in class) today, would you have asked him/her for help?
- What do you think he/she would have done to help you?
- Do you think he/she would help everyone in the class equally, or are there some kids that he/she seems to like better or would want to help more? [Probe: What gives you this idea?]
- Now imagine if you were upset about something that happened with your family or life outside of school, would you talk to (teacher)? [Probe: Why or why not?]

Comparison to Other Classes

- So, which other classes are you taking? (Select a comparison class from the list if possible.) Let's talk about (class) for a while.
- Do you think this class is hard or easy? Why?
- Are you good at the work in this class? How do you know?
- Do you think (teacher) thinks you're smart? How do you know?
- Do you get to express your own ideas and opinions in this class? How?
- Do you think this class relates to life outside of school? How?
- Is (teacher) the kind of teacher people like, or not really? [Probe: Why?]
- Do *you* like him/her? [Probe: Why?]
- Do you think he/she likes you? [Probe: Why? How do you know?]
- Do you think he/she cares about you? [Probes: How do you know?]
- Do you think he/she understands who you really are as a person? [Probe: How do you know?]
- Does (teacher) help everyone in the class equally, or are there some kids that he/she seems to like better or would want to help more? [Probe: What gives you this idea?]

Ideals

- What do you think the relationship between a student and a teacher should be like? What's the ideal student/teacher relationship?
- Do you think teachers should know about who students are outside of the classroom? Why?

Appendix E - *Teacher Interview Protocol*

Teaching Practice

- So, I know that you teach (subject) to (grade level). Do you teach any other classes? What else do you teach?
- And how long have you been working here? Did you teach elsewhere before coming here?
- What is your connection to Riley? Do you live nearby?
- Tell me a little bit about your preparation to become a teacher and about your teaching experience since then.
- Tell me about your teaching philosophy. [With probes. I want a lot of detail on this.]
- What do you think makes for effective classroom practice?
- How do you go about planning your instruction?
- When you plan a lesson, what are your priorities?
- How would you describe a typical day in your class in terms of learning activities?
- During my most recent observation, you (what they did in class). Tell me about this lesson. What were your goals? Why did you set it up this way?
- How do you think the students responded to your lesson?
- Is there anything you would do differently if you were to teach that lesson again?

Classroom Structures

- At the beginning of a new school year, what are some things you do to prepare your students for your classroom?
- What are your philosophies around managing student behavior?
- Do you think your management is effective? Why or why not?

Perceptions of Students

- So, I'm focusing particularly on attempting to understand the classroom dynamic in your (period) class. Tell me a bit about the students in that class. What are they like?

- Are there particular students that present a challenge to you when it comes to keeping them focused on learning and doing their work? How do you deal with these students?

- What are your goals for this particular group of students?

Student Engagement

- When I surveyed students about your class, the results showed that the students were highly engaged (and/or felt highly supported by you as a teacher). Why do you believe this is?

- Is student engagement something that you focus on in your practice?

- What special efforts do you make in your attempts to engage student?

- Why do you think that students generally report positive experiences in this class?

- What differences in engagement do you notice in this class compared with your other class periods?

- How would you compare the dynamics in this class compared with other classes you have this year, or that you have had in past years?

- Do you make any special efforts to get to know your students? How do you do this?

- What do you think is an ideal relationship between a teacher and a high school student?

- To what extent do you think teachers should know about students' lives outside of the classroom?

Appendix F - *Administrator Interview Protocol*

Personal Background

- So, tell me a bit about your role here. You are the _____. What are your key responsibilities?
- And how long have you been working here at Riley High School?
- What other professional experiences did you have before taking on your current role?
- What is your connection to Riley? Do you live nearby? [If they don't live in the community – Why don't you live in Riley?]

About the High School

- How would you describe Riley High School?
- How would you describe the teaching staff at Riley High School?
- How would you describe the students at Riley High School?
- What do you think are Riley's strengths as a school?
- What are the school's areas for growth?
- What are your personal goals for Riley High School?

About the Community

- How would you describe the community of Riley?
- In what ways do you think Riley is similar to other town in Texas?
- In what ways do you think Riley is different?
- I've been told that about half the students at the high school live in town and about half live in the surrounding countryside. Does this seem accurate to you? Do you think these residential differences have any impact on differences among students in the school?
- How have the demographics of the community changed in recent years? How do you think these changes impact the high school?

Student Engagement

- What are your impressions of student engagement at Riley High School?
- Are you concerned about student engagement?
- Are there any particular messages about student engagement that you send to teachers?
- Why, if at all, do you think participating in this study about student engagement could be beneficial to the school?
- Is there anyone at the school whose primary responsibility is overseeing instruction?
- What are your concerns regarding teaching practice at the school?
- What do you think makes for a good teacher?

Case Study Teachers

- As you know, I've been studying the classes of five teachers. For each teacher, I'd like me to tell me what you perceive to be students' general views of these teachers. (Coach Bishop, Mr. Williams, Ms. Smithey, Ms. Davis, Mr. Cooper)
- Are there any ways in which you think any of these particular teachers stand out among their peers?

Other Issues

- Tell me about the dress code. When and why did it start?
- What was the goal of instituting the dress code? Do you feel it's having its desired impact? How do you know?
- What do you think is an ideal relationship between a teacher and a high school student?
- To what extent do you think teachers should know about students' lives outside of the classroom?

Appendix G - *Qualitative Codes*

Descriptive Codes

D - age
D - anger towards the teacher
D - aspirations
D - class difficulty
D - comparison of self to others
D - course importance in general
D - course relevance to future ambitions
D - course relevance to life
D - description of class and content
D - description of personality by friends
D - description of self as a student
D - Riley school and community
D - family
D - go to teacher when upset
D - help and help-seeking
D - ideal student teacher relationship
D - indicators of competence in the class
D - negative attributes of self
D - opinion of Riley High School
D - opinion of the teacher personally
D - opportunities for self-expression
D - perception of teacher understanding
D - perception of teacher view of class
D - perception of teacher's view of them
D - perception of teacher's view on their intelligence
D - perception of whether teacher cares
D - perceptions of peers' opinions of teacher
D - positive attributes of self
D - racial identity
D - school activities
D - skills
D - teacher equal treatment of students
D - teacher versus student control
D - trouble behavior
D - tutoring
D - uniforms

Interpretive Codes - About the Class

IC - class is boring
IC - class is difficult
IC - class is easy
IC - class is fun
IC - class is not stressful
IC - class is of medium difficulty
IC - class is stressful
IC - competence indicated by ability perceived
IC - competence indicated by behavior
IC - competence indicated by grades
IC - competence indicated by peers
IC - competence indicated by teacher
IC - competence indicated by understanding
IC - competence not indicated
IC - course content is interesting
IC - course content is not interesting
IC - course content is not new
IC - course does not relate to ambitions
IC - course does not relate to life
IC - course is a requirement
IC - course is important for people generally
IC - course is unimportant
IC - course relates only for certain careers
IC - course relates to daily life
IC - course relates to future career
IC - course relates to later life
IC - help by hinting
IC - help comes from peers
IC - help does not come from peers
IC - help is readily offered
IC - help must be sought out
IC - help not offered by teacher
IC - helps by re-explaining
IC - instructional clarity
IC - instructional clarity lacking
IC - no reason for anger
IC - relationship limited to school stuff
IC - retention of material temporary
IC - self-expression not enabled
IC - self-expression through assignments
IC - self-expression through questions

IC - self-expression through speech
IC - student is full self in class
IC - student not full self in class
IC - student teacher do not get along
IC - teacher cares genuinely about kids
IC - teacher cares only a little
IC - teacher concerned about performance
IC - teacher does not care
IC - teacher does not get upset
IC - teacher does not relate to students
IC - teacher does not teach
IC - teacher does not understand teens
IC - teacher doesn't know student personally
IC - teacher enables independence
IC - teacher favorites clear
IC - teacher favorites nonexistent
IC - teacher gets upset
IC - teacher gives rewards
IC - teacher goes too fast
IC - teacher has control of the class
IC - teacher has limited control of the class
IC - teacher is admired
IC - teacher is annoying
IC - teacher is controlling
IC - teacher is cool
IC - teacher is cute
IC - teacher is demanding
IC - teacher is disrespectful
IC - teacher is encouraging
IC - teacher is focused
IC - teacher is fun
IC - teacher is funny
IC - teacher is ignorant
IC - teacher is insincere
IC - teacher is laid back
IC - teacher is mean
IC - teacher is moody
IC - teacher is nice
IC - teacher is not approachable
IC - teacher is not patient
IC - teacher is patient
IC - teacher is respectful
IC - teacher is sincere
IC - teacher is strict
IC - teacher is trusting
IC - teacher is trustworthy
IC - teacher is untrusting
IC - teacher knows a lot
IC - teacher knows student personally
IC - teacher notices when upset
IC - teacher relates well to students
IC - teacher shares experiences with students
IC - teacher shares interests with students
IC - teacher supports student's interests
IC - teacher teaches
IC - teacher tries to serve students well
IC - teacher understands student as learner
IC - teacher understands teenagers
IC - unclear how teacher perceives student
IC - unclear whether teacher cares

Interpretive Codes - About the Student

IS - argumentative
IS - aware of being different
IS - challenges authority
IS - confident student
IS - confrontational
IS - determined
IS - deviant sense of self
IS - disciplined
IS - distracted or off task in class
IS - does not bond with teachers
IS - does not get enough sleep
IS - does not get in trouble
IS - does not seek emotional support
IS - does not seek teacher's approval
IS - feels autonomy is limited
IS - feels like a victim
IS - feels misunderstood
IS - focused in class
IS - frustrated
IS - gaining confidence
IS - gaining focus
IS - gets angry easily

IS - gets in trouble
IS - image conscious
IS - innocent
IS - jokes around
IS - limited view of education
IS - low key
IS - mature
IS - moderate student
IS - non-confrontational
IS - participates in class
IS - positive or optimistic
IS - positive sense of self
IS - procrastinates
IS - quiet in class
IS - racial identity is ambiguous
IS - racial identity is of interest
IS - racial identity not strong
IS - racial identity strong
IS - seeks boundaries with teachers
IS - seeks feeling of competence
IS - self doubt
IS - self-conscious
IS - self-serving
IS - strong sense of self
IS - sympathetic
IS - talkative in class
IS - understands own learning style
IS - unmotivated
IS - unsure of competence
IS - unsure of future
IS - unsure of self
IS - values autonomy
IS - values caring for others
IS - values faith
IS - values genuineness
IS - values individuality
IS - values morals
IS - values peace
IS - values peer relationships
IS - values privacy
IS - values relationships
IS - values rules and authority
IS - values self-expression
IS - values strength
IS - wants teacher's approval
IS - wants teachers to care
IS - wants to be challenged
IS - wants to be treated same as others
IS - wants to be understood
IS - wants to bond with teachers
IS - wants to feel safe
IS - wants to learn
IS - weak student
IS - willing to take a risk

Pattern Codes

P - attention
P - authenticity
P - independence
P - interaction
P - knowing
P - meaningfulness
P - openness
P - personal care
P - personal understanding
P - respect
P - success
P - universal care
P - universal understanding
P - visibility

Appendix H - *Overview of Student Interviewees*

Student	Age	Grade	Gender	Race/ Ethnicity	Class	Activities & Interests	Future Aspiration
Ana	17	11	Female	Latina	Warner	Sports Medicine, Working Out	Nurse
Arielle	15	10	Female	White	Lifsky	Theater, Choir, Concerts	Actress or Theater Teacher
Belinda	14	9	Female	Latina	Ingels	School Band, Rock Music	Pediatrician
Brian	15	9	Male	White	Ingels	Baseball, Video Games, Fixing Things	Detective
Brianna	17	11	Female	Mixed Race (Black/ White)	Warner	Volleyball, Basketball, Track, Soccer, Softball	Professional Basketball Player or Coach
Caesar	17	11	Male	Latino	Warner	Community Service, Computers	Computer Programmer
Carmen	17	11	Female	Latina	Knowles	Health Science Technology, Soccer	Nurse
Carter	15	9	Male	Filipino	Ingels	School Band, Garage Bands, Bluegrass	Musician
Chris	17	11	Male	Latino	Lifsky	Fixing Things, Working	Soldier
Christine	17	11	Female	Mixed Race (White/ Black)	Knowles	School Band, Beauty Pageants	Music Teacher
Claire	15	9	Female	White	Ingels	Volleyball, Church Youth Group, Piano	Attend a Religious Music Academy
Davon	17	11	Male	Black	Warner	Football, Basketball, Cars	Engineer
Isabel	16	11	Female	Latina	Warner	Cross-Country, Track, School Band	Pediatrician or Lawyer
Jack	18	11	Male	White	Warner	Football, Working, Working Out	Care-Flight Paramedic
Javier	18	12	Male	Latino	Warner	Working, Movies, Motorcycles	Small Business Owner
Jeremy	17	11	Male	White	Knowles	National Honor Society, Student Council, Golf	Marine Biologist

Jessica	16	10	Female	Latina	Lifsky	Dance Team, Cross-Country, Softball	Criminal Justice
Kiana	17	11	Female	Black	Connor	Volleyball, Track, Boys	Criminal Justice
Laura	17	11	Female	White	Connor	Softball, Volleyball	Pre-School Teacher
Marianne	15	9	Female	White	Ingels	School Band, Movies, Shopping	Scientist, Lawyer, or Psychologist
Mia	16	11	Female	Black	Connor	Basketball, Softball, Graphic Design	Wedding Planner
Mike	16	10	Male	White	Lifsky	Football, Track	FBI Agent
Pete	18	11	Male	White	Knowles Connor	Auto-tech, Football, Horses	Air Force or Welder
Rachel	16	10	Female	Mixed Race (White/ Latina/ Cherokee)	Lifsky	School Band, Community Service, Reading, Art	No Clue
Ray	17	11	Male	White	Knowles	Working, Video Games, Tattoos	Police Officer
Roberto	14	9	Male	Latino	Ingels	TV, Video Games, Learning Random Info	Entrepreneur
Roxana	15	9	Female	Latina	Ingels	Track, Cross-Country, Math	Cosmetology or Medicine
Rubi	16	11	Female	Latina	Connor Warner	Babysitting, Movies	Pediatrician
Sarah	17	11	Female	White	Knowles	Soccer, Choir, Piano	Psychologist
Shameeka	17	11	Female	Black	Connor	School Band, Church Choir, Cosmetology	Heart Surgeon
Steve	17	11	Male	Mixed Race (Latino/ White)	Knowles	Baseball, Working, Writing	Business
Tampa	17	11	Male	Black	Connor	Football, Basketball, Camp Counselor	Professional Football Player
Tina	16	10	Female	White	Lifsky	School Band, Dance Team, Community Service	Fashion Designer

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