ENGAGEMENT, ACHIEVEMENT, LEARNING:
MAKING MEANING OF MASTERY AT AN URBAN CHARTER HIGH SCHOOL

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This dissertation is dedicated to the past, present, and future students and faculty of Mastery Charter Schools.
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ABSTRACT

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DR. KATHERINE SCHULTZ, chair

This is a case study of a small, urban, charter high school during its first five years of existence. It tells the story of the school's efforts to establish and implement a “mastery system”: a series of academic policies and practices intended to help students achieve in school. The study reveals the ways in which the belief systems and behaviors of students, teachers, and administrators act together to shape this system. Focused around the following question-- How do school stakeholders understand motivation, engagement, and learning? -- the study investigates the dimensions and dynamics of academic achievement at Mastery Charter, a new urban high school. The study was conducted by one of the school's co-founders. Its arguments are informed both by the knowledge base of traditional academic research and the complications of administration as experienced from an emic, or insider perspective.

The study looks at two phases of the school’s early operations, historic (years 1-3) and mature (years 4-5), with the bulk of the study focusing on the mature school. The historic section traces the school’s attempts to define mastery as a grading and learning standard, and as a collection of instructional practices. Data for this phase consist of field notes, journal entries, and archived documents. The study argues that during this time, the school’s academic systems were molded by limited institutional capacity, stakeholders’ investments in traditional school practices, school leaders’ urgent desire to remediate students’ academic skills, and students’ needs for self-determination.
More current school experiences lie at the study's center. Data here consist of interviews of students, teachers, and administrators. Investigation reveals ongoing transactions between students and Mastery staff as both types of stakeholders work with the mastery system. As students pursue self-determination at school, they challenge and shape the system to align with their needs and values. Mastery staff endeavors to use the system so that it increases students' motivation, engagement, and academic performances. Analyses of these various efforts show that the mastery system is most effective in increasing engagement and achievement, and less effective in enabling learning outcomes. Stakeholders' perspectives and responses to one another's efforts reveal the system's limitations and suggest that the more responsive high school reforms can be to adolescent students' needs for autonomy and agency, the more impact such reforms may have on improving learning gaps as well as achievement gaps.
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Mastery Charter High School opened on September 10, 2001. To serve its original mission—helping “urban students learn the academic and personal skills they need to realize their dreams” --a collection of programmatic academic innovations and interventions was instituted. These were intended to enable Mastery students to achieve and learn at school. One of these innovations specified replacement of traditional grades with grades of M or I, “mastery” or “incomplete.” Mastery students whose work met specified standards would earn grades of M. Mastery students who submitted work not yet up to the standard would receive grades of I, accompanied by feedback to direct their corrections. Students would then resubmit revised assignments and replace their original I grades with well-earned M’s. This approach was intended to increase students’ feelings of competence as well as their learning, and was part of a larger plan meant to motivate students to take all the time and get all the extra help they needed to learn new skills at school.

One afternoon two months into the school’s first year, I was walking around Mastery classrooms. At this time I was an administrator at Mastery, in charge of teaching and learning at the school, and was walking through the school building seeing how teachers and students were doing in and out of classes. In one class, a ninth grader named Dario was sitting at the computer responding to a writing prompt. He was playing with fonts, spacing, page borders, doing everything but focusing on composition. Dario had
about a sentence and a half written the first time I came around, and so I encouraged him to write a little more. He was annoyed with my attention, and told me that since he was not bothering anyone, he didn’t see why I was bothering him. When I came back twenty minutes later and saw that he had not added a single word to his writing, I prodded him again to think about the prompt and try to start writing. He looked up at me and said, “Uh-uh, Miss. I don’t care. I’ll just take the I. As long as it’s not an F that is good enough for me.”

In this scene are hints of misaligned and divergent assumptions about standards and grading, as well as wide and notable gaps between one Mastery student’s efforts and Mastery’s academic interventions. Both Dario’s and my actions were rich with meaning. Dario was not taking advantage of, or did not understand the opportunities offered by the school’s formative assessment practices. Dario viewed the I his composition was sure to earn not as a starting point for his learning, but as a summative judgment of his effort. Grades of I were supposed to motivate Dario to revise and improve his work, not satisfy him because they “almost” showed mastery. To Dario, an I was only one degree removed from a grade of mastery, and that was good enough for him. Ironically, for this student, Mastery’s grading innovations did not inspire and facilitate greater achievement or learning. They reinforced and enabled low expectations and minimal effort.

If Dario was missing the point of mastery’s grading system, it seems that I was missing the point he was making about effort and engagement at school. In Dario’s mind, he was behaving appropriately in class: not bothering other students, sitting quietly, and doing some work on the assignment his teacher had given him. As an educator in a school built around increasing student learning, I read Dario’s actions very differently
than he did. To Dario, his behavior signaled compliance. To me, it signaled insufficient academic engagement.

In the years since Dario’s and my clash, Mastery Charter High School has achieved a strong record of success. But there are still significant gaps in Mastery students’ learning and achievements. These gaps at Mastery are not immediately obvious. The school appears at first as an anomaly among city high schools. It is a small, safe place with an overt focus on achievement, where learning is clearly and publicly valued. Most visitors are principally curious about how the school maintains these values. More discerning visitors, however, will notice that something is “off” in their first impressions of attentive students hard at work. Next to posted lists of college admissions and honor rolls are examples of student work which display an absence of polish, intellectual activity, and the advanced skills we would expect to see posted in high schools. One visiting educator looked at junior/senior Physics work posted in Mastery’s halls and said what he saw was “Baby math. Magic marker pictures and captions that look more like something Middle School kids would do” (field notes, 7.12.05). Another teacher, interviewing for a position at Mastery and walking around before her interview, stopped to read seniors’ literary essays posted on the walls. She and I had been chatting, and at this one wall, she grew silent. It was only during her interview, when she showed me examples of her eleventh grade students’ writing, from the suburban school where she previously taught, that I understood her reluctance to comment on the posted Mastery students’ work. Her students’ writing was sophisticated and thoughtful prose of a quality far beyond what was up on the walls at Mastery, beyond what even the most talented seniors at Mastery write.
This kind of comparative evaluation of student achievement is telling and critical. It shows a gap in student achievement that includes but differs slightly from the achievement gap that is contemplated, debated, and berated in national conversations about education and equity. Mastery Charter High School was established to close this more public achievement gap, and as this study will show, is making some excellent progress toward this goal. The real focus of this study, however, is on the other kinds of gaps in students’ achievement: a kind of partial engagement and satisfaction with limited achievement that can be called, for convenience’s sake, the “Dario Syndrome.” In its investigation of the evolution of the school’s academic system, which was designed to help close the achievement gap for Mastery’s urban students of color, this study reveals how the mastery system’s implementation affected not only students’ academic achievement, but also their engagement and learning.

Mastery’s academic innovations and interventions are a centerpiece of the school, unique features that the school’s designers hoped would make it successful and set it apart from other city schools filled with students who were not learning and achieving academically. This is a study of those innovations and interventions. It describes and analyzes how teachers, administrators, and students at Mastery understood and negotiated academic achievement during the school’s first five years, and how the relationships between those understandings and negotiations resulted in ongoing modifications of the school’s academic system.
Problem statement

The problem this study addresses is the limitations of one collection of academic practices and policies – the “mastery system” – to address and reverse student underachievement in an urban charter high school.¹ The mastery system, created and implemented at Mastery Charter High School, is meant to provide Mastery students with instruction, assessment, academic support, and promotion policies that effectively facilitate their achievement in school. In the years since its beginnings in seven rented rooms in North Philadelphia, Mastery Charter High School, or MCHS, has become a successful urban school, winning a national award (in 2005, the U.S. Department of Education cited MCHS as one of 15 “exemplary” charter schools in the country), and demonstrating student scores on state math, reading, and writing assessments at levels well above the district.² Its graduation rate is 98 percent, and over 90 percent of Mastery’s first two graduating classes attend a two- or four-year post secondary training program or college. The school has also grown into a nonprofit Charter Management Organization, operating the original high school (the site of this study) and, at the time of this writing, two other schools in Philadelphia.

These accomplishments are wonderful, but growth, awards and statistics do not tell the whole story. As successful as the school appears, Mastery’s academic practices and policies have not been a panacea. In fact, the mastery system may have evolved in ways which have contributed to the challenges the school continues to face, five years

¹ In this study, to help clarify what may be a confusing overlap of concept, system, and school name, the mastery system and mastery as a concept will be written lowercase to differentiate them from Mastery Charter High School. The school will be written as MCHS, or capitalized as “Mastery.”
² See Appendix A for a comparison of Mastery students’ most recent Pennsylvania State System of Assessment scores with Philadelphia district and state scores.
after its establishment: inconsistent student engagement, generally inadequate effort, and most significantly, overall superficial learning. These problems are not unique to urban high schools, and in some ways, are “nice” problems for an urban high school to have, given the tragically more common problems of physical danger, high absenteeism and students’ extreme disaffection. Still, we have to ask the questions: If the mastery system was created to close the achievement gap, what has it accomplished? What new concerns has it brought into being? Five years into the school’s existence, too many capable, involved Mastery students are still inconsistently engaged in school tasks, and too few complete their schoolwork, during class and at home. Has the system strengthened students’ tendencies to be satisfied with too little? To equate good behavior with achievement and task completion with learning?

The reasons the mastery system took the shape it did and thus, perhaps, contributed to the confusion of engagement, achievement, and learning are rooted in the school’s devotion to closing the socioeconomic achievement gaps in this country. Closing these gaps is a kind of subtext at school, an unspoken rationale underlying teaching and learning every day at Mastery. This is not to say that students and teachers at the school spend time in the classroom talking about the achievement gap, itself. MCHS teachers do not compare students’ test scores to suburban students’ scores. Goals for student achievement at school are personal and individual. And yet there is also a broader view of achievement that pervades the school, a view of Mastery as a larger project which exists to contradict expectations of academic failure among urban students. Students and teachers’ efforts at school happen in a context that is saturated with exhortations to
improve test scores, to prepare for college, to prove wrong the underachievement stereotypes about poor, urban, African American students.

Social and academic profiles of most Mastery student do fit these stereotypes. 100 percent of Mastery students live in the city, and 71 percent receive reduced or free lunch. 85 percent are African American; 10 percent are Latino, and 5 percent are Asian or White. Freshmen’s median scores on MCHS intake tests are at the 7th grade level in reading and at the 6th grade level in math (Metropolitan Achievement Tests-8). Over 10 percent of new 9th graders score at or below the 3rd grade level on Mastery’s math and reading intake assessments.

Mastery was established to help these students catch up to grade-level skill proficiencies, and in doing so, close the achievement gap between them and their (often White and Asian) counterparts in affluent suburbs. As a reform model, Mastery is best viewed in relation to past efforts that have been assayed to remedy inequities in the American public education system. In the 1950’s and 1960’s, the federal government, through well-known desegregation decisions and education acts (including the U.S. Supreme Court Brown v. Board of Education in 1954 and the Elementary and Secondary Education Act of 1965) attempted to address educational inequity and disparities in student achievement. Efforts continued through the 1970s to enforce and implement these reforms. During these years, the focus was on legislat ing changes and promising resources that required and enabled public schools to deliver equal and effective schooling to all American students (Lytle, in press). In 1983, the publication of A Nation at Risk shifted the conversation about school reform from increasing equity among American students to closing the achievement gap between American students and
students of other nations. This report said that American students needed to learn to use higher-order thinking and become scientifically and technologically literate; subsequent urban school reform efforts were characterized by research-based changes to instructional practices and school administration, as well as more decentralized school control. In the 1990's, efforts to reform urban schools took the form of comprehensive plans for organization, governance, and instruction, or whole school reform. These plans usually included redesigned curriculum and instruction aligned with standards and assessments. Some school districts reached out voluntarily to design these plans in partnerships with universities, government offices and/or businesses. Others, like Philadelphia, enacted independent whole school reform plans but ended up being taken over by the state.

Mastery’s model continues the work of the reforms described above. As an independent charter school, it has been able to harness the resources it believes will allow it to equalize educational opportunities for underserved students. Free from central control, it can provide the research-based practices it hopes will bring its students success in school.

Research Questions

The essential question for this study is how do teachers, administrators, and students at Mastery understand and negotiate academic achievement, and how has Mastery’s academic system evolved to accommodate these stakeholders’ understandings and negotiations. This two-part question suggests scrutiny of two separate processes — one, Mastery stakeholders’ sense-making, and two, the evolution of academic practices and policies at the school. Not only does this question concern itself with these two
different processes, but it also calls for review of the interaction between them. In other words, the study’s essential question asks how stakeholders’ understandings and interpretations of practices and policies at the school helped shape the academic system.

In conceptualizing this inquiry, it has been useful to break this complex question into four simpler, discrete queries:

1. What do staff and students at school believe the mastery system to be?
2. How do they enact it?
3. What do students and staff believe about achievement, motivation, engagement and learning in relation to mastery?
4. How have students’ achievements, motivations, engagement and learning changed the design and implementation of the academic program?

Preview of the study’s theoretical frameworks

Although they are explicated in greater detail in the presentation and analysis of data, it is helpful here to present the major theories and theoretical frameworks used in this study, and discuss them briefly. Mastery students’ inconsistent or incomplete academic engagement and achievement, and the school’s address of them, can be examined through any number of lenses. The theoretical lenses which have been most useful in analyzing these students’ actions come mostly from psychological studies of motivation and beliefs about achievement. These theories and this general psychological orientation were selected because the hypotheses they suggest about student performance and mastery seemed most directly useful and potentially resonant for the school’s teachers and administrators. Although the limitations of these psychological theories are
immediately evident when they are applied to students and systems at Mastery, they provide insights helpful in unpacking the mix of personal drives and institutional imperatives in play at the school, and provide a solid starting point on which to build new, practice-oriented theory.

The central organizing construct in this study is the self-determination theory of intrinsic motivation. Self-determination theory, as advanced by Deci and Ryan in their seminal *Intrinsic Motivation and Self-Determination in Human Behavior* (1985), says that people tend to be intrinsically motivated when their basic needs for competence, connectedness, and autonomy are satisfied. This theory builds on basic organismic - meta theory (which, as Deci and Ryan have explained, holds that people need to exercise volition in their daily pursuits of mastery and coherence) by identifying the three kinds of psychological drives that fuel and facilitate intrinsic motivation. Only in situations where peoples' needs for competence, connection, and autonomy are met can individuals be truly intrinsically motivated. Self-determination has become a foundational concept in motivation theory and research. It is an especially useful construct in this study because it shifts conversation about student academic motivation away from deficit models and toward a systematic understanding of what students actually need and want.

In combination with or as extensions of self-determination theory, there are other motivation theories that prove useful in this study, as well. Two of the more important ones are Ryan and Deci's (2000) theory of regulatory styles, which is used to explain why students tend to internalize and integrate extrinsic motivators to different degrees, and Little, Hawley, Henrich, and Marsland's (2002) research into the agentic self.

Agentic self theory holds that, to create agency or full human empowerment, self-
determination drives must be satisfied in combination with control of necessary material and social resources. These theories and other motivation-related concepts provide models and tools that aid in analysis of Mastery students’ achievement decisions at school.

The next major theoretical construct in this study relates to predictions for and explanations of students’ engagement in school. This construct is the 2x2 expectancy x value framework (Atkinson, 1957; Covington, 2000; Hansen, 1989; Wigfield & Eccles, 1999). This framework is a model that depicts students’ reasoning about whether or not to engage in particular academic tasks. It represents students’ academic engagement choices as intentional responses to their needs and goals. This model predicts when and if students will engage at school based on the relationships between students’ perceptions of their abilities and their perceptions of the values of the tasks at hand. The 2x2 expectancy x value framework reveals a rational calculus performed by students telling them when and whether it is worth their while to engage in school. Mastery students’ academic actions and beliefs compel the numerous variations on the 2x2 expectancy x value framework which are developed throughout the study.

There are a few concepts which are embedded in the 2x2 expectancy x value framework and model that assist in the understanding of Mastery students’ engagement decisions. First among these is Bandura’s (1997) notion of self-efficacy. The terms “self-efficacy” and “expectancy” are used interchangeably in this study to describe the “belief in one’s capacities to execute the courses of action required to manage prospective situations” (Bandura, 1995, p.2). Another theory helpful in exploring the ways Mastery students value academic tasks (the other variable in the expectancy x value framework) is
utility value, one of the three types of values included in Eccles and Wigfield's (1985) theory of subjective task values. This theory identifies the kinds of appeals and worth that different school tasks present to students, some of which students weigh as they decide whether or not to engage in school tasks. Other theories which provide insights into Mastery students' engagement decisions fall under a sort of broad, sociocultural umbrella. These theories view students' engagement decisions as negotiations; students are seen trying to reconcile conflicting identities and cultural affiliations (Ainsworth-Darnell & Downey, 1998; Boykin, 1988; Downey & Ainsworth-Darnell, 2002) and values (Mickelson, 1990; Phelan, Davidson, & Cao, 1991).

Goal theory is the main theoretical framework used to explore students' attitudes toward academic achievement and learning in this study. Goal theory addresses the two kinds of orientations students adopt toward learning in school. These two orientations, according to Ames (1992), are a performance-based orientation and a learning-based orientation. Dweck's work on self-theory (2000) has revealed the ways these different goals affects a student's feelings about learning and putting forth effort in school. Other, related theories of self-worth (Covington, 1992) and approach and avoidance goals (see Dweck, 2000) provide terms and constructs useful in analyzing students' discussions of their own behaviors in class. Instead of seeing the stances these students take toward particular classes or instructional approaches as recalcitrance or resistance to academic commitment, goal theory allows us to reframe them as reflections of students' self-images and beliefs about learning.

These ideas about motivation, supplemented with other theories about learning and the forces that shape school practices, frame this study's analysis of Mastery
students' beliefs and behaviors around engagement, achievement, and learning. They provide critical constructs and tools which serve as analytical starting points, which are then troubled and modified based on Mastery stakeholders’ belief systems and actions.

Site of the Study

Mastery Charter High School is a free, public, urban charter school serving students from all over Philadelphia. When the school opened in 2001, it began with 100 ninth graders. The school has added a class every year so that now, at capacity, it serves 420 students in grades 9-12 at its center city location. The school moved to its current site in the summer of 2002. Four years after MCHS opened, Mastery became a charter management organization which operates schools at two other city locations. This study is concerned exclusively with the center city school.

This school, referred to as “Mastery” or “MCHS” in this study, sits on a busy cross street in the city’s historic district a few blocks from the Liberty Bell, surrounded by local businesses and tourist destinations. The school building is a four-story former union headquarters which has been completely remodeled on the inside. The interior walls and floors are white with bright blocks of blue, orange, green, hot pink and yellow forming geometric patterns. Stair rails are hot pink; bathroom stalls are red. The design won the 2003 American University and Schools Magazine’s Interior Excellence award for combining innovative design ideas from the business and education worlds. There are high ceilings, exposed ductwork, and wide, central common spaces rather than long, narrow halls. Every classroom has windows overlooking tourists and workers walking
down the busy neighboring streets, as well as an interior window looking out onto the wide halls or common areas. It is bright, clean, open space.

On each of the three main classroom floors, the common area is lined with lockers and doorways to nine classrooms. Walls are lined with student work, posters printed with Mastery's logo (a swoosh-y “M” over the school’s motto, “Excellence. No Excuses,” in blue and gray), and various displays celebrating academic achievement. These range from college acceptances and recent state standardized test scores, to comparisons of high school- vs. college graduates’ lifelong earnings, to quoted reflections on the challenges and rewards of hard work.

During class times, the stairwells and open spaces are quiet and empty. Students and teachers are visible through the interior windows of the big, square classrooms. Each classroom contains blue or yellow tables in clusters or in traditional rows, depending on teachers’ preferences. About two thirds of the classrooms are bordered inside with shelves holding CPUs and flat-panel computer screens, one for each student in the class. Computers are used regularly in Humanities (a hybrid of English and social studies), Science, and Spanish classes, less frequently in Math classes.

When classes let out, students stream out to the stairwells and open areas of each of the school’s four floors, chattering, joking, flirting, and gathering in front of lockers. MCHS students are all Philadelphia residents. There are equal numbers of boys and girls. All students wear Mastery uniform shirts—white polos or dress shirts with the school’s logo, which reads “Mastery Charter—Excellence, No Excuses,” embroidered in blue and gray. Girls sport big dangling earrings and the pointy-toed shoes currently in style on city streets; boys are in black sneakers or black boots, as per the dress code. Many of the boys
wear supersize pants hanging way below their hips. Somehow, they manage to keep their oversized school shirttails tucked in just enough to satisfy the school’s dress code.

Nobody hurries too much to get to the next class, but students are generally on time.

All MCHS students enter the program as ninth graders. Consistent with charter law, MCHS does not screen its students. The school, however, has admissions requirements that may keep some students from applying: each incoming student must attend an information session with his or her parent or guardian, and must show up for an admissions interview appropriately dressed. All MCHS students and their parents sign a “Whatever It Takes” contract, which obligates them to abide by the rules of the school, and includes a non-violence agreement specifying that the student will withdraw from the school voluntarily if he or she is involved in a fight.

As students report to classes, their teachers greet them at the classroom door. Inside each brightly-painted classroom, walls are lined with student work, rules and reminders, as well as one or two white boards; one of these, mandated as common school practice, lists the date, the day’s objectives, and that night’s homework assignment. In each room is a teacher’s desk or work station, consisting of a laptop, a rolling cart or small stationary table, and an LCD projector.

Mastery’s schedule and calendar keep students in school longer every day and later in the year than traditional public schools. The school year is 192 rather than 180 days, with classes running on a modular schedule from 8:30 to 3:10 four days a week, and 8:30-12:10 on Wednesdays. Students with greater academic needs or those who have been falling behind on assignments are required to stay past 3:10 to work with teachers.
Teachers at Mastery tend to represent a range of experiences and backgrounds. The ethnic distribution has remained roughly consistent since the school began in 2001: roughly 30 percent African American, 10 percent Asian, and 60 percent White. The school has established a tradition of hiring inexperienced teachers as well as veterans. Every year, Mastery has hired one or more teachers who are brand-new to the field, and in recent years, Teach for America has placed a number of first-year teachers at Mastery. Teachers at Mastery sign one-year contracts and are not unionized. Yearly teacher turnover is about 15 percent. The pay scale at the school starts off higher than in the city public schools, but flattens over time and ultimately does not match the higher salaries offered to more experienced teachers in the district.

Site background

Much of the school's history is described in the first part of this study, but a few details about the school's origins are helpful in characterizing it here. Mastery began as "Tech High," in 2000, when Oliver Soloway, the primary founder of the school and its acting principal from 2001-2004, began planning to apply for a high school charter. Soloway was an entrepreneur who had started a successful business training young, academically under-prepared Philadelphians who had been previously unable to cope in the workforce. In the fall of 2000, Soloway brought together a task force of area business people, leaders of community-based organizations, and local educators to work on the design on a new high school that could successfully prepare city youth for higher education and work.
Some members of this task force promised financial support, supplied advice and
guidance, and eventually sat on Mastery’s Board of Directors. I joined the team in
September 2000 and began playing a key role on the task force’s design team, working
closely with Soloway to plan the school’s academic program. As a former teacher of
urban students in alternative school environments, I brought a belief in the efficacy of
formative assessment strategies, authentic learning opportunities, and in teaching that
enlisted students as active participants in their own education. Soloway’s concern was
with skill-based outcomes and establishing clear measures and practices that ensured
student success. Together, we thought we had a pretty exciting package: the marriage of
best practices pedagogy and business-world accountability.

Preparing the school’s charter application in the fall of 2000, the design team was
hopeful that this hybrid prescription would satisfy the reform imperatives that were
emerging at both civic and state levels. These imperatives were shifting; Philadelphia’s
school superintendent had just resigned and state takeover of the district was looming. To
satisfy the state, Mastery’s charter application emphasized accountability. To satisfy the
city, the charter promised to prepare students for the knowledge economy. In November
2000, the charter application was submitted to the School Reform Commission, which
consisted of both state and local representatives, and in February 2001, Mastery’s charter
was approved. At this time, Soloway’s fundraising efforts intensified. He raised
$200,000 from private donors for start-up funds. Before MCHS had enough students to
be financially self-supporting, and in order to fund the purchase and renovation of its
center city location, the school augmented the per capita funds it received from the state
with private contributions.\(^3\)

At charter schools, political support and fund raising are irrelevant unless students
succeed academically. Mastery's academic program was planned to be the critical factor
in helping its students achieve at high levels. To research effective models, members of
the design team visited local schools and small schools in Chicago and San Diego, and
attended educational technology conferences to find the latest instructional tools,
curriculum management software, and student information systems. In leased office
space downtown, the team held meetings, spoke to teachers, principals, professors,
educational program coordinators, educational software specialists, and community group
leaders to try to figure out how to enact the goals expressed rather vaguely in the school's
charter application. These goals were to: “(1) Ensure that inner-city students succeed (2)
Meet the region’s demand for high skill workers [and] (3) Demonstrate an effective
educational model” (Charter Application, 2000). In brief, the school's plan for realizing
these goals consisted of a series of integrated academic interventions. These interventions
are described and analyzed at length in Chapter 3.

Significance and contribution of study

This study's main arguments are, first, that the academic practices and policies at
Mastery Charter High School are continually shaped and challenged by student needs for
self-determination and agency. Second, this study argues that these needs pull the
academic system in directions which tend to encourage more superficial achievement and

\(^3\) The expansion of Mastery has required more outside funding.
decrease focus on actual student learning. These arguments position the study to join a number of conversations about urban school reform. First, this study hopes to inform the existing debate about charters and other small schools which have arisen in cities around the country in the past ten years, especially, as an alternative to failing public urban schools. This debate takes various forms, one of which centers around a basic question: are these schools which exist outside or at the margins of the public system providing underserved students effective educational services? This question is addressed in reports of standardized test scores (e.g., the National Assessment of Educational Progress), and in comparative analyses of charter school attendance, retention rates, and management strategies (e.g., Hill, Lake, & Celio, 2002). Reports such as these can tell us whether charter schools are helping students achieve strong test scores, but we cannot rely on these kinds of data exclusively if we want to understand whether charter and other alternative schools are effectively and equitably serving underserved students.

The other question society needs to ask about these schools is what kind of educational experience they provide for students. To answer this question, we may look to narratives of charter schools painted romantically in popular media: in PBS documentaries (e.g., “Closing the Achievement Gap: Amistad Academy”—Page, 2004), in journalists’ accounts (e.g., Jacobs, 2005), and in newspaper articles (e.g. various Philadelphia Inquirer articles on Mastery—Woodall, 2005; Woodall, 2006). These accounts usually depict charter and small schools as places where educational “magic” happens, where academic commitment and intellectual intimacy are constant and coherent. This study does not intend to deflate or spoil these pictures, to detract in any way from unique school successes, or to deny the promise and potential of small or
charter schools in general to make significant differences in individual students' lives and districts. On the contrary, it hopes to round out such pictures with the details and complexities that arise as students, teachers, and administrators negotiate and work together in these places.

This study is important because there is a dearth of critical accounts and analyses of the complex struggles that accompany student learning and institutional growth at small and charter schools. This study seeks to join the company of less-glossy accounts of schools like those depicted in Fine (1994), and schools like Monroe's (1997) Frederick M. Douglass Academy, or Perry's (2002) Aztlan Alternative High School. It seeks to dive deeply into both the advantages and the disarray of a charter as an example of whole school reform. It hopes to make a balanced contribution to the debate about charter and other alternative urban schools, revealing MCHS as a place that is, like all schools, fraught with ambiguity and trade-offs.

The second kind of contribution this study hopes to make is related to theories of student engagement and motivation, theories which have special resonance for urban students and educators. Much of the theorizing and research conducted in the past in this area has been with a mainstream student population. In the last five to ten years, the needs of urban students have brought increased urgency to the conversations about engagement and motivation, and have enlarged the discussion to include the particular needs of this population. This is not to say that urban students need to be engaged differently in school, or are engaged by different kinds of instruction. In the 2004 National Research Council's report on engagement in high school, Stipek et al. wrote, "Learning and succeeding in school requires active engagement—whether students are
rich or poor, black, brown, or white… Yet although engagement is important for all
students and all schools, the consequences of disengagement vary substantially” (p. 1).

This study explores the ways engagement matters to urban students, and finds that
it plays a critical role in closing all kinds of achievement gaps—the learning and
achievement gaps of the “Dario Syndrome,” as well as the better-known socioeconomic
achievement gap—for these students. By looking closely at Mastery students’
engagement decisions, and at Mastery’s academic practice and policies, this study
analyzes the transactions at the school between the two. It is these transactions which
enable and/or inhibit student academic achievement. Again, the insights which emerge in
this research about urban students’ engagement, achievement and learning may also have
meaning in non-urban contexts. However, it is the intention of this study to explore the
ways one reform model affected urban students’ academic decisions and
accomplishments, and how students’ decisions and accomplishments impacted the
reform model in turn.

Finally, this study hopes to contribute to the current discussion about the
achievement gap between poor urban students of color and affluent White or Asian
students. This gap has been called a “national emergency” (Fryer & Levitt, 2005), a
“major social concern” (Cohen, Garcia, Apfel, & Master, 2006), and “arguably the central
civil rights issue of our time” (A. Themstrom & S. Themstrom, 2003). National
legislation—the No Child Left Behind Act of 2001—has shaped the achievement gap
conversation powerfully. Although this act stipulates improvement in many areas, the
most notable is student test scores. This emphasis has resulted in many schools making
efforts to do whatever works to improve achievement, without paying close attention to
what Stipek et. al. (2004) have recognized as the requisite social and cognitive learning processes that inevitably accompany such improvement. In seeking to make Adequate Yearly Progress, schools are forced to adopt the same narrow view of success and embrace the marketplace imperatives embedded in current conceptions of the achievement gap and the No Child Left Behind Act.

This study does not explore the morality of these views, nor of No Child Left Behind. What it does do is trace the trajectory of the academic practices which developed in one school that values the same bottom-line performance measures as No Child Left Behind. In doing so, it explores the limitations of school practices and policies which view learning as a quantity measurable by test scores, and which equate learning with achievement. By exploring the ways Mastery practices and policies encourage student engagement, achievement and learning—but not necessarily all three, all together-- this study seeks to increase our understanding about closing the gaps between motivation and engagement, and between achievement and learning. In it, we will also explore some of the challenges and contradictions inherent in a school environment which emphasizes measurable academic outcomes over all.

**Dissertation organization**

This study is organized into four sections. The first section, “Sources and Methods,” consists of this introductory chapter and Chapter 2, which explains the background of the study and the research methods employed in conducting it. The next section is “The History of Mastery.” This is Chapter 3, which traces the establishment of and experimentation with the academic system at MCHS. It uses select episodes from the
school's first three years to identify and explore four particular forces that challenged the new academic system, and shows how these forces combined to steer the system's development. In explaining the elements of what became known as "the mastery system," this chapter reveals the seeds of the forces that continued to challenge and shape the system in future years. It is an historic case study of a new school in its first few years, relying on memory and archived documents, and is thus different in kind from the exploration of the ways Mastery students, teachers, and administrators understand and practice "mastery," which constitutes the subsequent data chapters.

The study's third section, comprise the heart of the study. Chapters 4, 5, and 6 show stakeholders "Making Meaning of Mastery." In these chapters mostly ethnographic data is presented and analyzed, showing how students, teachers, and administrators understand mastery as an academic standard, and how each set of stakeholders tended to act and react to the others' use of the system. The chapters are organized according to the three drives for self-determination, and each chapter suggests a modification of our understanding of students' calculations of expectancy and value at school. Chapter 4 shows the ways students work to achieve feelings of competence at Mastery, and how the mastery system changed to accommodate those student needs. In it, we also examine what happens to learning and achievement when students do not seek to satisfy their needs for competence at school. Chapter 5 shows the ways in which students work to achieve feelings of connectedness at Mastery. In it, we explore how this need in particular may actually undermine student achievement. Chapter 6 reflects Mastery students' pursuits of autonomy at school. Here, we explore the ways that these pursuits, in combination with the evolving mastery system's practices and policies, result in
extremely strategic, and, at times, counterproductive work habits among students. In this chapter it also becomes apparent that these pursuits, alone and in concert with students' other drives for self-determination, do not sufficiently explain the decisions students make to engage in school work. The fourth and final section is "Learning from Mastery." It consists of Chapter 7, "Findings and Implications," in which we summarize the findings of this study, discuss some implications for practice, research and theory, and policy, and suggest directions for future research.
Design Background

This study originated in the fall of 2000 when I agreed to work as a consultant for Oliver Soloway on the design on a new charter school, then called "Tech High." Tech High was conceived with the intentions of closing both the achievement gap and the digital divide between urban and suburban students. Over the next nine months, as the school took shape and I became more involved and invested in bringing the school to life, I began planning a case study of the school, intending both to help run the school as the Director of Education (essentially sharing the school directorship with Soloway), and conduct my doctoral research on its evolution as a learning institution over the first year or years of operation.

In the first years of the school, I found it difficult to define and maintain a research focus. Before the school opened, I saw my roles as school leader and researcher overlapping neatly in a study of academic success at an urban high school. I hoped to help create a school where students could be successful, and to study the ways in which they went about it. As the first two years went on and the system was modified to address students’ poor basic reading and mathematics skills (and technology was de-emphasized), I found myself spending virtually all of my time with teachers, and my study became more instruction-based. By year three, after Tech High had become High Tech High and then Mastery Charter High School, and once Mastery’s first class of juniors took the Pennsylvania state achievement tests, my primary responsibility at school became...
helping teachers integrate standardized testing preparation into curriculum and instruction. At this time I drafted new research questions around the ways standardized testing impacted teaching and learning.

Overall, the shifts in my administrative duties and the changes in the mastery system made it difficult for me to define and maintain a consistent research focus during the school’s first four years. Although practitioner research is defined by the seamless interrelations of practice and inquiry (Cochran-Smith & Lytle, 1993), I was too far inside the school’s academic program, felt too responsible for it, and was too consumed by efforts to improve it to engage in systematic practitioner inquiry into it. What felt at the time like a desperate sense of urgency to make the program better snuffed out more deliberative curiosity about new school practices which were being adopted and implemented. By 2004, however, as the school hired more leaders and I became part of a team devoted to managing the system as opposed to creating it, I had the time and the distance I needed to start to look more critically at the policies and practices that had been put in place at the school. I began to formulate new research questions-- not about how to change the school’s academic system, but about how to understand it.

A concern with understanding the system itself grew out of the question that most consistently arose at every grading period and staff meeting for the first four years of the school’s existence: Why weren’t more Mastery students achieving academically in school? The current study explores the multiple layers of this question by first looking into what students, teachers, and administrators were doing about MCHS’s attempts to become a model urban high school through the enactment of a particular series of academic interventions. It explores the establishment of the interventions, and also looks
at the ways stakeholders made sense of the academic system at Mastery. It is, in other words, a case study of the ways in which staff and students at one urban high school understand and “do” school, and the relationships between those understandings and the school’s academic practices and policies.

This study is a traditional, interpretive case study, shaped by my position at school. First and foremost, my job at Mastery has allowed me an emic, or insider’s view of staff and students’ interpretations of the school’s academic practices and policies. As a founder and school leader in the first few years of the school, I participated in almost all academic planning and program meetings, staff meetings, and over the first three years, spent time in every teacher’s classroom. My position gave me prime access to the ambiguities and complications of academic success at Mastery in its first five years, a view that was enriched because I was an insider at the school. In other ways, as noted above, my insider’s position at the school has complicated this study from its start. Not only did I have trouble sticking with a particular research agenda, but even after I distanced myself enough to “land” on a single focal point, my investment in the programs I was exploring continued to challenge me to be mindful of the ways in which I asked questions, interpreted stakeholders’ responses, and subsequently modified research instrumentation.

Strictly speaking, all researchers have personal understandings and conceptual orientations which they bring to the formulation and interpretation of their observations (Miles & Huberman, 1994). Both the pulls and the constraints of subjectivity are amplified in such a context as this, where as a researcher, I was engaged in trying to understand how others made sense of a series of programs I helped create. This
reflexivity ended up adding another layer of complexity to the emic perspective of this study, even once I cut back my hours at school, shifted my position, and achieved a level of detachment from the phenomena I was studying.

Research Design

The study took its present design in the fall of 2004. It is an ethnography of the ways Mastery staff and students have made sense of Mastery's system, enabled by my engagement with Mastery students and staff in intense, consistent, and prolonged contact in classes, meetings, and hallways. As a researcher and an employee, I spent over a thousand days at the school from 2001-2006, and was therefore well-positioned to gain an encompassing overview of its logic, arrangements and rules. I took field notes and kept a journal for some of that time, saved and filed notes from every meeting I attended and every program description or memo. In addition to these data from my consistent but informal day-to-day contact and conversations with Mastery students and staff in classes, hallways, and meetings, this study is also built on systematic data collection, consisting of data gathered via formal student, administrator, and teacher interviews and student focus groups.

This type of open access to the research setting invites grounded theory building, where stakeholders' issues are viewed primarily in relation to the contexts in which they occur (Gasson, 2003). Grounded theory building is especially appropriate for this research for three reasons. First, it provides a way to understand the complexity and variety of stakeholders’ sense-making activities as it regards the mastery system without simplifying or otherwise reducing the system. Grounded theory building helps capture
“the blooming, buzzing confusion” of social life going beneath or beyond constructs like the mastery system. While this study brings outside theory and research to bear on Mastery stakeholders’ patterns of thinking, action, and interaction, it primarily emphasizes the views of the students and staff at Mastery. It develops and stretches theory by combining original data with pre-existing categories and constructs.

Grounded theory building is also appropriate for this study because it allowed me to engage in data collection while I was still feeling my way through potential research foci. Unsure whether I was looking at student school success or at the ways Mastery staff enacted school policies, grounded theory building allowed me to remain open to emerging insights as I inquired into both phenomena. It allowed me to integrate and clarify these purposes into the most appropriate arrangement for this study.

The third reason grounded theory building is especially appropriate for this study is because grounded theory building is, overall, a reflexive process that makes “explicit the influences and inductive processes of the researcher” (Gasson, 2003, p. 80). As noted above, my close involvement with the development of Mastery’s academic system necessitates this kind of careful consideration of my relationship to the data. It also requires me to reject any approach that seeks to eliminate bias. Subjectivity is inherent in all research (Dougherty, 2002; Patton, 1987). Grounded theory building recognizes this fact, and suggests structures and protocols such as rigorous double checks and “dimensionalization” (i.e., coding interviews not only for thematic trends, but for language changes and metaphor use) in data analysis (Gasson, p. 82). The approach’s reliance on these structures is meant not to eliminate a researcher’s subjectivity, but to make that subjectivity transparent. Such an approach is particularly appropriate in this
research, where I, as the researcher, am so close to the subject under scrutiny. The decision to build grounded theory in an attempt to understand Mastery stakeholders’ actions and interactions was made as data were collected and the study took its present form. Structure came from the process of data analysis, itself, and hopefully contributed to the ultimate “catalytic authenticity” (Bryman, 2001) of this study at Mastery – that is, to its usefulness in compelling action at the school.

Given the attenuated genesis of the study, it is useful to discuss the different stages of data collection and locate them in a framework. Data collection parallels the phases of Mastery’s evolution, falling into two phases: Phase 1, where data consisted of field notes and documents describing events and practices at the school from 2001-2004, and phase 2, where data came from interviews conducted from 2004-2006. In phase 1, specific primary data sources included observation notes and program documents, supplemented by notes on focus groups conducted by outside researchers. These data form a kind of baseline picture of mastery. Although they were collected before the study took its present form, they are useful in providing historic information about the ways staff experimented with the academic system. These data also provide situated context for the second phase, where most of this study’s inquiry occurred.

Data in phase 2 also came from multiple sources. Beginning in fall 2004, I conducted 38 interviews with Mastery stakeholders, which were then supplemented with data from a student motivation survey and six related student focus groups conducted at Mastery in the spring of 2005, and which I was given permission to use. The timeline and components of both the historic and second phases of the study are depicted in Figure 1.
<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Data: Observation notes</th>
<th>Data: Documents</th>
<th>Data: Interviews, Focus groups</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>Field notes and orientation journal</td>
<td>Academic program documents, descriptions</td>
<td></td>
<td>Consent forms from students and staff</td>
</tr>
<tr>
<td>2001-2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>Field notes</td>
<td></td>
<td>Student focus groups conducted by outside researchers</td>
<td></td>
</tr>
<tr>
<td>2002-2003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-2004</td>
<td></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Phase 2</th>
<th>Data: Observation notes</th>
<th>Data: Documents</th>
<th>Data: Interviews, Focus groups</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 4</td>
<td>Field notes</td>
<td></td>
<td>--Student, staff interviews --Student 2005 motivation survey --Student 2005 focus groups</td>
<td>--Consent forms from students and staff --IRB permission for study --IRB permission to use 2005 survey and focus group data</td>
</tr>
<tr>
<td>2004-2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005-2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Research activities, 2001-2006

Data Sources

As indicated in Figure 1, the data sources for the study varied slightly within both phases of the study, and more substantially between the historic and second phases of research. In years 1-3, my intentions to engage in research resulted in inconsistent but ongoing field notes, a subjective journal kept during teacher orientation activities in August and September 2001, comprehensive document archiving, and attempts to secure
permission from Mastery stakeholders to conduct focused research with them. I later obtained IRB permission to use my own field notes and collection of program documents from this time period, which are helpful in painting a rich description of the school in its formative years. These historic data provide context for the study’s main thrust: explorations of Mastery stakeholders’ beliefs about engagement, achievement, and learning in relation to the Mastery system in 2004-2006.

These stakeholders’ beliefs emerged mostly in one-on-one interviews, which were the richest data source for the study. Purposive, rather than random sampling was used to uncover and explore the local configurations and understandings of mastery. 22 high-, middle-, and low-achieving students in grades 9-12, 12 teachers (veteran and new teachers, White teachers and teachers of color, teachers of various subject areas), three administrators from business and education backgrounds, and one board member were interviewed in an attempt to sample both within and across various school populations.

My interviewing began with older students (11th and 12th graders, at the time of our conversations) whom I knew well. These students referred me to peers whom they thought “had something to say.” Teachers were also key identifiers of additional student interviewees who would act as typical cases—students who performed at differing achievement levels, and who demonstrated various levels of attachment to the school. These teacher referrals were especially important with younger students, whom I began to know less as my role at the school changed. All 9th and 10th grade student interviewees were referred to me by teachers who knew them well. Most student interviews were individual, although in two instances, groups of two and three students spoke with me together, or sequentially with some overlap.
The sampling techniques above (known as “snowball” or “chain” sampling) were possible only with students. Having hired many of the teachers at the school, and having worked closely with all of them, I was able to use more criterion-based sampling to invite teachers to be interviewed. Teachers were chosen carefully to sample across the variables named above—race, gender, subject area, teaching experience. I interviewed Soloway, the current CEO of Mastery who was acting principal during the first three years of the school, the current principal of Mastery who was hired in 2005, and also a dean of students, so as to speak with school leaders who had differing levels of experience and views of students and the system. Finally, I chose to interview the chairman of the board of MCHS as an important source of insight into beliefs about the school’s intentions to close the achievement gap. All interviewees are listed by pseudonyms and salient characteristics, and are noted in Figure 2.
<table>
<thead>
<tr>
<th>Student (pseudonym)</th>
<th>Grade level</th>
<th>Achievement level</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Liana</td>
<td>Senior</td>
<td>Middle</td>
</tr>
<tr>
<td>(2) Jasper</td>
<td>Senior</td>
<td>Middle</td>
</tr>
<tr>
<td>(3) Lucas</td>
<td>Senior</td>
<td>Low</td>
</tr>
<tr>
<td>(4) Lauren</td>
<td>Senior</td>
<td>Middle</td>
</tr>
<tr>
<td>(5) Latrice</td>
<td>Senior</td>
<td>High</td>
</tr>
<tr>
<td>(6) Konrad</td>
<td>Junior</td>
<td>High</td>
</tr>
<tr>
<td>(7) Aneesha</td>
<td>Junior</td>
<td>High</td>
</tr>
<tr>
<td>(8) Billy</td>
<td>Junior</td>
<td>Low</td>
</tr>
<tr>
<td>(9) Joyce</td>
<td>Junior</td>
<td>High</td>
</tr>
<tr>
<td>(10) Zack</td>
<td>Junior</td>
<td>Low</td>
</tr>
<tr>
<td>(11) Tashira</td>
<td>Sophomore</td>
<td>High</td>
</tr>
<tr>
<td>(12) Elissa</td>
<td>Sophomore</td>
<td>High</td>
</tr>
<tr>
<td>(13) Soren</td>
<td>Sophomore</td>
<td>Middle</td>
</tr>
<tr>
<td>(14) Kareem</td>
<td>Sophomore</td>
<td>High</td>
</tr>
<tr>
<td>(15) Dominique</td>
<td>Sophomore</td>
<td>Middle</td>
</tr>
<tr>
<td>(16) Tarina</td>
<td>Sophomore</td>
<td>Low</td>
</tr>
<tr>
<td>(17) Aliya</td>
<td>Freshman</td>
<td>Low</td>
</tr>
<tr>
<td>(18) Anthony</td>
<td>Freshman</td>
<td>Low</td>
</tr>
<tr>
<td>(19) Howard</td>
<td>Freshman</td>
<td>Low</td>
</tr>
<tr>
<td>(20) Sabrina</td>
<td>Freshman</td>
<td>High</td>
</tr>
<tr>
<td>(21) Natalie</td>
<td>Freshman</td>
<td>Low</td>
</tr>
<tr>
<td>(22) Dante</td>
<td>Freshman</td>
<td>Middle</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Teacher (pseudonym)</th>
<th>Educational experience</th>
<th>Subject area</th>
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<tr>
<td>(1) Mr. Quinn</td>
<td>Less than 3 years</td>
<td>Science</td>
</tr>
<tr>
<td>(2) Ms. Miller</td>
<td>Less than 3 years</td>
<td>Science</td>
</tr>
<tr>
<td>(3) Ms. Reynolds</td>
<td>3-5 years</td>
<td>Science</td>
</tr>
<tr>
<td>(4) Mr. Hopper</td>
<td>More than 5 years</td>
<td>Science</td>
</tr>
<tr>
<td>(5) Mr. French</td>
<td>Less than 3 years</td>
<td>Humanities</td>
</tr>
<tr>
<td>(6) Ms. Nolan</td>
<td>3-5 years</td>
<td>Humanities</td>
</tr>
<tr>
<td>(7) Ms. Bryant</td>
<td>More than 5 years</td>
<td>Humanities</td>
</tr>
<tr>
<td>(8) Ms. Abbott</td>
<td>More than 5 years</td>
<td>Humanities</td>
</tr>
<tr>
<td>(9) Mr. Mooney</td>
<td>3-5 years</td>
<td>Math</td>
</tr>
<tr>
<td>(10) Mr. Wolf</td>
<td>More than 5 years</td>
<td>Math</td>
</tr>
<tr>
<td>(11) Ms. Wilber</td>
<td>3-5 years</td>
<td>Internship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Administrators (pseudonyms)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Mr. Ringo</td>
<td>More than 5 years</td>
</tr>
<tr>
<td>(2) Mr. Michaels</td>
<td>More than 5 years</td>
</tr>
<tr>
<td>(3) Oliver Soloway</td>
<td>Not an educator</td>
</tr>
<tr>
<td>(4) Malcolm Stillman</td>
<td>Not an educator</td>
</tr>
</tbody>
</table>

Figure 2. Study interviewees
Every Mastery stakeholder interviewed in this study was gracious, helpful, deeply and uniquely dedicated to the school and to their vision of education at Mastery. Many of these pseudonyms will be transparent to school staff and students. They are used not to obscure or silence anyone's voice, but to represent most respectfully stakeholders' hard work and commitment to the school and its students.

While collecting data, I also learned which types of instrumentation would yield the most useful information. Reviewing the program documents and field notes I had collected over the first three years of the school's operations, I sought to structure more inclusive, standardized instrumentation for the next phase of data collection. It was helpful for this purpose to regard my unit of analysis as transactions --made by students, teachers, and administrators-- with Mastery practices and policies as they existed at a particular moment in time. I could then modify data collection instruments so they would best reveal those transactions.

**Data Collection**

As noted above, data were collected sporadically during what became the historic phase of this study. Their collection actually occurred in two phases: recording, and later review and selection. After an interval of three or more years, it was necessary to subject both program documents and my personal notes to meta-analytical reads in order to synthesize content and context, and analyze the pressures and priorities experienced in recording these observations. Reviewing an "objective" document such as a spreadsheet four or five years after its creation, I had to recognize that this spreadsheet could provide me not only with the data in its rows and columns, but also tell me
something about its importance in that it was carefully saved, and sometimes annotated. Similarly, reviewing different drafts of a program description I had written compelled me to look at what was left out of the description in each iteration as well as what was included. In other words, the data I collected during this phase revealed more than their contents. They also revealed my sense of what mattered. The decisions I made to keep and annotate documents reveal me to be what Miles and Huberman (1994, p.7) have recognized all qualitative researchers to be: “essentially the main ‘measurement device’ in the study.”

This reflexivity also complicated data collection for the second, main phase of the study, although in a different way. The main complication during phase 2 interviews was my position relative to the Mastery stakeholders with whom I discussed the program. Although by 2004, when I began interviews, I was no longer any teacher’s direct supervisor, I was still a school authority. All teachers were more or less aware of the fact that I was a contributing author of the mastery system. And although students did not necessarily regard me as a disciplinarian, I was still a school administrator whom they knew had a certain amount of power. As Maxwell (1996, p. 68) says, the combination of roles I played “posed substantial risks of bias and distortion of the data, as well as unique opportunities for understanding” attitudes toward and implementation of the mastery system.

Rather than deny my dual role and the sense of ownership or power my interview subjects may have ascribed to me, I tried to recognize the unique dynamics of each interview, and use my intimacy with Mastery staff and students to increase the depth of our conversations. I met with teachers and administrators over lunch and after school.
—campus if possible. After securing permission from their teachers, I met with students in empty classrooms or meeting rooms, or at the mall food court across from school. I tried to make our conversations as comfortable and open as possible. Each interview began with an assurance of anonymity, and a promise not to reveal information to a student’s teachers, or to the teacher’s supervisor. With a tape recorder running and an interview schedule off to the side (see Appendix B), I tried to keep the conversation as natural as possible. I began each interview announcing that I was taking a stance of inquiry, myself, regarding the mastery system, so the conversation might proceed as a mutual exploration rather than a defense. I phrased my intentions with students as “learning about the school in the ways that students really see it,” and with teachers as “getting inside the system so I could learn where it fits your practice, and where you strain against it.”

By trying to voice my agenda candidly, I did not think I was negating or rendering moot my relationships to the issues or to the interviewees. As Kvale (1988) noted, it is not possible to cleanse the data of an interview subject’s relationship to the interviewer. Instead, I tried to establish a sense of mutuality at the start of every conversation, a sense of data as co-constructed. As I became aware that students’ responses to my questions about academic performance varied according to whether they were alone with me or in groups with peers, I began to shift the way I phrased questions and to read students’ responses, as grounded theory suggests, with a heightened awareness of student self-consciousness and attention to particular language use. That is, whereas I might ask a student in a one-on-one situation to tell me about how she uses her time in school to work on assignments, in a group I would be more likely to make the question less personal, asking only how much time students think a typical tenth grader
should spend on homework every night. In analyzing student responses, I tried to use my relationships with and knowledge of students to help me look at the ways they shifted the subjects of their sentences, from the generic “some people” to the more revealing “I.”

Other steps were taken to address the issues of relationship and bias during data collection, as well. After most interviews, I shared a transcription of our conversation with the interviewee, asking for comments, questions, corrections, and/or clarifications. These “member checks” were instituted not only to help stakeholders feel empowered and in control of their own words, but to create “educative authenticity” — that is, to make sure I heard what the interviewee meant to say, and to insure that the data could be authentically educative (Bryman, 2001). The need to transcribe promptly also compelled me to engage in ongoing data analysis.

This, in turn, allowed me to revise my instrumentation in ways that facilitated more effective data collection. I modified interview questions so that I could ask new interviewees to speak more expansively about trends which had emerged in preliminary data analysis, and also began including two new components in student interviews: a checklist, and an assignment review. The checklist consisted of key mastery system components; I asked students to check off the three that they thought helped them most in their efforts to earn grades of M at school (see Appendix C). The other addition to student interviews, the assignment review, yielded some of the most rich data in student interviews: I asked students to show me a paper or test on which they had gotten a grade of M, tell me how they had achieved their mastery in that assignment, and then tell me what the M meant.
Data analysis

Data analysis went through a few overlapping stages. Whenever possible, and particularly when I had had what felt like a striking interview, I would write up field notes to provide context and any outstanding features I wanted to remember later, in more thorough analysis. I did not always make these notes. Only three teacher interviews and seven student interviews are accompanied by such field notes. With all interviews, I transcribed as quickly as I could, and then engaged in preliminary, multiple read-throughs of the transcripts. During this exploratory phase (Ryan & Bernard, 2003) of data analysis I noted general trends in interview data, only.

Next, I imported all interviews into qualitative analysis software (ATLAS.ti Visual Qualitative Data), and used generative, open coding as recommended by Dougherty (2002) and Miles and Huberman (1994) to label these general trends. From this first systematic analysis, I began to generate a few hypotheses about Mastery students’ understandings of what it means to achieve or earn mastery at school. From these, I created a basic engagement framework, based on a simple typology used by Stipek et.al. (2004) in the National Research Council’s 2004 report on high school student engagement. This framework, which shows two basic types of engagement, is presented in Figure 3.
BEHAVIORAL ENGAGEMENT
“Doing school”

- Attendance (being present)
- Physical compliance (rules, no violence, dress code)
- Attention in class (awake, feet off desk, proper books)

COGNITIVE ENGAGEMENT
“Learning”

- Attempting assignments
- Staying for extra help
- Thinking and applying knowledge
- Intellectual mastery

Figure 3. Basic engagement framework

I took this framework to school and got some informal feedback from teachers and administrators on its consistency with their observations and experiences. I asked them whether it accurately captured the ways that Mastery students engaged at school. Their suggestions and questions allowed me to refine the framework. It did seem appropriate to arrange the categories of engagement in some type of hierarchical continuum, but the existing model did not seem adequately to capture the reasons for engagement, or relationships among categories. Using the framework’s analytic categories, as I continued to sift through data, I noticed repeated phrases, differences and similarities between subgroups of students and teachers, and common themes and expressions emerging from the data. I also used the ancillary “notes” function of the software to qualify the interviews where I felt my relationships with interviewed stakeholders might call for additional scrutiny. For instance, if I thought that Soloway’s discussion of the school’s first academic support programs was particularly gentle, and believed that perhaps he might have characterized them in this way because he did not want to lay blame on me for our initial missteps, I added this information to his interview.
in ancillary notes. These notes reminded me to recode or experiment with alternative readings of his interview.

These member checks and more rigorous readings allowed me to generate new, selective codes (Dougherty, 2002; Miles & Huberman, 1994) to use in sorting through and understanding stakeholders’ overarching views of mastery. Using the qualitative software, I next applied this selective coding to all interview data, using an interviewee’s original language whenever possible to characterize a code in an attempt to preserve its original spirit. For instance, because one or two students said, explicitly, that “mastery means doing,” I used these exact words to name a classification code, rather than recast this expression in more technical or formal language (i.e., “mastery indicates an integrated regulatory style”). At this stage, I began drafting analytical memos, which also helped clarify my thinking and allowed me to understand that I was looking not so much at academic success per se, but at nuanced definitions of student engagement and student achievement.

Once I had a clearer idea of what I was looking at and looking for, I entered all phase 2 field notes, including my summary notes from the June 2005 student motivation survey focus groups, into the software database using the same classifications with which I coded interviews. I also read through all archived documents using the basic engagement framework as an organizing and coding tool, noting in these historic documents the seeds of future trends in student engagement and conceptualizing student achievement. Next, using the auto coding tool functions of the software, I categorized the double-coded interviews and field notes into overarching supersets of categories, or families. With this data reduction, I was able to quantify and analyze quotations within
and among families. I began to make generalizations and also trouble these generalizations with disconfirming data.

At several stages in this process, I faced doubts and methodological concerns. Although I had a manageable number of interviews, I had such a wealth of other data collected over five years that I feared that in trying to focus, I might lose too many instructive stories. Also, as my later interviews were much more sharply focused than my earlier interviews, I feared that my selective codes showed up more or less frequently in them not because these stakeholders felt differently about mastery, but because I had guided the conversation in different directions.

I tried to correct for these fears by sharing more of my initial hypotheses and observed trends with Mastery teachers and administrators, but because of their commitments and responsibilities at school, I was unable to do this in any consistent way. I did share a playful graphic of an early “read” of student engagement with Mastery students whom I had interviewed (see Appendix D). All students to whom I showed this cartoon laughingly told me it was accurate. Although this does not count as a legitimate member check, it did make me feel like I might be heading in the right direction regarding achievement at Mastery.

I tried to have more substantive conversations with Mastery stakeholders about my initial analytical directions, but students and staff at Mastery are always so busy that I loathed asking them for more of their time. I was lucky enough to be able to participate in and use notes from the above-mentioned June 2005 student motivation survey focus groups to triangulate this study’s student motivation data. In these focus groups, small numbers (5-12) of students met with me and one other Mastery teacher or administrator.
The motivation focus groups were requested by Mastery students who wanted a chance to talk about the policies and practices as school that affected their motivation. Later, I assisted one Mastery teacher and the onsite coordinate of the study, a Mastery administrator, in analyzing the motivation study's findings. This was useful not just because it allowed me to cross-check data, but also because it allowed me to think with Mastery colleagues about students' school performances and attitudes about working in school. This fortuitous collaboration was welcome in this study which began as an exploration of a shared commitment to creating a school that effectively educates urban students, and which, over the next five years, was shaped and reshaped by the pressures of that commitment.

Writing

Writing the story of the ways Mastery has evolved over the last five years has given me a great opportunity to make sense of a collection of challenges, frustrations, decisions, and trade-offs that has had enormous personal meaning for me. One reason this is true is because, of course, I was one of the people at Mastery addressing those challenges, facing those frustrations, making those decisions, and living with those trade-offs. Looking into the story of Mastery's development as an effective educational environment for urban students has thus also given me an opportunity to look at my own development as an urban educator. My convictions about what urban education needs to look like have developed in some surprising ways.

I was torn, frequently, in writing this dissertation, about whether to include details about the school's struggles and development which did not speak directly to the
argument I was constructing. This is not to say that I was ambivalent about including disconfirming evidence if it contradicted the case I was constructing. On the contrary; in this interpretive study, it has been the disconfirming data that has most often provided me with a new way of looking at events and trends I had been facing and trying to understand for years. In some ways, this whole study – of the gaps and spaces in a successful school’s academic program--is built on disconfirming evidence of that success. The details that do not speak directly to the central argument of this study include the school’s efforts to establish a strong social emotional learning program, and evolving school traditions and initiatives such as “Exhibition Night” and “Guardian Angel.” Aspects of school culture such as these kept popping up in my efforts to contextualize this study’s findings. It has been hard not to include details like these, threads from the fabric of school life as a whole. In an attempt to stay focused on the meanings of academic mastery, I ended up cutting just about all of these details. The resultant study may fairly represent the evolution of the mastery system, but without these other details, it is far too partial to be read as the story of Mastery, itself.

Another issue that presented itself during writing was the variability of Mastery students’ use of African American Vernacular English. Transcriptions of student interviews reproduce students’ language usages exactly. While transcribing, I failed to notice the varying uses of AAVE and Standard English in students’ comments. However, after quoting various students in data chapters, and then reading over their testimony as it was featured in data chapters, I was somewhat disturbed by the juxtapositions of AAVE and Standard English. When appearing immediately after quoted AAVE language, students’ comments in more standard forms may appear to some readers as more
authoritative. On the other hand, when comments dense with AAVE appear after quotations of more Standard English, these might be interpreted both on the basis of what is said and how it is said. I wanted the content of these comments to shine unobscured by language choices, and thought about changing some of the more AAVE-rich passages. In the end I did not make any changes to any students’ texts. I left all AAVE and other variations intact and hope that readers will not be thrown by the range of ways different Mastery students express themselves.

As I have written up this study, students’ language choices, as well as the everyday details of the school that lurk within every transcript and document have been sharp reminders of daily life at Mastery, from which I pulled away in order to finish writing. Pulling away gave me distance which allowed me to focus on writing. It also allowed me to dive more deeply into analysis and discovery than I might of had I still been engaged in daily work at Mastery. It gave me a new perspective which has also allowed me to appreciate the great distance the school has come since its beginnings in the fall of 2001. It is to these beginnings that the next chapter turns.
SECTION 2: THE HISTORY OF MASTERY

CHAPTER THREE

MASTERY SYSTEM ESTABLISHMENT AND EXPERIMENTATION

In the early days, I don’t think the narrative of mastery was clear enough to any of us to talk clearly to kids about it. For it to be explained in any way to make sense to kids. In meetings, we would say, ‘Well, what is mastery?’ And someone would come out with this very articulate description, and then somebody else would jump up and say, ‘Really? That is it? Cause that’s not what I’m doing.’”

Mr. Hopper, Mastery instructor (11.29.05)

In this chapter we review the ways particular academic policies and practices evolved over the first three years at Mastery Charter High School. We explore the assumptions and belief systems underlying the policies and practices, and see the ways in which parts of the academic system were challenged and at times transformed by four kinds of forces. Using archived documents and field notes written during the school’s first, second, and third years, this chapter presents a baseline description of Mastery’s academic system in its formative years, a selective, chronological narrative showing how the system was strained and reshaped from 2001-2004. Its historical account sets the stage for the primary focus of this study: analysis of the more mature system in the school’s fourth and fifth years of operation (2004-2005 and 2005-2006), which follows in chapters 4, 5, and 6.

Before Mastery Charter High School opened in 2001, the school’s charter application, program outlines, and teacher guidelines made evident its theory of action: maintaining high standards, prioritizing social and emotional learning, and creating
opportunities for active learning would result in strong student academic achievement. The school’s design team created a set of interwoven practices around assessment, teaching, and promotion -- the “mastery system”-- to help bring this theory of action to life. The mastery system was the centerpiece of the school’s reforms which were established to increase Mastery students’ academic achievement.

Terminology: The mastery system

“Mastery” as a concept and a construct has had multiple official meanings and uses at MCHS, just as it has multiple meanings and uses among stakeholders interviewed in this study. When the school opened, the term “mastery” referred simultaneously to a mostly undefined but high standard of learning, to the grade signifying that this high level had been achieved, and to the collection of academic interventions and policies created to help students reach this standard and earn this grade. In the first section of this chapter, the origins and constituent parts of the mastery system are described. Within these descriptions, we also begin to unwrap the multiple meanings of “mastery,” a foggy but weighty notion embraced by the school’s stakeholders in the school’s early years.

The original mastery system was crafted during planning meetings held by the school’s design team from October 2000- July 2001, and was refined thereafter by the school’s leadership team and teachers during the school’s opening months. Although its name and some of its more positivistic practices suggests a relationship with Bloom’s (1971; 1980) program of Mastery Learning, no one at MCHS has ever mentioned knowing anything about Bloom’s Mastery Learning. Leadership had no knowledge of the program, and no teacher ever made reference to it in meetings or conversations from
2001-2003. The mastery system that took shape before and as the school opened had its roots in the leadership team’s varied experiences in and out of schools. It was a homemade series of interventions intended to maximize student learning and academic achievement.

There were seven key elements of the mastery system. The first was high standards. What would set the school apart from other schools was that its students would meet high standards in every assignment and course. These were called, simply, mastery standards. Given the importance of and frequency with which the term mastery was used, it might be expected that “mastery” as a learning and/or achievement standard was painstakingly defined and explicated by leadership and teachers at the school. As this chapter shows, it was not. While Mastery stakeholders were united in declaring that “mastery” was the goal of every learning event and assignment at school, they used the term sometimes to mean that students had demonstrated learning of great depth and scope, and sometimes to indicate that students had satisfactorily completed stated requirements.

The next defining component of the mastery system was individual instructional pacing that allowed students of varying skill levels to complete lessons at their own speed. This part of the system was designed to allow highly-skilled students to move through assignments and material quickly, in order to progress to the next set of tasks or the next academic course. Lower-skilled students could likewise take the time they needed to master requisite skills, moving through tasks and courses more slowly, but also performing, eventually, at high levels. If necessary, students could stay at MCHS for a fifth year, to ensure that they graduated with all necessary skills and competencies. In
their classes, students of all skill levels could thus be fully and appropriately engaged. Because these activities would happen in a single classroom, mastery instruction also implied differentiated instruction and heterogeneous student grouping.

A third critical element of the mastery system was extended instructional support. All students who struggled with an assignment, or whose skills were so advanced that they might want to take more time to complete work to “advanced mastery” levels, would get ongoing tutoring and academic support from Mastery teachers, after class and after school. Closely tied to this element were the mastery system’s assessment and promotion practices, the next critical components of the system. These practices consisted, essentially, of a pass (mastery)/fail (incomplete) system and requirements to repeat all incompletely mastered courses. These requirements were established to furnish all students with the necessary time and opportunities they needed to complete every task to mastery standards, and to ensure that no students would be passed through coursework unless they were ready and able to go on to more advanced work.

Closely tied to mastery grading and promotion was revision, the fifth element of the mastery system. Originally, Mastery students had to revise every assignment until it reached mastery standards, and retake every test until they demonstrated mastery of required skills and content. Revision is what would enable all work eventually to meet high standards, earning students grades of mastery and allowing them to progress to the next assignment or course.

The sixth element of the original mastery system related to curriculum and pedagogy: Instruction would center on series of prescribed, active, hands-on activities. In the mastery system, teachers would design differentiated instruction to guide students of
varying skill levels and abilities in completing these projects and activities. Curriculum and instruction would emphasize both traditional academic skills and broader, personal and interpersonal skills.

The last defining feature of the mastery system as it was established and practiced in its first few years of operation was transparency, as regards both instruction and assessment. This feature was imported from the business-world strategy of Total Quality Management. Classroom activities would be organized so that students would know the objectives of each lesson, and mastery grading would allow all stakeholders—students, parents, teachers, and administrators—to understand how a student’s work was being evaluated. Transparency would also allow for Continuous Quality Improvement, another business value, and thus facilitate best-practice sharing.

Mastery staff and board members hoped that this system would result in a model learning environment where all students could learn and achieve. Mastery board members and school leadership also hoped that these practices and policies would be effective in closing the achievement gap between urban and suburban students. As the following chapters will show, most students at Mastery do learn and achieve. The school may be narrowing the achievement gap for its students, as well. In neither the overall study nor this particular chapter do we assert, however, that student achievement has improved as a result of the mastery system. Instead, what becomes clear in this chapter are the forces and drives which consistently trumped the innovations of the mastery system over the first three years of the school. Until the system resolved the tensions which resulted from these forces, it could not effectively address student achievement. The four forces with which the new system had to contend were limited institutional capacity and the stresses
of starting a new school, stakeholders’ more traditional notions of the way high school
should look and feel, an intense sense of urgency around raising student achievement,
and students’ needs to control their own actions and activities in school.

Limited institutional capacity and start-up challenges

One thing I have an appreciation for that I never had before we started is how
hard it is to run a high school. I try to get people who run other businesses to
understand: Running a school is a bear. You have to have so many systems that
need to work really well. And if any one of them screws up, it will bring the rest
of it down. Oliver Soloway (2.13.05)

The first kinds of forces exerting pressure on the original mastery system might
best be labeled generically as “start-up problems.” These problems shifted often, but most
often appeared to be attributable to staff inexperience. Mastery leaders were new to
school leadership, and consistently underestimated how much time and effort were
required to get new programs off the ground. For whole-school reform programs to work,
significant time must be devoted to thorough clarification, training, and following up on
key program elements (Berends, Bodilly, & Kirby, 2002; Yap, Aldersebaes, Railsback,
Shaughnessy, & Speth, 2000)—but insufficient time was devoted at Mastery to training
teachers to understand and implement most aspects of the mastery system. In addition,
over the first few years of Mastery’s existence, the logistical impacts of the mastery
system on instruction, record keeping, and scheduling at times simply overwhelmed
teachers and administrators. Getting a new school off the ground is challenging enough
without also trying to institute a complicated and unorthodox academic system, but that is
what was attempted at Mastery. As Soloway put it four years later, “We did two things
concurrently, which made both things dirty: We started a school, with all the normal struggles, and we started a new system” (2.13.05). Not only did both things get “dirty,” but in competing for Mastery leadership’s time and attention, practical concerns – such as making sure students had class schedules, lunch, and were safe in school-- tended to trump professional training.

**Mastery as a learning standard**

As noted above, mastery refers to many things, but one of its most common usages is as a proxy for high academic standards. The shortcomings and missteps made during Mastery’s first years in relation to implementing mastery as a learning standard can be traced directly to the inexperience of MCHS’s staff. As originally conceived by the design team, mastery referred to a particular level of expertise that would demonstrate students’ understanding and readiness for advancement. That MCHS students would achieve these levels of mastery was supposedly what would set the school apart from low-performing area high schools. Although there was no written definition of it as a learning standard anywhere at the school until 2004, mastery was the central organizing construct of the school’s academic program—so central that, when the school changed its name in 2003, it changed it to Mastery Charter High School. Teachers, students, and administrators at MCHS in the first two years showed great inconsistencies in understanding, interpreting and implementing mastery as an effective learning standard or level of accomplishment.

The mastery system had been designed in the spring and summer of 2001 by a school design team consisting of Oliver Soloway, six academic program consultants with
urban teaching experience, a school psychologist, and me. When the school opened in September 2001, the only members of the design team who stayed on were Soloway, the school psychologist, and myself. As “Director of Education,” I was in charge of teaching and learning. In this chapter, concerned with the school’s academic context, the phrase “leadership team” refers to Soloway and myself.

To explicate the mastery system to the first cohort of Mastery teachers, we, the leadership team, prepared a 240-page guide which, while it did not define mastery per se, did state explicitly that every student will “…Be assessed …on the extent to which they have achieved mastery of a series of standards and competencies that have been determined to be necessary for their success in higher education and the business world” (Mastery Teacher Guide, 2001, p. 8:1). This is the only reference the guide makes to a general standard of learning or achievement. Evident in the guide’s language is a sense of the learning process as linear, a belief that learning consists of gaining understanding of one thing after another. In setting up the system in this way, Soloway and I did not recognize the challenges of using what is essentially a pass/fall system to assess the iterative and overlapping stages of learning (Martens & Witt, 2004). Instead, we and the other school program designers had conceptualized mastery as an all-or-nothing state. Student work would show that students either reached mastery, or that they had not yet. This was an especially risky judgment given both the lack of specificity in mastery’s descriptions and the unexamined assumptions embedded in the system’s early conceptualization. This lack of specificity and these assumptions were revealed when the first team of Mastery teachers and administrators tried to define mastery as a coherent
learning standard at teacher orientation in August 2001. At these sessions, a combination of administrative and teacher inexperience hobbled their efforts.

Staff met at the rented office space on North Broad Street that housed Mastery Charter High School (or High Tech High, as the school was then known) in its first year: seven rooms filled with furniture from IKEA, white boards, and standard-issue chrome-and-blue-plastic school chairs. At teacher orientation, Mastery staff tackled the first basic belief inherent in the school's notion of mastery as a learning standard: All students can achieve at a high level. In doing so, they revealed a related assumption inherent in the mastery system—that all Mastery teachers would be able to recognize learning and assess it fairly.

In the long afternoons of teacher orientation, MCHS's seven teachers and four administrators sat in a circle and tried to flesh out notions of a mastery standard more specific than vague ideas of "doing a good job" on a series of tasks. Teachers in the three core subject teams—Math, Humanities, and Science—met separately and attempted to create rubrics that would define mastery standards in each subject area. Their struggles were the first sign at MCHS that gauging and viewing academic mastery as an actionable and measurable learning goal, as opposed to an abstract theoretical construct, would not be as simple as everyone agreeing on high standards. Teams, bent over chart paper in the common room, spent two days generating rubric after rubric, none of which satisfied the group as a whole.

There was disagreement on how to balance mastery of overarching skills (i.e., knowing how to write well) with mastery of subject-specific skills (i.e., knowing how to write a persuasive essay). There was disagreement as to whether the same rubric would
serve students with and without special needs. There was disagreement as to whether rubrics should describe novice learning (i.e., how to use a particular, taught skill to solve a problem) or expert performance (i.e., how to retrieve and apply relevant skill sets—Bransford, et. al. 1999; Ericsson & Charness, 1994). These controversies reveal a problem associated with many other start-up schools (Tough, 2006): Every one of Mastery’s seven teachers was either new to teaching entirely, or new to teaching high school. They were unable both to estimate the medial objectives appropriate for ninth-grade students a quarter of the way through to graduation, and to anticipate which aspects of the discipline would be especially difficult for students to master. Such knowledge is necessary for effective assessment, as well as for effective teaching, and as Shulman (1987) has written, requires both content knowledge (i.e., an understanding of a subject such as Math, English, Social Studies, or Science), and pedagogical content knowledge (i.e., how to teach that subject).

Problems with rubrics also exposed a basic problem with mastery as a standard: while it was undefined, it was also absolute. Traditional grading approaches allow a teacher to assess progress toward skill mastery. Mastery standards, on the other hand, made assessment an all-or-nothing evaluation, and are thus difficult to reconcile with basic learning theories about developing competencies (Bransford et. al, 1999; Erickson & Charness, 1994; Parziale & Fischer, 1998). At teacher orientation, this resulted in confusion over the rubric’s purposes, and in a lack of consensus around whether a grade of M could both define an ultimate standard and measure progress toward it.

Furthermore, as teacher orientation notes make clear, the leadership team had not yet figured out how to lead effectively. This, too, was a reason that mastery as a standard
did not get defined during teacher orientation. The two leaders of the school differed in their basic understandings of learning and assessment, and in educational experience. Soloway, with no education background or experience with younger learners, wanted clarity but deferred to the teachers and to me as these discussions went on during orientation. My experience teaching in alternative and public schools left me with a strong belief in collective decision-making and a prejudice against hierarchical school arrangements. In a journal I kept at this time, I note my “unwilling[ness] to dominate teachers” (orientation journal, 8.29.01). Mastery teachers received simultaneous messages from this leadership team that they had to articulate a single, simple definition of mastery, and that it was it was OK to embrace and use multiple understandings of the term. In addition, Soloway and I had not created clear implementation practices, and had underestimated the training and time it would take to establish a common understanding of mastery as an achievement or learning standard.

After the “rubric debacle” (orientation journal, 8.29.01), there was a pressing sense of need around preparing for the first day of school, and instead of stopping and resolving the controversy, Soloway and I chose instead to use the rest of teacher orientation to discuss with teachers ways to respond to students’ social and academic needs, rather than get caught up defining a “Hypothetical standard of excellence...[ It made more] sense to trust teachers... to rely... on intuitive and holistic standards” of achievement, and believe that, with students’ arrival, whatever parts of mastery as a standard were unclear would become clear (field notes, 9.6.01). Because of the felt needs on the part of leadership to appear both collaborative and expert around assessment and academic standards, and because there were so many other preparations to make during
Mastery’s purpose

For some of the same reasons that mastery as a learning standard was never defined, the staff also never came to consensus on the school’s philosophical purpose during teacher orientation 2001. This is significant because efforts to talk about the school’s larger purpose and mission exposed the diverse values and assumptions in the staff’s understandings of student achievement. Pointed questions arose during discussions of the school’s purpose: Would MCHS educate students to understand and develop their own abilities, whatever they were, or gain only certain specified skills, as described in the charter application? Some staff said they wanted to produce graduates who had “a high sense of self and purpose,” were “critical thinkers,” and “change agents”; others wanted to see graduates who were “good time managers,” who were “able to compete,” “leave the streets behind” and live in “an upper-class district” (field notes, 8.15.01).

Similar reflections of more progressive and traditional viewpoints emerged when it came time to articulate the school’s mission. While brainstorming mission statements, some staff used the language of education for social change, while others indicated values more consistent with full participation in capitalist culture. The list of proposed school missions included suggestions as diverse as “to enrich students intellectually, spiritually, and socially, to become critical producers of culture, [and] to prepare students to thrive in the information-based economy” (field notes, 8.15.01). Some of these visions address and echo various articulations of critical pedagogy: Education is for personal and social transformation (Dewey, 1916/1997; Freire, 1970/1993; hooks, 1994), for the inculcation
and reproduction of existing social values (Bourdieu & Passeron, 1977), for critical
examination of society (Apple, 1979/1990). Some also represent a more traditional view
of the purpose of education—namely, that schools exist to prepare students for the world
of work (Cubberly, 1934). Staff who espouse the latter view recognize the economic
pressures which currently characterize it. Schools need to produce a “highly educated
population [if] Americans are to be secure, healthy, and gainfully employed” in the 21st
century (Callan, 2004). These differing notions map onto very different ideas about
mastery as a standard. Should a student be said to have achieved mastery when he or she
can interrogate a concept? Or when he or she can provide a generally-accepted correct
response when asked? Or both? Staff seemed divided not only about defining mastery as
a learning standard, but also about understanding it as a means to a larger purpose.

While such differences are often found in large “shopping mall high schools”
(Powell, Farrer, & Cohen, 1985), it is more common to find clear unity of purpose in a
small school like MCHS (Barker & Gump, 1964; Goodlad, 1984; Sergiovanni, 1995).
Still, the differences that emerged in these discussions at Mastery produced little overt
tension among staff during orientation. The general feeling was that the school would be
able to “do it all”—and that as long as students learned and achieved, they would be
ready for the world, in whatever ways they chose. Even before school started, these
conversations about Mastery’s purpose, in combination with efforts to define mastery as
a learning standard, reveal unresolved conflicts and gaps in the new school’s academic
constitution.
Mastery instruction

The mastery system’s instructional specifications included practices such as heterogeneous student grouping and differentiated instruction. These practices were set up expressly to enable and encourage student achievement. Still, they bumped up against teachers’ needs, expectations, and levels of pedagogical expertise repeatedly in the opening months of the school. Teachers’ difficulties in implementing these practices reveal, again, how hard it is to initiate ambitious interventions in a school where everything, including a majority of the teachers, is new.

When MCHS’s first students, 100 ninth graders, entered MCHS on September 10, 2001, they tested, on average, three years below grade level in math and two years below in reading. Individual student skills ranged from 2nd to 12th grade levels. This wide range of skills was the first test of the mastery system’s instructional practices. Would teachers be able to use the mastery system to create engaging instruction that could successfully serve students of such disparate skills? Would teachers be able to use the mastery system to evaluate and motivate students of such varying levels of achievement and ability? The answer was, quickly and decisively, no. Extreme skill variances posed insurmountable challenges for teachers. Soloway, reflecting four years later, remembers “Weeks 2-8 of the first year [as]...

the ‘Holy Shit’ time -- we were like, how in the world could a kid operating at the 2nd grade level get anything done in the same room with someone working at the 10th grade level? And how could a teacher address these widely varying standards in the same class? (2.13.05)

Notes from a class during the second week of school illustrate how difficult it was for one Mastery teacher to address students’ widely varying skills, and the ways in which
the mastery system complicated and hobbled his efforts to instruct and assess students. At this time, one of my responsibilities was to support and supervise teachers. One morning, I was in this teacher’s Humanities classroom, observing. The class had been working on “point of view” and was reading a short text. Students had copies of the text and had been asked to highlight the sections that showed the speaker’s feelings. After students were asked to read to themselves, the teacher read the selection out loud.

I walked around during his reading, and saw that only six of the 20 students — these were students with reading levels at or above ninth grade -- had highlighted even remotely appropriate lines. I saw that five more were highlighting key details in the reading, none of which had anything to do with the speaker’s feelings. The other students in the class, those with lower reading levels (one of whom told me the assignment is to “color in the lines that the teacher is saying”), were highlighting every line, or were completely off-task. Later that day, debriefing after the lesson, the teacher told me that he decided to give grades of mastery to every student who participated in class that day (classroom observation notes, 9.20.01).

These students were trying to comply with what they understood to be the activity’s and the teacher’s demands. It is impossible to tell what they understood, what skills they were practicing, and which of these students, if any, were learning. For any number of reasons, including impossibly wide reading skill variances and poor pedagogical choices, the assignment and the assessment were unworkable, and the teacher was left with student performances that were essentially opaque. He could assess only whether students were making an effort, not what or whether they were learning.
This brief scene illustrates some of the difficulties faced by teachers working with students of widely varying skills, and in trying to use the mastery system to assess these skills. It is possible to design scaffolded and appropriately differentiated instruction that presents students with carefully sequenced tasks, tasks that challenge but do not overwhelm students of differing skill levels (see Martens & Witt, 2004; also Csikszentmihalyi, 1993; Vygotsky, 1930/2006). While such pedagogy may allow teachers to resolve the tension between rewarding incremental progress and achieving a set standard, it neglects the fact that not all teachers can design and sequence the kind of instruction that will serve students performing at both novice and expert levels of performance. Given the inexperience of Mastery teachers and the inadequacy of their professional development at school, it was misguided for Mastery leadership to expect all MCHS teachers would be able to create such instruction. And again, exacerbating this challenge was the need to assess these performances using mastery standards that were still largely undefined.

In the third week of school, class rosters were shuffled and students were grouped more homogeneously by skill level. Core subject courses were arranged in groups of students operating at levels below 4th grade, between 4th-6th grade, and at 7th grade and above. This change was seen as a necessity by the leadership team, who realized that giving teachers the appropriate amounts of support necessary to enable them to design appropriately differentiated, active instruction successfully was perhaps impossible and, in the opening months of school, not a worthwhile way to spend precious time. Teachers, who had been opposed to leveling before the school opened, admitted that they needed at least a narrower range of skills in the classroom if they were going to teach effectively.
Students told staff they recognized that they were being put into the “smart, middle or dumb” classes, and the traditional practice of leveling was instituted. As future sections will show, however, leveling did not end the challenges of differentiating instruction. Teachers’ difficulties in implementing mastery instruction and administrators’ decisions to do what was easiest to fix the problem reveal both groups’ limitations, and also a pattern that would be repeated again and again as different forces exerted pressure on the system.

Real school

For real for real, it’s just As, Bs, Cs, and I am not an A student.
Student in motivation survey follow-up focus group (6.05)

The second powerful force that challenged the mastery system’s original innovations was students’ and teachers’ needs for familiar forms and structures at school. These familiar forms and structures have been called the “grammar of real school” (Tyack & Cuban, 1995), and include the core practices that most schools share—everything from traditional course subjects to the periodic issuing of report cards. At MCHS, the forces of real school arose especially in response to academic support programs and mastery grading. Both Mastery students and teachers during years 1-3 appeared to default to conventional expectations and habits as regards academic support and grading, even when mastery system innovations might have increased student learning and academic achievement. As the first months and years passed, the system changed to accommodate majority Mastery students’ beliefs about working in school, and some Mastery teachers’ needs around grading and instruction, as well.
Academic supports for mastery

Some of the more unorthodox features of the mastery system were the practices and policies that provided support for all students to reach high standards of learning. Of these practices and policies, mastery system initiatives related to revision and after-school tutoring were particularly out of line with students’ expectations about the ways they should work in school, how hard and how long. Students’ resistance to these practices and policies was so complete that it brought about the first substantive change to the mastery system.

Evidence of the poor fit between these features of the mastery system and students’ and teachers’ actual skill levels and expectations was apparent in another class observed in the opening months of school, a Physical Science class. Here, a new teacher’s inexperience exposed the weak appeal of the mastery system’s options for individualized learning support. Offering students more time to do good work may have made sense to the mastery system’s designers, but as Tyack and Cuban (1995) have noted, when reforms arise that require more time and/or effort from teachers or students, these reforms are sometimes construed as threats. The following episode shows that students may have perceived that some elements of the mastery system put their self-worth at risk.

In this Physical Science class, Mr. Hirsch, a relatively inexperienced teacher, was working with students on group projects. Students were classifying school supplies according to differing types of characteristics (e.g., size, function, shape, cost), and then making dichotomous keys—simple, decision-tree-like classification systems, based on the supplies’ characteristics. While in theory, such a hands-on project could work well
within the mastery system (students of differing abilities could work in groups, contribute in different ways to the end product, and be evaluated on interpersonal skills as well as science skills; students could also experiment with different approaches and start again easily if they did not master the project), students in this class did not seem to be learning much about classification or working effectively in groups. I was in this class observing, and made this judgment based on witnessing widespread student inattention, constant interruption of instruction, and the teacher’s repeated, unclear directions.

Almost all students were engaged at some point in the class, but with ten minutes left to go in the class period, Mr. Hirsch began awarding grades of M to every student who had finished, and I’s to those who had not. Unfortunately, most of the students who completed the project quickly did the work quite superficially, and while some I’s went to students who were off-task for the whole class period, some I’s also went to students who had attempted to create original categories and could not finish the project in the allotted time.

In the ending segment of instruction, the original slackers were (still) off-task, the quick task-completers were off-task, and some hard-working students, who had just found out that they would have to stay after school to finish their work, were also turned off and acting out. While we can attribute this class’s problems to other sources besides the mastery system, it does seem that mastery’s opportunities for self-pacing, which were designed to make extra work time a reward, had not worked for these students. They saw the need to continue working as punishment, “a booby prize nobody really wants” (field notes, 10.19.01), rather than as an opportunity to learn more.
Mr. Hirsch was trying to use grades of M to reward students for two different kinds of engagement – for superficial, quick task performance as well as for more generalized, deep understanding. The students who did their work quickly responded positively to their M’s, smiling and brandishing their papers, on which Mr. Hirsch had written big, purple M’s. Students who strived at deeper levels of intellectual engagement and who were told to come after school to finish up were scowling, and appeared to resent being “rewarded” for working more thoughtfully and more slowly, at deeper levels of cognitive engagement. As enacted in this class, the mastery system (that is, self-pacing and allowing extended time for completion of academic tasks) seemed to invite hasty, shallow compliance with a teacher’s directions instead of facilitating students’ abilities and willingness to meet high standards of achievement and engagement. It was, in other words, encouraging the “Dario Syndrome.”

While it is clear that this teacher’s poor classroom management skills contributed strongly to his students’ problems, it is worth asking whether the mastery system’s offer of additional time to complete work actually exacerbated students’ tendencies to complete work superficially. The fact that many of Mr. Hirsch’s students chose to complete work quickly and exert less effort rather than take extra time to work harder is not surprising. Why would students choose to work harder and longer when they can get the same reward for working with less effort for a shorter time? Goal theory—specifically Dweck’s (2000) exploration of students’ achievement goals in relation to their ideas about intelligence, and Harackiewicz and Elliot’s (1998) analysis of the ways students do work at school as a function of their goals --provides insight into these students’ actions. Students’ achievement goals may be either learning-oriented or
performance-oriented. Students who embrace learning-oriented goals work to increase competence. They tend to pursue challenges and take intellectual risks if they believe they may learn something. Significantly for this study, if a student displays a preference for “learning goals,” he or she is also said to be “mastery-oriented,” which Dweck (2000) defines as loving learning, seeking challenges, valuing effort, and persisting in the face of obstacles. Those students of Mr. Hirsch’s who started the class by taking the time to construct sophisticated dichotomous keys displayed learning-oriented goals.

Students with performance-oriented goals, on the other hand, tend to work in order to gain positive judgments of their performance. They engage in school tasks only when they know they have a good chance of succeeding. Students in Mr. Hirsch’s class who based their own work on Mr. Hirsch’s simple model may have embraced performance goals. Rather than generate their own ideas, they practically guaranteed themselves M’s in this lesson by minimizing risks. Their actions, also, perhaps, resulted in minimized learning. Goal theorists explain that students may also embrace work-avoidant goals. These types of goals tend to arise when students with performance goal orientations believe that a task will cause them to struggle and might not bring positive affirmation. Mr. Hirsch’s students who were acting out at the beginning of class may have had work-avoidant goals. Students with work-avoidant goals will misbehave, monopolize the teacher’s attention, copy peers’ work, etc. (Brophe, 2004, p. 96)—behaviors which were all in evidence during Mr. Hirsch’s class on the day in question.

We can also hypothesize that some Mastery students in this class might have “taken the easy way out” because such a strategy allowed them to save face. Such behavior can be viewed in relation to the research Covington (1992) has done on self-
worth. Covington has concluded that some students avoid taking steps that might help them learn in order to preserve an aura of competence, so that if they do not do well, they can blame it on factors other than lack of ability. Grades of I, which are meant to be seen as opportunities to do better work, may be rejected by students because they perceive the need to redo the assignment as a threat to their self-worth. This may explain why some students in Mr. Hirsch's class seemed to prefer to work when there is no risk of appearing inadequate. A few groups chose to use Mr. Hirsch's very simple example of dichotomous key categories rather than struggle with more original ideas which would likely require more careful thought and/or revision. They and other students in Mr. Hirsch's class appear to have rejected the mastery system's academic supports because these supports required more time and presented greater risks than traditional school practices.

Mr. Hirsch was not the only teacher whose offers of additional support were viewed, perhaps, as "booby prizes," or ignored by MCHS students. All MCHS teachers had trouble getting students to stay after school during the first semester of 2001-2002 to revise or complete assignments. Time for such work had been built into the regular day as A.S.P, or Mastery's "Academic Support Program." A.S.P., as planned, was a program feature that would enable every student to master every assignment. It was listed in the Teacher Guide (2001, p. 1:4) with core subject area classes, electives, and advisory as one of the key "learning environments" that comprised a student's day. Parents had responded enthusiastically to the idea of A.S.P. As one parent put it at an October meeting, she liked the fact that the school was "raising the bar" and also providing A.S.P. as a kind of "step ladder so [her son] could get there" (Field notes, 10.25.01).
The only stakeholders who did not seem enthusiastic about A.S.P were the students. On one typical day in October of 2001, MCHS teachers reported that they had encouraged 40-50 percent of their students to stay and finish the previous night’s homework, complete that day’s class work, or, most commonly, get extra help in working on that night’s homework assignments (staff meeting notes, 10.24.01). During those first months of school, typically only 8-10 students (less than 10 percent of the student body) stayed after school to work once classes let out— and most of these were high-achievers, not the students who needed the most assistance.

After the first parent-teacher report card conferences in November, A.S.P. changed from a voluntary program to a mandatory one. Any student who had not turned in all required work that day had to stay and complete the work in A.S.P. The shift was subtle but important. Instead of remaining a pedagogical tool that could help students embrace the risks that may be associated with learning, instead of providing extra support for academically motivated students, A.S.P. became what students had, perhaps, always recognized it to be: compulsory remediation. This more traditional conception was accompanied by traditional enforcement problems. At first, daily A.S.P. lists were generated over the course of the day. At 3:15, when classes let out, only those students whose names were not on the A.S.P. list were allowed to leave the building. I remember having the list in hand one afternoon and trying to bar the door physically so five or six students could not “escape.” Over the next few months, A.S.P. was formally added to the schedules of students who had received two or more I’s as term grades.

A program feature that had been designed to support students had been essentially impotent until it was recast more recognizably, as a required, traditional class. Although

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this first actual change to the mastery system was important, it should be noted that it was not so much substantive as it was perceptual. The end result—some students had to stay at school longer to complete work and get help from teachers—was the same before and after the change. What is noteworthy is that it required the elimination of student volition and an embrace of conventional pressures to give A.S.P the traction it needed to become a utilized part of the school day at MCHS.

Mastery grading

Another mastery system feature that was reshaped by forces of real school was mastery grading. This feature had challenged teachers to support students in taking incremental steps toward mastery, and was organized in such a way that students’ academic records would reflect only their ultimate successes, rather than their initial, sometimes unsuccessful attempts at earning mastery. Teachers, students, and administrators all had problems with the grading system as it was first set up, and pressures emanating from all three groups were responsible for its modification in the first year. Students were unable or unwilling to transform their work habits and abandon old patterns of procrastination: since all work could be revised, they resisted finishing all assignments. Some teachers were unable or unwilling to let go of familiar grading processes and assumptions, preferring traditional grading approaches (such as averaging or dropping a student’s lowest grades) to the mastery system’s prescriptions. And the logistics associated with scheduling and record-keeping, which accompanied the system’s individualized second-, third-, and fourth-chances for students, proved to be too much for administrators.
Before telling the story of the ways these pressure of real school caused mastery grading to change, it is necessary first to provide a little background on mastery grading and the closely-related feature of mastery promotion. As the story of Mr. Hirsch’s class shows, there were basic assumptions about student perseverance underlying mastery grading and promotion that proved to be incorrect. These assumptions can be traced to at least two sources. The first is Soloway’s experience with young adults in his previous job running a welfare-to-work program, where he saw mostly young mothers overcome personal and social challenges to make changes in their lives, for themselves and for their children. The second source of this assumption was my work with urban high school dropouts, older students who returned to earn high school diplomas after months or years out of school, and who were motivated to think, learn, and change their lives with adequate time and attention at school.

Soloway and I brought these optimistic beliefs and confidence in students’ willingness to work hard to the original design team, where they became the perseverance-rewarding grading and sequential promotion practices of the mastery system. Students’ work was graded with an M (Mastery) if it met mastery standards, with an AM (Advanced Mastery) if it exceeded these standards, or with an I (Incomplete) if it did not yet meet the standards. There were no number grades, no A’s, B’s, or C’s. While what the M represented was nowhere fully defined, Mastery’s Teacher Guide did specify a few details about the I grade. An I meant that

- the student did not complete the assignment, or
- performance on the assignment shows that the student did not understand the salient concepts or master the salient skills, or the student doesn’t care enough to demonstrate understanding. (2001, p. 8:1)
Regardless of the reason for the grade of Incomplete, an assignment that earned an I had to be revised.

If a student receives a grade of Incomplete on an assignment, s/he must do the assignment again, with as much support as s/he needs, until it shows at least proficient mastery of the skills in question. In other words, every grade of "Incomplete" will need to be converted to an M. (Teacher Guide, 2001, p. 8:1. Emphasis in original)

The Mastery teacher guide and student handbook both also specify that "No grade of 'Incomplete Mastery' will stay on a student's transcript. Each 'I' will have to be converted to an M" (Teacher Guide, 2001, p.8:2; also 2001-2002 Student Handbook, p. 13).

This approach to grading illustrates a cognitively-mediated behaviorist theory of motivation (Brope, 2004). That is, the system recognizes students' subjective experiences (their satisfaction in learning and progressing toward graduation) as factors which inform and facilitate reinforcement of desired goals. Using terms borrowed from Brope (p. 5), we can characterize the process in this way: As students revise assignments, "successive approximations" of Mastery should lead them through "gradual improvement toward the target performance level." An M was something every student could attain. An I was intended to be merely a stage before mastery, a step on the way to an M rather than a failing grade. Mastery grading was nontraditional in that it was designed not to provide summative judgment of a student's performance on each assignment, but, rather, formative support for a student's progress and perceptions of self-efficacy, defined by Bandura (1997) as "belief's in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). In theory, at least, every grade was an opportunity for student empowerment.
In addition to their self-efficacy-enhancing functions, grades of M would also, by design, control students’ promotion and determine their rates of progress through the academic program toward graduation. Students with strong skills would be able to move quickly to more challenging work, while students who needed more time could progress at commensurate rates. The original intent of this self-pacing was to make every assessment a tool for learning, emphasizing the formative potential of evaluation. It was thought that mastery grading would make sure that no student was bored or pushed ahead unless he or she was ready, and would “virtually guarantee learning” for all students (2.9.01 planning committee meeting notes).

An episode from November 2001, two months into the first school year, made it clear that some teachers still embraced multiple and perhaps unclear notions about mastery grading. At that time, just before students’ first course grades were due, one Humanities teacher explained to me that several of his students were going to pass his course and progress to the next one in the series even though they had not earned M’s on all key reading assignments. This was possible, he said, because when he looked at the I’s students had earned in reading assignments next to the M’s these students had gotten for strong creative writing and group work, they “averaged out” to mastery. I reviewed with this teacher the intention behind insisting on mastery in these three key areas, and said that students’ strengths in some areas could not cancel out weaknesses in other areas. How could poor readers master the progressively more challenging reading assignments in Humanities II when they had not been able to work with the simpler texts in

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4 The obvious corollary— that M’s and I’s would effectively control how long it took for a student to graduate — was something each prospective student and parent heard over and over again when they came to learn about the new school. Nevertheless, this self-regulating feature of the grading system has proven to be a powerful shock to students and parents. See chapter 5.
Humanities I? He agreed, but then two weeks later rationalized his students’ overall mastery grades again as averages of separate assignments, and promoted them all to Humanities II (field notes, 11.9. 01).

This teacher’s use of the mastery grading system deserves attention. Given the staff’s inability to articulate a coherent definition of mastery as a standard during teacher orientation, it was incumbent on every teacher to find ways to make mastery a useful grading standard in his or her classroom. Instead of seeing this teacher’s actions as efforts to reject or resist system practices, it is useful to hypothesize a number of possible explanations for the ways he came to understand mastery as a grading standard.

Remembering this teacher’s fine rapport with students, it is highly likely that he was trying to use positive reinforcement with them: He may have believed that if his students got M’s now, they would continue to work for M’s throughout the year. Another reason this teacher may have awarded mastery to students who did not complete all key assignments may have been because the students, while they might not have done all the work asked of them, were mostly cooperative and engaged in his class (classroom observation notes, 9.20.02, 10.4.01, 10.25.01, 10.29.01, 11.1.01). Perhaps this teacher had negotiated a kind of tacit treaty with his students regarding acceptable classroom behaviors (Powell, Farrar, & Cohen, 1985), and since they had done what he asked them to, he, in return, would keep his side of the bargain and pass them. Or, finally, the teacher could have realized that students require ongoing opportunities to develop skills (what Ericsson and Charness [1994] have named “deliberate practice”), and that real skill mastery would happen only over time—that is, over time longer than a single grading period.
Another source of this teacher's ideas about mastery grading could have been a disinclination to regard traditionally summative course grades as formative evaluations of student skill mastery. He, like most of us, may have been more accustomed to regarding final course grades as overall performance evaluations rather than as notes on particular skill strengths (M's) and weaknesses to be remedied (I's). It could also have been that this teacher did not have a strong understanding of alternative, formative grading practices, an area in which Mastery leadership had provided insufficient professional development. This likelihood, and the teacher's possible reversion to the habits and patterns of real school, and his possible desire to recognize developing mastery, and the problems noted above in associating isolated skill assessment with any particular assignment might very well make him recognize the imprudence of awarding mastery based on strict assessment of 12 or 15 required assignments.

Given teachers' problems with mastery grading, it is perhaps not surprising that the system also failed to register with students in the ways the staff had hoped it would. As the above examples show, students did not value a system which seemed to punish them for failure and for success by making them work more. As these stories also show, the mastery system as enacted in the first year did not always encourage students to engage with academic work beyond rudimentary levels of task performance, as it had been designed to. And in no way did the mastery system have any apparent impact on student motivation. Most simply put, its policies did not seem to encourage students actually to attempt or complete school assignments, in class or for homework.

The exception to this trend was the week before first quarter grades were due, when more students than ever stayed after school to revise "I" work, retake tests, and
generally work as hard as staff had hoped they would work all the time (field notes, 11.1.01). Some students were even more strategic, and waited to get grades of I’s on their report cards before attempting to hand in missing assignments and “get their M’s” in the first few weeks of the next academic quarter. These students were using mastery grading in unexpected ways – not to pace themselves in accordance with their best efforts, not to change poor work habits, but instead, to take advantage of a system element that inadvertently encouraged procrastination.

Over the next few months, even more students “paced themselves” by doing most of their work at the academic quarter’s end and during the first few weeks of the next quarter, after report cards and I’s had been issued. These manipulations resulted in the first substantive change to the mastery system. Frustrated with students’ procrastination and excessively-utilitarian self-pacing, leadership decided, in February 2002, that if a student earned an I on a report card, it could not later be expunged and replaced with an M. I’s for individual class assignments could still be converted to M’s through revision, but after recognizing that students viewed I’s on report cards as placeholders that could be changed at their convenience, leadership decided to make final I course grades permanent.

This change came about not only to encourage students to work at the times when it would help them learn, but also because of administrators’ needs. Mastery grading and promotion policies put substantial pressures on the administration at MCHS. I grades were made permanent to encourage students to apply themselves to academic tasks more consistently. This change also made transcripts and report cards much easier to keep track of. During the first grading periods, it was quite difficult for the administrators who
worked with teachers to remind them to report completed assignments, and then to go back into students’ transcripts and change I’s to M’s, notify parents of the changes, and re-roster students accordingly.

In the end, mastery grading, an elemental feature of the system that had been designed to give students and teachers all the time they needed to strengthen student skills, had been found to be impossible for some teachers to navigate, for administrators to manage, and had been used by some students more as a shortcut to a passing grade than as an avenue to learning. In an effort to address at least some of these problems, course grades of Incomplete became permanent—an oxymoron that foreshadowed future grading system modifications. By trying to make all grading formative rather than summative, and thereby use it to more effectively facilitate academic achievement for all students, Mastery had attempted to avoid one aspect of real schooling. Ironically, the only way to preserve the spirit and intention of I’s was to make this signature feature of mastery grading more traditional—to make course grades final, and to allow teachers to bend pure mastery grading policies along more recognizable lines. Reversion to familiar patterns seemed to be inevitable as real school exerted its powerful pull on students, teachers, and administrators in Mastery’s first year.

**Student achievement over all**

Student achievement is the reason we exist. All our efforts must be judged by how they further student achievement. What works to strengthen student achievement dominates all other values and beliefs.

“Mastery Values” memo (8.04.Emphasis in original)
Before Mastery opened, its goals were focused as much on closing the digital divide as the academic achievement gap. In fact, as mentioned earlier, the school’s name from 2001-2003 was High Tech High. Within months of opening, Soloway’s ideas about what urban students needed changed, and he pushed for system revision that directed all school efforts toward raising student academic skills, exclusively. In the first phase of the school’s development, this meant that the active learning and address of untraditional skills which originally characterized mastery instruction were expendable. If they did not work to raise students’ basic academic skills effectively and efficiently, they should be jettisoned. The only thing that mattered was improving student “core” skills—especially in reading and mathematics. Soloway justified the need for this single-minded approach in an updated program description from 2003. Basic skill instruction was necessary, he said, because

We believe the standards required for success in the world are fixed. Students either meet employer expectations and higher education standards or they don’t. There is no in-between. Consequently, for schools to bend or dilute standards does students—particularly urban students—a great disservice. (school memo, 7.03)

Because Mastery is a charter school, leadership had always expected to be accountable for student learning. With a new appreciation for how far Mastery students had to go, Mastery leadership intensified this sense of accountability, and, in the process, changed mastery system instructional modes and standards.

As a graduation requirement, Mastery’s charter specified that all its students would score at proficient levels in math and reading on the state assessments. As a charter school, MCHS was subject to state evaluation of progress in these areas, among others. It is not surprising, then, that when 2001’s No Child Left Behind legislation began to
require all schools to make Adequate Yearly Progress in increasing their students’ performance on state assessments, Mastery leadership seemed actually to pay little attention to it. In reality, Soloway, especially, saw the school’s mission as consistent with the goals of NCLB, believing that Mastery students’ needs for basic skill remediation superseded all other needs. Practically, as an institution, Mastery needed to get better and better every year in bringing its students to proficiency not only because the state now required it, but because the school’s plans for survival rested on continued donor support and eventual expansion. In other words, nothing could have intensified the need Mastery leadership already felt to center every school practice around measurable student achievement. NCLB may have contributed to the changes occasioned by this “homegrown” urgent need to raise student achievement--changes including a streamlining of skills, an emphasis on learning outcomes and stricter scheduling of them, as well as some curricular trade-offs—but it was not uniquely responsible for them. This next section describes and analyzes these changes as products of both local and national pressures, and shows how these pressures came to dominate all conversations at Mastery during the school’s first three years.

It should also be noted that while Soloway led the school to prioritize basic skill remediation, he also established and maintained the school’s secondary focus on social emotional skills. High test scores and grades of M may have been the indicators of achievement that mattered most, but there were also consistent effort to contextualize and
strengthen the push for academic achievement with policies and instruction emphasizing unmeasurable social-emotional learning.  

Mastery and project-based instruction

The mastery system originally specified active, project-based instruction. Midway through the school’s first year, leadership grew concerned about the lack of rigor and focus in both the processes and outcomes of project-based instruction, and called for modifications to the project-based approach. These modifications resulted, by the beginning of the second year, in a decrease in the number and importance of projects in each core subject’s curriculum.

The original vision of instruction in the mastery system was based on hands-on, authentic learning (see Steinberg, Cushman, & Riordan, 1999; The Big Picture Company, 1998). The design team chose this approach because it believed that active, relevant instruction was what motivated, engaged, and ultimately resulted in high-quality learning for students. The mastery system added other requirements onto active instruction. It must also be skill-based, organized in carefully arranged sequences to suit different students’ learning needs. This vision was in line with the instructional provisions of the Coalition for Essential Schools, which advocates the teaching of “essential skills” to all students in “tailor-made,” “personalized” programs that include “intensive remedial work to assist them to meet…standards,” culminating in clear demonstration of mastery whenever the student is ready, regardless of “time spent in class” (Coalition of Essential Schools, 2006). To see such values in action, leadership visited the nationally-known,

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5 Every year the school has held classes in social emotional learning for freshman, and by 2006, there was a complete, four-year program of social emotional instruction.

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project-based school High Tech High San Diego before MCHS opened, and borrowed this school’s vision of active, cross-curricular projects as a model for Mastery’s own program.

In MCHS’s first year, teachers worked to create projects that served this ambitious vision, and adopted instructional programs that stressed student engagement. The Math team assigned projects, for instance, in which Algebra students compared the costs and features of phone plans. Math teachers adopted College Preparatory Mathematics, a constructivist, inquiry-based program that organizes students into learning teams. Science teachers abandoned textbooks altogether. Science became all projects — students built and floated clay boats to learn about density, for example— and no reading. Humanities teachers had students stage skits and imagine soundtracks for texts they were reading. They adopted the active and hands-on Reading for Understanding program (Schoenbach, Greenleaf, Cziko, & Hurwitz, 2000), in which teachers model expert reading habits and students keep reading logs to develop meta-awareness of their own reading customs.

Well-designed learning projects extend knowledge “beyond the classroom” in ways that are “rigorous,” and include a focus on “higher-order thinking skills” (“Jobs for the Future,” cited in Steinberg, Cushman, & Riordan, 1999, p. 9). Planning and successfully implementing Project-Based Learning, or PBL, takes time and requires considerable professional development. As with formative mastery grading, Mastery leadership was not committed enough to PBL as a process, and also not convinced enough about its effectiveness to invest in PBL professional development. As a consequence, projects at MCHS in year one tended to be less tightly constructed: They
were fun, but not especially demanding. Teachers may have created them this way, in part, so that Mastery students could complete them successfully (field notes, 3.1.02). Soloway did not accept the trade-off. He remembers recognizing Mastery’s challenges with PBL: “Not every teacher could make every project rigorous. And our kids’ skills needed intense remediation. We had to go in another direction entirely if we were going to serve that need...” (2.13.05).

In January, 2002, leadership decided that PBL and instruction that emphasized student engagement over specific learning outcomes was not working effectively to increase student learning. This judgment was based on observations Soloway and I made when we visited each class. Typical classroom activities in these classes, listed here in descending order of frequency, were (1) students listening to a teacher’s lectures or watching a teacher’s demonstration; (2) discussion; (3) searching the Internet or composing on the computer; and (4) group work (observation notes, 1.02). What we were looking for was “classroom intensity,” characterized by Powell et.al. (1984, pp. 99-100) as consisting of some of the following characteristics: “majority participation, teacher not talking more than students, universal attentiveness, organized (not aimless or random) conversation, mutual respect for peers’ comments, serious responses... quick pace.” Rather than such intensity, what we found instead in most MCHS classrooms was a troubling trend. When teachers modeled more, students participated less. As teachers stressed group work, individual students began doing either nothing or everything for their team. Students in Science classes seemed to be busy making clay models and PowerPoint presentations, but very few could explain what they were doing or why. Furthermore, even when teachers may have succeeded in increasing student engagement,
their grade books listed only final projects and none of students’ daily activities that provided assessment of preparatory skills for these projects.

The leadership team decided that while the mastery system’s insistence on active, hands-on instruction may have resulted in increased student interest in class, it did not result in enough skills-based, assessable learning. This critique of mastery instruction centered around two issues. Leadership believed, first, that the PBL and active instruction in Mastery classrooms did not provide enough focused skill instruction for students, and that second, the instructional practices which served projects tended to minimize the number of assignments by which student skill mastery could be assessed. As a result, as of February 2002, leadership required every teacher at Mastery to turn in weekly lesson plans summarizing what they would do in class every day. These plans had to specify the skills that were taught, the assessable work students would produce each day, and the homework the teachers planned to assign. These plans were meant to make teachers accountable for articulating specific learning outcomes, and for gauging student progress in attaining those outcomes. Leadership’s critique of project-based learning and their address of the problem demonstrate their willingness to jettison instruction that did not appear to result in increased skills. It also reveals their belief in the importance of measuring learning, and in organizing instruction so that it can produce defined outcomes at specified times: results of an intensified focus on accountability for improved basic skills.
Mastery and expanded skill sets

Another way in which the drive for more bounded and measurable learning changed Mastery instruction was in its limiting of the number of skills teachers were asked to teach and assess. Originally, Mastery instruction was planned to be not only project based, but to emphasize "broader sets of skills"—namely, "core academic, critical thinking and problem solving, interpersonal and personal skills, [and] technical skills" (Charter Application. 2000, p. 8). Appended to the charter application was a 66-page collection of annotated skill sets, noting exactly what Mastery students would know and be able to do by the time they graduated. These lists of skills drew from traditional academic standards (e.g., National Council of Teachers of English, National Council of Teachers of Math, Project 2066 science skills) and a number of work-focused competency standards current at that time—such as "What work requires of schools: a SCANS report for America 2000" (1991, Secretary’s Commission on Achieving Necessary Skills, U.S. Department of Labor) and workplace technology standards developed by the National Workforce Center for Emerging Technologies (1998/2003). Teachers were supposed to "Integrate these skills into core academic classes and projects" (Charter Application, 2000, p.13). Instruction in these skills would prepare students for the workplace, where "[E]mployers now need ‘knowledge workers’ who can think independently, problem solve, and work in teams" (Charter Application, 2000, p.13). The scope of these skill sets, which were known at school as "graduation outcomes," reflected the ways the design team made sense of the school's mission, and their understanding that if students were going to be successful in school, they would need to learn how to do things like collaborate and manage their time effectively.
The expanded skill sets in these plans reveal, also, the assumption that there was room in MCHS curricula for teachers to add instruction in these other areas. As became clear in the first year of Mastery, adding instruction and assessment of additional skills to the curriculum was highly problematic. Not only were teachers hard-pressed to find the time for “project management” skill instruction in the classroom, for instance, but by the middle of the first year, they were also charged with increasing instruction in basic academic skills. By spring 2002, Mastery teachers’ attention was being directed away from the nontraditional skills listed in the graduation outcomes lists, and was guided instead toward state subject standards. Learning was becoming more focused not only around what could be seen and assessed, but around fewer skills.

**Mastery and instructional scaffolding**

In the fall of 2002, leadership remained clear about wanting teachers to deliver effective, skills-based instruction. While they were content with relegating other skills to a level of secondary importance, they also recognized that basic skills instruction, alone, would not fill in all the gaps in Mastery students’ learning. In agreement with Bransford et.al. in the National Research Council’s review of research and theory, *How People Learn* (1999), Mastery leadership believed that effective learning requires development of students’ knowledge acquisition strategies, problem-solving skills, and organizational skills. In an effort to “have it both ways,” leadership devised a new program that allowed teachers to keep the instructional focus on specific academic learning outcomes, and also provide the specificity, resources and structures that would allow them to incorporate other skills into this instruction. This program was intended to help teachers balance the
trade-offs that inevitably accompany skills-based instruction. In the end, though, the intense need for skill improvement pushed this new program, too, onto the pile of rejected mastery system instructional innovations.

Over the summer of 2002, the number of projects was decreased in each course from two or three to one, and the new program, called “Academic Literacies” was introduced. It defined exactly which personal, interpersonal, and technical skills teachers should incorporate into basic academic skills instruction, and how and when to teach them. In the two languages used by Mastery leadership, Academic Literacies was both an example of Total Quality Management—a way to make academic skills instruction transparent and systematic—and an institutionalized program of instructional skill scaffolding. It named the underlying, cross-curricular skills necessary for academic success, established minimum competencies in these skill areas appropriate for students in different grades, and provided teachers with resources and model lessons for teaching the skills. These skill areas included some of the skill sets identified as graduation outcomes, reoriented more practically to serve students’ immediate, school-based needs (i.e., “personal time management” became “being prepared for class”). Some Academic Literacies were also new, supplementing the skill sets from the charter application with more basic academic learning-to-learn skills (i.e., “note taking” and “studying for tests”). From 2003-2004, every course and every MCH project was supposed to identify the Academic Literacies it served and evaluated.

Most teachers were enthusiastic about Academic Literacies when the program was first introduced in teacher orientation in August 2002. Different departments took

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6 Academic Literacies (like Mastery Learning), was an idea that was dreamed up and named by Mastery leadership in total ignorance of it as an already-existing program (see Cziko, 1998).
responsibility for primary instruction in different skill areas. Teachers led professional development sessions on the skill lessons they developed. During the first semester of the program’s implementation, however, teachers voiced mixed feelings about its implementation and impact on students’ grades. Some teachers felt they did not get the support they needed to implement the program successfully. Again, like all new initiatives, Academic Literacies required enormous time up front and consistent follow-through. It needed a kind of repeated PR campaign, too, if it was going to be able to compete with the generally-accepted notion that by ninth grade, teachers should not spend time teaching students learning-to-learn skills.

Some teachers loved the way the Academic Literacies program allowed students to be successful at tasks, but felt that it took too much time away from core curriculum. Others resisted it for what they saw as its overemphasis of essentially trivial, introductory tasks. These teachers, especially, opposed the policy that made students’ performances on Academic Literacy skills count in their course grades. Also, while improved academic literacy skills were intended to increase overall academic performance in the long run, in the short run, explicit academic literacy skill instruction seemed to be working as more of a crutch for some students, who came to rely too strongly on the program’s skill scaffolding. For instance, if Academic Literacies’ program materials specified that ninth grade Science teachers were responsible for teaching study skills, these teachers had to take the time in class to help students make flashcards and quiz each other. Spending time on teaching students how to study meant that teachers had less time to teach Science content, and also presented the risk of making studying unnecessary for students. As one ninth grader said in a later interview
They [teachers] help you study before regular tests. Teach you how. It’s good. They give you little index cards to write on, or they give you a little paper to write important things to know. But that is too much for me to do it. I wouldn’t just do it for myself. (Sabrina, 5.22.05)

Sabrina’s confession shows that scaffolding can sometimes be counterproductive, that it can replace rather than support student skill development.

Academic Literacies did not represent a more successful balance of Mastery’s new focus on basic skills instruction and the broader skill sets included in its original charter. It may have been a more specific and more directive resource than the 66-page list of graduation outcomes used in the previous year, but it did not make it any easier for teachers to focus all instruction on increasing student achievement. By the winter of 2002, these concerns were coming not from administration, but from teachers. Although teachers did need support and guidance in teaching the organizational, technical, and meta-cognitive skills that support academic skill mastery, some of them complained that the Academic Literacies program effected curriculum, grading, and instruction in ways that seemed to result in lower grades, less time for subject area instruction, and diminished learning. The trade-offs were ultimately not worth it.

At the end of 2003, Mastery leadership deemphasized Academic Literacies, and left it up to teachers to use its resources and skill instruction timelines as they saw fit. Some teachers (e.g., Mr. Wolf and Ms. Craft) continued to embrace the program enthusiastically, and also continued to use the term “Academic Literacies” to describe the explicit organizational skill instruction that they feel gives their teaching its power, even once the program was abandoned as a school-wide practice. The rise and fall of the Academic Literacies program showed that, first, even when an instructional program is
recognized as profiting some students, the close connections between curriculum, assessment, and instruction can result in unforeseen repercussions which undermine and ultimately outweigh the program’s benefits. Second and more significantly, the story of Academic Literacies shows how stakeholders’ concerns about accountability made them impatient about balancing foundational academic skill instruction with the teaching of skills which are not assessed explicitly but which are generally believed to enhance and promote learning.

**Student self-determination**

I don’t use a planner because I don’t need one. I remember everything or write it down somewhere else. That’s how I do it. And I have a test tomorrow but I am not bringing home anything to study because we reviewed in class and I never study. Never. I never will. Aneesha, informal conversation (10.26.04)

The last and arguably most powerful force at work in the first years of school that tended to push against the policies and practices of the mastery system is related to students’ needs to regulate the ways they work in school. Although the mastery system was set up to enable students to self-pace, Mastery students ended up managing their time and their work habits in unexpected ways. As has already been demonstrated in this chapter, students’ tendencies to complete work strategically were responsible for bringing changes to mastery academic support and mastery course grading. As the second year of school went on, students’ needs to feel self-determining, to feel empowered enough to decide for themselves when and how they would work, exerted even more stress on mastery grading and promotion, and resulted in more substantive changes to the program.
Mastery and expectancy x value

At the start of the 2002-2003 school year, the school accepted 120 new students and hired nine new teachers. These new teachers demanded more clarity around mastery grading, which occasioned an after-school grading meeting in October 2002. What became clear at this and subsequent meetings was that mastery grading as it had been originally constituted penalized students excessively for inconsistent engagement, punishing them equally for neglecting work altogether and for making reasonable choices about the work they did. Mastery grading appeared to affect Mastery students’ motivation negatively because it did not give them freedom to satisfy needs for self-determination. In other words, this particular feature of the mastery system boxed students into corners where they could not regulate their work habits in ways that made them feel competent, connected, or autonomous.

Although originally, the mastery system specified that some assignments would go ungraded, and that only significant assignments (projects and tests) would be awarded M’s or I’s, teachers had found that students completed only the assignments which were graded. As a result, virtually every task students were given to do needed to be “mastered.” Since students had to earn all M’s to move onto the next course in the sequence, every M—an M earned by completing a single homework assignment, an M earned for successful teamwork on a two-week project, an M earned with a strong final exam—ended up “weighing” the same in students’ grades. By the same token, an I in any of these areas could keep a student from being promoted to the next course.

A new Humanities teacher, Ms. Nolan, suggested a plan that would assign one of three “weights” to each assignment. There were essential assignments that had to be
mastered to pass the course. There were assignments of middling importance – a student could miss one or two of these and still pass the course. And there were smaller assignments, homework and quizzes, which individual teachers would weigh and count as they saw fit. With Ms. Nolan’s plan, no longer would a deserving student have to repeat a class because he or she had not done every assignment—although just about every teacher at this meeting, before adopting the plan, admitted fudging the grading policies currently in place in order to allow deserving students to pass.

Ms. Nolan’s new grading plan acknowledged that even though the system was designed to make every assignment “worth it” to students, in actuality, not every assignment was. Students at Mastery may have been making decisions to engage and complete school tasks according to an “expectancy x value” reasoning framework (Aktinson, 1957; Covington, 2000; Hansen, 1989; Wigfield & Eccles, 1999). The expectancy x value reasoning framework posits that the amount of effort students will invest in a task is equal to the product of (a) the degree to which they expect to perform that task successfully and (b) the degree to which they value the offered rewards. The first value in the expectancy x value equation refers to a person’s belief in his or her ability do a task, identified by Bandura (1995; 1997) as self-efficacy. Unlike the concept of self-esteem, self-efficacy involves perceptions of ability relating to particular tasks rather than a general sense of self-worth. The second predictor in the expectancy x value equation relates to how much value is perceived as residing in a task.

According to this model, students base their decisions on whether to engage in schoolwork on relationships between these two variables. Students who have high self-efficacy beliefs and perceive great value in a particular school task are predicted to
engage. Students with high self-efficacy beliefs who devalue school assignments might be predicted to approach school tasks half-heartedly. They are likely to engage only superficially and evade schoolwork. Students who do not have high expectations of success (i.e., who hold low self-efficacy beliefs) and who do not assign high value to school work will reject school tasks. Students with low expectations of success who value school work will seek to project an image of competence but seek to hide feelings of inadequacy – what Mastery students call “fronting.” These terms, borrowed from the work of Hansen (1989) and supplemented based on observations at Mastery, have been used to modify very slightly the classic expectancy x value framework. See Figure 4.

<table>
<thead>
<tr>
<th>Student has low expectations for success</th>
<th>Student has high expectations for success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student does not value the activity</td>
<td></td>
</tr>
<tr>
<td>Rej ecting: Refuses to participate</td>
<td>Evading: Does the minimum</td>
</tr>
<tr>
<td>Student values the activity</td>
<td></td>
</tr>
<tr>
<td>Fronting: Protects image of competence</td>
<td>Engaging: Seeks to learn</td>
</tr>
</tbody>
</table>

Figure 4. Expectancy x value framework (based on Brophe, 2004, p.21)

This framework makes clear two of the basic assumptions upon which mastery grading and promotion rest. The first of these assumptions relates to expectancy. With academic support and unlimited opportunities to revise and redo all work built into the system, Mastery system creators believed all students could be brought to the point where they would believe they could complete all academic tasks successfully. That is, the mastery system would push students’ expectancy beliefs to the right-hand side of the figure, toward Bandura’s “high-efficacy beliefs.” Next, by making each activity engaging
and potent (each grade of M, after all, brings students one step closer to graduation, their ultimate goal), the system would also ensure that students would perceive school activities as valuable, pushing their valuation of school tasks to the lower half of the new table. If the mastery system worked as planned, it would thus manipulate students’ perceptions of expectancy and value so that all students could be located in the engagement cell in the lower right-hand corner of the model, confident and valuing all learning activities.

At the Friday staff meeting in October 2002, staff recognized that the system was not working in this way, and specifically, that every academic activity was not perceived as being automatically vested with value simply because it moved students one step closer to graduation. Ms. Nolan’s proposal toned down the absolute, all-or-nothing nature of mastery grading. By letting teachers define the work that was most worth doing for students, it recognized that to measure skill mastery most effectively, the school’s grading system needed to be more bounded. With the modification suggested by Ms. Nolan, the system could recognize and reward students when they decided to engage in higher-level academic tasks, so that if they sometimes neglected to complete a more rote assignment, it would not hold them back. It afforded students a modicum of agency.

Even though the grading system was only a year old at this time, and had been beset with implementation challenges from the start, the staff from the first year was already used to its inconsistencies and had found ways to get around its stickier challenges. New teachers brought fresh eyes to mastery grading. Their observations and impatience with the “fudging” required to make the system work more fairly for students pushed the whole staff to change mastery grading. This change recognized the normal
psychological desire among students to pursue feelings of self-determination, and accommodated reasonable variations in effort over time.

Mastery, revision and retesting

Ms. Nolan’s proposal to change mastery grading acknowledged the fact that students, as human beings with agency, were going to make choices about which school tasks were worth doing. Her plan did not, however, help teachers respond to students’ decisions about which school tasks were worth doing twice. Resolution of this issue resulted in more changes to the mastery system, changes which further revealed the inability of the mastery system to accommodate students’ needs to feel self-determining.

The notion of revision was, in some ways, the central principle of the original mastery system, but its implementation was also one of the most problematic features of the academic program for teachers to implement successfully. Students did not regularly volunteer to redo assignments on which they had received I grades. Every teacher interviewed for this study said, in one way or another, that students had to be “begged, cajoled, and bribed” to redo their work (Mr. Bryant, 8.14.05). A striking illustration of the failures of the revision policy surfaced a few months after the new grading proposal was implemented, in the middle of year two, when staff could no longer ignore the fact that offering students opportunities to retake tests was backfiring in a serious way. Ten of the 22 students interviewed at length for this study said that the opportunity to retake a test on which they had not earned Mastery the first time around kept them from studying in the first place; or, as Jasper, a senior, put it succinctly: “I ain’t studying, there’s a retest anyway” (4.1.05). The possibility of a retest not only lessened the pressure for students to
study material the first time around, but also seemed to obviate the need to study at all. Five interviewed students admitted outright that they used a first test as a way to review material, and when they did take retests, they never studied for them. In focus groups conducted in 2003, students said that they believed retests were one of the main reasons they would succeed at MCHS (Sarmiento & Verner, 2003).

Although this chapter looks at changes to the mastery system in years one to three, reviewing older interviewed students’ comments in 2005 about various retest policies adopted by different subject area teachers over the years provides insight into the need to modify the policy in year two. In focus groups conducted as part of the school motivation study of 2005, students said that whether or not they even showed up to retake a test was entirely dependent on the reason for the retest. Some students said they would retest only if they had understood the material and had received an I because of insufficient effort. Others said that if they knew the material and had not passed the test for whatever reason, they would likely be bored and frustrated and not take advantage of another chance to succeed (6.05). These students were using Mastery’s retest opportunities in unexpected ways. The retest policies had been set up to promote tests as formative assessment opportunities, and then as guides for self-directed, targeted relearning. However, Mastery students were using test policies not to increase learning, but were, instead, appropriating all aspects of the testing situation—studying, test-taking, and reflection—to afford themselves maximum control.

As a response to these selective work habits, in mid-winter 2002-2003, teachers began to modify retest policies. Math teachers required students earn at least a 60 on a test the first time it was given to qualify for the privilege of a retest. Humanities teachers
continued to require ongoing revisions on writing assignments, but established a certain
floor (at least 75 percent of the term’s assignments had to be completed) for retest
eligibility. The Science team established the following retest policies to counter students’
beliefs that they were automatically entitled to take a retest:

1. UNIFORM TIME LIMIT. Retest must be completed within six days.
2. STRICT ELIGIBILITY CRITERIA.
   a. Have 80 percent of non-revisable assignments completed.
   b. Request to teacher to make up test.
   c. Attend at least one office hour [extra-help session after school].
   d. Revise first test
3. AVERAGED TEST SCORES. Original test and retest grades will be
   averaged. (handout for students, 3.20.03)

Once they eliminated automatic revision from their classrooms, teachers did see students’
extpectations and work habits change. Ms. Miller, a Science teacher, explains the need for
and results of the change:

   And then—well, now that revisions are averaged, more kids try their
   hardest the first time. So it pans out that they have to try. But when I first
   started [teaching here in the fall of 2003, students seemed to feel the
   policies allowed them to say]… just, ‘Revision? I can revise this?—I will
   just blow it off the first time, blow it off the second time.’ There was
   nothing to hold them to try ever because they could just do it again.
   (11.22.05)

The changed revision policies represent practices and a spirit somewhat removed from
the original vision of students taking all the time they needed to reach mastery levels.
Mastery staff had learned that it was of more benefit to student achievement to establish
clear deadlines and accountability than to provide multiple opportunities for minimal
efforts.
Mastery students’ efforts to feel self-determining poked holes in the mastery grading interventions which had been designed to support and strengthen student learning. Once these self-defeating policies and practices about retesting and revision were modified, students could make decisions that were not about gaming the system, but about whether and when to study for tests and put effort into assignment completion. Mastery grading and revision policies were changed because of the pressures students’ needs for self-determination exerted on them. The resultant policies and practices gave students more meaningful choices.

Promotion by mastery

Sometime in the last few years, things changed. I think that we have succeeded. I think we’ve won, when you compare this now to when kids first came in the door. They didn’t care about any of the things that we think are important—good grades, learning, growing academically... And now, I don’t think that is the case. Oliver Soloway (2.13.05)

By the middle of the second year at Mastery, the separate components of the mastery system had been challenged and at times controlled by factors such as those named above: new school’s exigencies and staff inexperience, staff and students’ needs for familiar patterns and policies, an overwhelming need to improve visible student achievement, and student needs for agency and self-determination. As demonstrated so far, none of the system’s innovations were strong enough to remain unchanged by these powerful forces. Mastery promotion, however, was one part of the system that did manage to compete successfully with at least three of these pressures. Although at first, start-up challenges, real school conventions, and student needs for feelings of self-determination did compel changes to mastery promotion policies, in the end, the drive for
student achievement above all else overcame the collective force of these other pressures, and returned mastery promotion policies to their original form.

The mastery system's promotion policies are different from traditional grading practices which allow students who earn barely passing grades to pass on to the next course or grade. To move from 9th grade Mathematics to 10th grade Mathematics, for instance, Mastery students cannot squeak by with a 65 or a "D." They need to earn grades M, which, while still somewhat undefined in the 2002-2003 school year, required completion of virtually all assignments, and demonstration of high levels of understanding in course assessments. With few exceptions, this strict policy did not seem to register with younger Mastery students, who typically earned a few I's in early years and then found themselves frustrated as upperclassmen retaking courses with younger students and effectively postponing their own graduations (see Chapter 5). Another result of mastery promotion was the uneven progression of Mastery students through subject areas and courses. Because all Mastery courses lasted a single semester at that time, this required administrators to spend long hours --not just at the start of every school year, but at the change of every grading period—rescheduling students and reorganizing and re-aligning class rosters, teachers' schedules, textbook orders, room assignments, and Special Education services, as well.

It might be supposed that these two factors—the system's poor fit with students' habits and preconceptions, and the extra administrative hours it took to reorganize the entire school day two or three times a year—would cause mastery promotion to become more conventional as time went on. Such an outcome looked inevitable in the winter of 2002-2003, when teachers and administrators were struggling with intended and
unintended consequences of mastery promotion, in the classroom and in the school as a whole. By this time, just as teachers had learned that not every student will do every assignment, Mastery leadership had also come to believe that a promotion system cannot function effectively when it uses every course grade as a gatekeeper.

Mastery system promotion practices were proving to be quite problematic for teachers, students, and administrators. There were teachers who wanted to see deserving but inconsistently performing students advance. Most students were anxious to make progress toward graduation. Administrators spent long days and nights at the start of every academic term struggling to schedule students in new classes depending on their earned I’s and M’s. These factors combined to exert powerful pressures on the mastery system’s promotion policies, and to engender modifications that were hoped would make life easier for everyone. Ultimately, however, efforts to change mastery promotion proved that no matter how inconvenient the system might be, its gate keeping functions were, after all, necessary and beneficial to student learning.

The inconveniences of mastery promotion policies could not be overlooked. It had always been unwieldy to schedule new classes every academic term, as some students earned Mastery and were promoted to the next courses in the sequence, and some repeated the classes they had just taken. More troubling were the ethical concerns that arose as it became clear by the second year that some students were earning I’s not because they did not understand the work, but because they did not do the work. A few students were effectively self-pacing themselves into virtual academic paralysis, getting “stuck” and taking a course unnecessarily for the second or third time. Staff wanted to relieve students who appeared to be suffering because of what were beginning to feel like
naïve misconceptions about student motivation embedded in the mastery promotion system.

The P

Problems with mastery promotion were first publicly voiced at a long Friday afternoon staff meeting in March, 2003. The meeting was called specifically to discuss concerns with the grading and promotion system. The following three problems were identified by teachers:

1. Our current grading system is trapping too many students who have mastered the content and skills (thus should move ahead) but haven’t completed all their assignments (i.e. homework). Thus some students are getting stuck in the course progression.
2. More flexibility is needed. The current system really only has two options: Mastery or Incomplete.
3. Teachers need to be able to use more discretion in the grading system.
   (Grading system modification proposals, 3.17.03)

There was universal agreement among teachers around these three issues. They all wanted to help students advance, and were unanimous in asking for modifications to the grading system. Some also wanted to remove what they saw as unreasonable impediments to promotion, including Academic Literacy requirements.

Students were not at the meeting, but after conducting many of the exit interviews in the first two years of the school, I can attest that the majority of the students who transferred out of Mastery in the first two years did so because they were also frustrated with the ways promotion policies slowed their progress toward graduation. (An average of 50 percent of students earned one or more Incomplete and had to retake a course in Mastery’s first two years.) Especially as the young people who entered Mastery
in the fall of 2001 became third-year students and began to understand that their grades of
I meant delayed graduation, they showed their active rejection of mastery promotion
requirements. Approximately 10-15 percent of this first graduating class left the school in
their third and fourth years so they could transfer to other schools with conventional
promotion standards.

The administration also recognized a need for a change. They felt they needed to
resolve the bottlenecks that had arisen: large numbers of students were “stuck” retaking
some of the more demanding classes at school. They were also anxious to increase
mastery rates, which, before the first class of Mastery students reached their junior year
and took state assessments, were some of the most concrete measures of achievement
available at the school. They hoped making changes to the existing grading formula
might motivate more students to learn and achieve at school. By this time, enough
students were repeating patterns of failure to call for drastic measures.

In response to these issues, the school adopted a new grade, the “P.” Students
could now earn grades of Incomplete, Mastery, or Proficient (“P”) in their courses. New
promotion policies were also adopted to move more students through the program.
Students could advance to the next course with grades of M or P. Each department drew
up particular grading criteria for students to earn P’s, and administration decided to
“Automatically promote students who were taking a course for the second time” (Grading
system modification proposals, 3.17.03).
Rejecting the P

Some students were delighted by the P because it meant that they didn’t have to be in classes with younger students, which they said was “embarrassing.” Other students felt the P “was just like an I” and that it “brought the [standards at the] school down” (field notes, 1.19.04). Parents similarly voiced concerns that the P “brought down the school’s standards” (field notes, 4.11.03). In the summer of 2004, leadership and teachers met to analyze the results of the P experiment and determine its effectiveness in moving deserving students forward and freeing teachers to make mastery grading more fairly assess student achievement. The overwhelming number of students who had been automatically promoted earned I’s in the class to which they had advanced, attesting either to the fact that these students did not have the skills they needed to succeed there, or that neither promotion nor retention motivated these students sufficiently to change their actions in school. This pattern is consistent with a motivation study conducted by Lemos (1996), where only about one-fifth of the students he interviewed reported that they worked for extrinsic motivators such as grades or promotion. The other four fifths of the students in the study did not care about garnering positive evaluations or avoiding the negative consequences of negative evaluations. In keeping with this finding, it makes sense that the Mastery students who received P’s would also be unmoved by extrinsic motivators.

After examining the evidence, teachers and leadership voted together to eliminate the P grade in the summer of 2004. Students would again need to earn mastery to progress to the next course in each sequence. The P, in the eyes of many Mastery stakeholders, had undermined the school’s fundamental intentions to make sure that all
students achieve at high standards. While it had allowed teachers to be more flexible and administration to roster students more easily, and allowed most students who took a course to move ahead as they would in traditional schools, lowered standards had not appeared to impact student learning or student motivation positively.

Mastery's ultimate rejection of the P demonstrates that, by year three, most stakeholders at the school had internalized the need for high standards over all, and recognized differences between getting ahead and learning. Practical exigencies, the easy appeal of a "real school" promotion practice, and a desire to help more students feel competent had invited modifications of the mastery system, but when it became clear that these modifications did not result in increased student learning, they appeared to lose their power and their appeal. In the case of the P, at least, the Mastery community's shared priority of student achievement proved to be stronger than stakeholders' desire for flexibility and convenience, stronger than real school conventions and standards, and stronger, even, than some students' desires for advancement.

Summary

In sum, the mastery system underwent five major changes during the first three years of the school's operation: after-school extra help became mandatory, grades of "Incomplete" stayed on students' transcripts permanently, projects were greatly reduced in number, scope, and importance, students' prerogatives to revise their work were limited, and some students were promoted without earning mastery. These changes came about because of the challenges associated with opening a new school (including staff and leadership's inexperience), Mastery stakeholders' investments in the familiar forms
of real school, an increased sense of urgency around improving student achievement, and students’ needs to control their work strategies. These forces seemed to ebb only when concession to them resulted in poor student academic performance.
SECTION THREE: MAKING MEANING OF MASTERY

CHAPTER FOUR

STUDENTS’ PURSUITS OF COMPETENCE

I know a grade of M was supposed to mean understanding, but students see mastery is just a set of things they have to do to get the points, and if they’ve got the points, they’re okay. So much of what students will be held accountable for is whether or not work was in on time, whether or not all parts of an assignment were filled in. It’s not so much an assessment of their understanding. I don’t think students—and I’m not even sure if teachers all the time, or even if I, as a teacher, all the time—use mastery as a level of understanding, tied to a standard or to knowledge. I think there’s too much going on in an assignment—we could be assessing skills, it could be content, it could be reading directions. Sometimes you just have to grade for completion rather than performance.

Mr. Quinn (6.20.05)

The next three chapters are built around analysis of focused interviews conducted with Mastery stakeholders from 2004 to 2006, and supplemented by students’ comments in focus groups captured in an independent June 2005 school motivation study. These chapters look in detail at students’ beliefs about mastery, the ways these beliefs impacted student motivation, and the staff’s efforts to work with students’ beliefs and use them to increase student achievement. They show how, through efforts directed at working with student motivation, the mastery system changed both subtly and radically, intentionally and inadvertently, to meet students’ basic psychological needs for competence, connectedness, and autonomy—that is, for self-determination. They also suggest that the system’s evolution and efforts to address student motivation and engagement may have worked both to enable and disable student achievement and learning.

Analysis in these chapters uses and develops psychological theory of self-determination, theories of motivation and efficacy, and research on student engagement.
Central notions and constructs connected to these theories are first presented at the start of each chapter, interrogated and troubled through application to Mastery data, and finally adjusted to more accurately capture Mastery stakeholders’ beliefs and actions. Although self-determination theory has been used to organize the chapters in this section -- students make sense of mastery as it helps them fulfill needs for competence (chapter 4), caring (chapter 5), and autonomy (chapter 6)—Mastery students’ pursuits of self-determination complicate some of the images and notions traditionally associated with the theory.

By school years four and five of the school’s existence, 2004-2005 and 2005-2006, some of the forces that had, in the earlier years of the school, pushed so hard against the fledgling mastery system had abated. Mastery was no longer beset with start-up challenges compounded by administrators’ and teachers’ inexperience. As the school achieved stability and established its own traditions, it was able to introduce some nontraditional policies and practices, especially in the areas of school culture.7 The tensions between the school’s original priorities and the new urgency around mastery of foundational skills had also been resolved: the school chose to devote energy to improving students’ foundational reading and mathematics skills rather than to increasing student engagement and to developing students’ other skill sets. As previously noted, the school did not abandon students’ social emotional well-being in its drive for improved foundational skills. Focused social emotional instructional programs were created, implemented, and improved every year at MCHS.

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7 For instance, after experimenting with nontraditional discipline policies such as Glasser’s Choice Theory (1998) in its first year, and then adopting conventional detention and suspension practices in 2003, MCHS struck a balance between a punitive “real school” approach and a more progressive “Restorative Practices” (Hopkins, 2002) approach in 2005.

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Some of the tensions and problems had quieted down at Mastery after three years, but one force at play in the school’s opening years—students’ desires for feelings of self-determination—continued to exert decisive and ongoing pressure on the system in years four and five. These student desires strongly influenced the ways students, teachers, and administrators transacted with each others’ interpretations of the mastery system. Each group of stakeholders made adjustments and accommodations to counteract the others’ efforts to influence student achievement. The dance created as staff and students vied for control over student engagement and achievement became a central metaphor, as well as a persistent frustration, during years four and five of the school’s operation.

Defining and troubling terminology: Motivation, engagement and self-determination

To begin exploration of MCHS’s efforts to improve student achievement by increasing motivation and engagement for students, and students’ responses to these efforts, it is important to clarify a few important terms and address the contradictions within their enactment at school. The first of these is motivation. Although there are disagreements within the field of motivation itself as to the definitions of key terms (Schunk, 2000), motivation theorists agree to regard motivation as a theoretical construct that explains a student’s tendency to initiate, direct intensity toward, or persist in goal-directed behavior (Brophe, 2004). The second term requiring definition is engagement. Used in relation to schools, engagement refers to students’ participation in academic, social, and extracurricular activities (Fredricks, Blumenfeld, & Paris, 2004).

Engagement is closely related to motivation, but the terms are not synonymous. Although engagement and motivation are sometimes used interchangeably (Stipek et.al,
2004), some studies (e.g., Elliott, Hufton, Willis, & Illushin, 2005) show that there is a strong distinction between motivation and engagement as there is between intention and action. Indeed, it is important to recognize while some Mastery students speak forcefully and convincingly about the importance of schoolwork, and thus seem to be highly motivated, they may not, in the end, engage in observable attempts to complete assignments or participate in classroom activities. In fact, the distance and disjunctions between motivation and engagement emerge as a key insight in these next chapters.

It is helpful to classify students’ responses to the mastery system’s demands using a typology proposed by Stipek et.al. (2004) in the National Research Council’s review of student engagement in schools. In this model, all types of student engagement at school are seen as behavioral, cognitive, or emotional. These types of engagement occur throughout a student’s career. They are iterative rather than sequential. In this model, all behavioral and cognitive engagement at school is enacted within a fabric of emotional connections and relationships. See Figure 5.

**Figure 5. Engagement Typology**
This typology groups the behaviors and attitudes of students into categories which, together, represent a full picture of engagement. All three types of engagement are necessary to students' success in school (Stipek et al., 2004, p. 4).

In this study, it has been useful to modify this typology to depict and arrange more nuanced and specific dimensions of behavioral and cognitive engagement. If we view students' behavioral and cognitive engagement behaviors as having internal dimensions, we can more precisely depict the kinds of engagement actions Mastery students exhibit at school. See Figure 6.

<table>
<thead>
<tr>
<th>EMOTIONAL CONNECTIONS and Behavioral Engagement</th>
<th>COGNITIVE ENGAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Compliance</strong>&lt;br&gt;attendance, uniform, no fighting</td>
<td><strong>Academic Compliance</strong>&lt;br&gt;appropriate participation in class</td>
</tr>
<tr>
<td><strong>Task Performance</strong>&lt;br&gt;doing assignments, handing in work</td>
<td><strong>Deep Understanding</strong>&lt;br&gt;ability to transfer, apply knowledge</td>
</tr>
</tbody>
</table>

Figure 6. Dimensional engagement model

This modified model preserves from the original typology the three main categories of engagement—behavioral, cognitive, and emotional—and the relationships among them. That is, student behavioral and cognitive engagement is still located in a surrounding fabric of emotional connectedness.
The modified model shows how behaviorally engaged students exhibit two dimensions of behavioral engagement: social and/or academic compliance. Student at Mastery who demonstrate social compliance conform to the school’s physical demands including consistent attendance, proper dress, and appropriate comportment in the school building. Socially-compliant Mastery students also abide by a Mastery nonviolence contract which obliges them to refrain from instigating or participating in a fight. This contract is signed by every Mastery student and their parents. If a student violates the contract, they agree to withdraw from the school. From September 2001 until January 2006, 29 students (between 1 percent and 4 percent of the student population, diminishing yearly over each of the 2001-2006 school years) violated the nonviolence contract and withdrew from the school. Although this contract defines what may appear to be a rudimentary condition of scholastic engagement, it is important to note that for many students, agreeing to resolve conflicts nonviolently is a deal-breaker. Walking away from a fight is the one thing some students cannot do, a modification they will not make to their own codes of behavior for fear of endangering their personal safety or public persona (Anderson, 1999).

Mastery students must also learn to “behave like students—” that is, behave in accordance with specified classroom expectations. The dimension of academic compliance requires students to bring the proper books to class and behave according to established classroom norms. It is important to note that academic compliance refers to observable student classroom behaviors, but not necessarily to learning. This is why it is seen as belonging in the category of behavioral engagement rather than cognitive engagement.
The other dimensions of engagement depicted in the adapted model are cognitive. These refer to students' participation in intellectual work, at either the more superficial task-performance level—participating in class activities, engaging in independent written work, and handing in assignments—or at the level of unobservable student learning behaviors including understanding, internalizing, and applying new concepts, here called deep understanding. These dimensions of engagement provide terms and representations useful in analyzing the ways students make sense of Mastery’s demands, the ways they pursue feelings of competence, connection, and autonomy at school, and the ways these pursuits continue to shape the mastery system in years 4 and 5, as the next three chapters show.

Other terms that are critical in the analysis of Mastery students' engagement and achievement at school in years 4 and 5 relate to self-determination theory. Deci and Ryan (1985, pp. 38-39) have defined self-determination as the basic human experience of intrinsically motivated action. People are intrinsically motivated when their needs for self-determination are satisfied—that is, when their desires for competence, connectedness, and autonomy are met. Self-determination theory holds that unless peoples' environments allows them to pursue these feelings, they will feel more controlled than self-determined, and will be less motivated to engage.

The current chapter shows how mastery grading changed in 2004 in ways that made it more concrete, brought the system into closer alignment with students' understandings of academic mastery, and therefore helped students feel a greater sense of competence in regards to their academic efforts. Primarily concerned with the first self-determination drive—the need to feel competent—we see in this chapter how the mastery
system evolved so that students at school might be more likely to say, “I can achieve mastery.” The chapter describes the ways teachers and students negotiate mastery’s meanings, and shows how those negotiations may have increased student feelings of competency and control at Mastery. It highlights four conditions present at school which complicate the increase in students’ feelings of competence, and thus shows how strengthening students’ pursuits of self-determination may not result in increased student achievement.

Mastery and academic effort

Before exploring Mastery students’ pursuits of competence regarding school work (that is, students’ beliefs about whether they can successfully perform required school tasks), it is important first to identify one of the contexts which surrounds and informs these pursuits. This context is Mastery students’ general high regard for academic achievement, and/or their perception of the effort it takes to achieve at school. The values underlying these ideas surface most directly in students’ discussions of what mastery, as a grade and a standard, means to them. The comments of Mastery students in interviews conducted for this study reveal multi-dimensional understandings of mastery paralleling the dimensions of engagement explicated above. Students acknowledge the behavioral dimensions of mastery: “To get an M you gotta show them [teachers] that you really there to learn. You gotta talk to them after class. Maybe you gotta change your behavior a little bit. Stop talking, you know” (Simon, 5.13.05). They acknowledge the cognitive dimensions of mastery: “Mastery means you finally understood what they were
talking about” (Dominique, 3.14.05), and the emotional dimensions of mastery:

“Mastery means caring about your work” (Sabrina, 5.22.05).

Although students did characterize the challenges mastery presented in different ways, every one of the 22 students interviewed for this study expressed the belief that overall, mastery requires effort. At the simplest level, all Mastery students recognize that you have to do something – actually, do quite a few things-- to earn mastery in a course or on an assignment. A student cannot just show up and slide by. As one student, Aliya, put it, “This school ain’t like public school, where you just got to show up and you pass with a D” (5.22.05).

Mastery means doing

The grade of M, as originally conceived, may have been meant to indicate whether and how much a student had learned, but for students, it seems it more accurately represents how much work they have done. When I asked Kareem, a high-achieving sophomore, why he got a grade of “ten out of ten” on the Humanities assignment he took out of his book bag to show me during our conversation, he raised an eyebrow and looked at me in disbelief, seemingly surprised that I did not know the answer to my own question. To him, it was obvious. Kareem said he got the grade of M, “…Because there was ten questions to do and I did all of them.” The conversation went on:

DS: Was that hard for you?
Kareem: Sometimes. But you gotta do all your homework and you will get mastery. You do all your work, you get mastery. Simple as that.
DS: What if you do it but it isn’t quite good enough? Isn’t right? Maybe you didn’t have enough details, maybe the teacher was looking for something else?
Kareem: If you really try and you do all the questions, that is enough. I tried hard, and that is why I got an M. (4.26.05)

Two beliefs about mastery emerge clearly in Kareem’s testimony: One, he believes that when students do everything that is asked of them, they deserve M’s, and two, he believes that students have shown mastery on an assignment when they make a genuine effort (when they “really try”). Kareem understands doing to mean writing out the answers for all ten questions, and he understands effort to be the result of being motivated enough to address all ten of the assigned questions. His doing and his efforts result in the quantifiable presence of ten answers on paper. Kareem’s notions of mastery may include but do not necessarily require thoughtful reading of the five-page passage on which the assignment’s questions are based, or understanding the concepts in the reading. What matters is making enough of an effort to guarantee that the perceptible, concrete parts of the assignment are complete. When this is done, Kareem feels he deserves an M.

The idea that mastery is defined by completion of all assigned components is echoed in the comments of another student, Aliya. Aliya, a freshman, explained to me how mastery grading works: “You get an M when you do all the problems. But if you have ten problems to do but you only do six, that is an I. If you did all ten and still got an I, you’d feel like there was something really wrong” (5.22.05). Aliya’s and Kareem’s comments reflect a certain sense of entitlement. They seem to believe that fulfilling requirements is what counts, that if students make the effort to do the whole assignment, they deserve M’s. That is what counts, and that is what a teacher should reward. This understanding affords students a sense of control: All they need to do to earn mastery is do what they are told to do.
Notably, neither Kareem's nor Aliya's comments focus on accuracy. Ability to complete a task correctly does not figure prominently in these students' sense-making. The inclination toward completion rather than correctness in student conceptions of mastery became apparent early on during student interviews. I probed and asked students whether they thought they deserved an M if they did all the questions in an assignment but got some wrong. No student attested that effort alone was enough, or that they could hand in work that showed obvious disregard for accuracy. As Kareem said, MCHS is different from his old school, where, "You could hand in any old thing and you would get credit automatically" (4.26.05). On the whole, Mastery students interviewed and otherwise queried for this study expressed reasonable expectations for correctness, saying that "a few wrong is OK for mastery," (Aneesha, 12.14.04), or that "as long as you hit that [minimum passing score of ] 76," your work will earn an M (focus group, 6.05). Interviewed students do mention being challenged by work, but thanks either to self-confidence or a desire for ego-protection (see Covington, 1992), they all attest to the adequacy of mastery system supports to help them meet that challenge. It seems that if a student wants to earn mastery, he or she believes that it is within his or her control to do so. Latrice, a senior, says it simply: "To get an M... it is all up to you" (3.10.05).

Effort, empowerment, and students' regulatory styles

When students regard mastery as doing, "going for mastery" represents a primary decision to engage at school and do all their school work. In the language of the dimensional engagement model, students believe they get M's when they engage in task
performance. This level of engagement allows them not only to feel in control, but powerful. Latrice explains:

To get a M, you gotta put in the effort. You gotta work for it. It is up to you, not up to the teacher. Come after school. Come before school. It takes so much effort to get a mastery, but an A? I think you could just get it, just receive an A. A mastery, you have to work for it, put in a lot of effort. You receive an A but you have to earn an M. (3.10.05)

Latrice’s testimony differentiates Mastery’s “M” grade from traditional schools’ “A” grade by claiming that an M requires more effort (“You receive an A but you have to earn an M”) and more agency on the part of a student (“It is up to you, not up to the teacher”). These considerations can give students considerable feelings of control, which are important for promoting academic engagement (Ryan & Deci, 2000; Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Midgely, 1983).

When Latrice describes the feelings she gets from achieving, she illustrates a position which shows she has integrated Mastery’s “M’s” into her own ways of thinking and operating. She says,

When I get an M in a hard class that is a challenge to me, I feel like I can accomplish anything. It is my challenge but I love it. I love it! It is hard, but it is what makes me believe that if I can do this, I can do anything in life. That is what mastery says to me. It’s like I tackled a huge challenge and I won. It used to be like I was doing it because I couldn’t face my mom with an F. But now, what all [my achievement] it means is basically, in a class, they’re saying that you can achieve anywhere, any time, and that stays with you. (3.10.05)

Latrice’s testimony here shows that she has assimilated the extrinsic motivator of grades so that they regulate her behavior from within rather than from without. Ryan and Deci (2000) have posited a continuum of regulatory styles that explains phenomena such as this. Actions on this continuum go from least autonomous to most autonomous, beginning at the stage of external control, where we work only in anticipation of reward.
or punishment. From here, we progress to introjected regulation, a stage at which we respond to semi-internalized feelings of guilt or obligation about pressures outside ourselves. The next stage is identified regulation. At this stage, we choose to work because it helps us reach self-selected goals. And finally, at the most autonomous end of the continuum, we experience integrated regulation of extrinsic motivators, when there is no gap between identified values and our own values, and at which time the lines between extrinsic and intrinsic motivation are blurred. See Figure 7, where Ryan and Deci's regulatory styles are illustrated with representative sentiments based on Mastery students quoted in this chapter.

![Figure 7. Ryan and Deci’s continuum of regulatory styles (2000)](image)

Whereas Latrice's work habits were once externally regulated by her fear of facing her mother with an F, indicating external or introjected regulation, her success in earning M's shows integrated regulation of high achievement values attached by the school to the grade of M. Latrice now clearly "owns" these values. They allow her to feel not only competent, but also allow her to feel that by achieving at MCHS, she can achieve anywhere ("It is my challenge but I love it!")
Mastery and achievement goals

Latrice exhibits not only integrated regulation of extrinsic motivation, but also considerable control and maturity, the kind of attitude that the leadership team originally imagined all students would come to feel while at Mastery, and the basis for the parts of the mastery system that relied on unswerving student devotion to academic achievement. However, not all students at Mastery share Latrice’s maturity and ability to “assimilate external values and reconstitute them into personally endorsed values and self-regulations” (Brophe, 2004, p. 187). More common among students at MCHS are shared notions about what achievement is—that is, shared achievement goals. This is another reason many students tend to regard mastery as doing: This view is consonant with their achievement goals.

As noted in chapter 3, learners tend to embrace one of two types of achievement goals: learning goals or performance goals. Again, learning goals reflect a desire to master new skills or understand new things, to improve ability and “get smarter,” whereas performance goals show a desire to be judged positively, to appear competent, and above all, to “avoid looking dumb.” As Dweck (2000, p.15) has written, both types of goals “Are entirely normal, and both can fuel achievement.” For optimum motivation, it is best if students embrace both learning and performance goals (Brophe, 2004). In illustration of this point, some Mastery students’ stories suggest that unless performance goals are balanced with learning goals, students will be so concerned with a need to appear competent that they will ignore or reject opportunities for learning. Natalie, for instance, is a freshman at Mastery whose comments about why she works display the dangers of an over-reliance on performance goals:
When I do my work, I think about what [grade] I’m gonna get. All I think about when I do my work is if I am smart enough. Yeah, I gotta get all worried about rules and how to do every little thing right. It is hard, but then it is worth it, cause then it make you feel confident in class, and then you bring your work home, and you be like, ‘Look, Mom!’ … But sometimes it don’t [work like that]. You could try your hardest, but unless you get an M, you are thinking about that--that score that you have… When I get an I it doesn’t motivate me to do anything. Like I am not even going to try next time. You just thinking about--the mastery, M or I.

(5.22.05)

Natalie appears to be motivated to work because she wants the rewards of an enhanced self image. In fact, it seems her needs for positive judgment will determine whether or not she works at all. Because she did not win positive judgment from one assignment, she says, “I am not even going to try next time.” Once Natalie’s fears make her stop attempting to work, she can be said to embrace work avoidant goals. Natalie has perhaps moved from performance goals to work avoidant goals because unlike Latrice, Natalie has been working at a stage of identified regulation, where she operates with less ownership of her own learning. Students at this stage tend to consider assignment requirements less carefully, show lower persistence, and are less likely to use deep learning strategies than students who have internalized externally-prescribed regulations (Brophe, 2004). Natalie is also so acutely aware of the psychological consequences of her performance that she apparently rejects some learning opportunities that might reinforce negative feelings for her.

Students’ achievement goals are a consequence of the theory of intelligence to which they subscribe (Dweck, 2000). Learners like Natalie appear to subscribe to an entity theory of intelligence, which holds that intelligence is a fixed trait dwelling inside the learner. An entity theory of intelligence “requires a steady diet of easy successes”
(Dweck, 2000, p.3). It exists in contrast to an incremental theory of intelligence, which holds that intelligence is something that can be increased and developed through effort. Which intelligence theory a student holds will have significant implications for how much work he or she attempts. These implications are especially troublesome at MCHS, where the mastery system, even after the revision policy modifications of 2003, assumes that students will take advantage of repeated opportunities to revise and learn.

The mastery system, in other words, rests on an assumption that students hold incremental theories of intelligence. What is problematic about this assumption is that it is likely incorrect. Scholars including Dweck (2000), Brophe (2004) and Elliott et.al. (2005) believe that the more commonly-held theory among Americans is the entity rather than the incremental theory of intelligence. This explains why students like Natalie do not view mastery system opportunities for revision as ways to increase their learning. They see them, instead, as Natalie demonstrates, as invitations to avoid taking intellectual chances. Why would a student attempt to do an assignment unless absolutely sure that he or she will earn an M for it and not have to revise? Why take a chance, get an I, “look dumb,” and have to revise when, by not trying, students can get the same grade and preserve their self-image (and still have to do the assignment over again, anyway)? This is one downside to regarding mastery merely as doing. Focusing students’ attention on what can be counted (i.e., a number of completed assignments) rather than on what has been learned (a feature which is much more difficult to measure) feeds their tendencies toward performance goals, and may not encourage students to seek out challenges.
Some students do strike a balance of learning and performance goals. Latrice seems to affect this balance by regarding performance goals (showing up and being “ready to learn”) as precursors to learning goals (“learning the material”):

If you put forth effort, you are going to learn. You need to get yourself here, get yourself in a state of mind that is ready to learn, and then you gotta apply yourself....It’s not hard for me to put in that extra effort cause I do it so much already. And Ms. Nolan is giving you M grades for putting in more effort, doing the back[ground] research, coming after school...so you want to take on the challenge of the whole [major research] paper, which will show them that you learned the material. (3.14.05)

By doing the simple things that will earn her “easy” M’s—coming after school, doing background research—Latrice is positioning herself to take on the more challenging, risky work of a major research paper. Her behavioral engagement paves the way for her cognitive engagement, and her performance goals support her learning goals, all of which enables her achievement. In Latrice’s case, the mastery system facilitates and feeds her drive for competence and control at school.

Kareem, the sophomore quoted earlier, balances the two types of achievement goals in a different way than Latrice, by working simultaneously for the sake of learning and for the sake of a reward. He describes his Humanities assignment in a way that reveals this balance:

In Humanities I usually have a lot of work to do, but I do it cause I like a challenge. Here we had to, like, identify ten terms in an article about the Enlightenment. We had to find the word, read the definition, and then put it in our own words. I got ten out of ten, I got that M... because I put my heart into it. I wrote a lot. Complete sentences. Proper grammar, spelling. It is neat, I did all the questions, didn’t skip nothing. Even did the ones that was hard. I did them so I could understand what the Enlightenment was all about. (4.26.05)

Among other things, Kareem says he “like[s] a challenge,” and that he works “so [he] could understand....” While these comments show an embrace of learning goals, this
embrace is not pure. Kareem also says he “got that M.” which suggests that his embrace of learning goals does not preclude an enjoyment of external rewards—in this case, grades. Because he later explains that he values high grades because he wants to go to college and study criminal justice, Kareem shows classic identified regulation of extrinsic motivators. He works not only because he wants to learn, but because he knows satisfactory performance will get him where he wants to go, which in turn increases his sense of competence. Throughout his interview, Kareem shows this consistent perseverance and passion for his long-term goals—what Duckworth, Peterson, Matthews, and Kelly (2006) have called “grit” and what they maintain is the defining non-intellectual feature of successful individuals.

A range of expectancies

Natalie’s, Latrice’s, and Kareem’s feelings about their abilities to complete work represent a range of efficacy beliefs and expectancies. Each student’s feelings may be attributable to a combination of previous experiences, anticipated feedback, and his or her perceptions about areas of strength and weakness (see Weiner, 1984, on attribution theory). At the least, Natalie, Latrice, and Kareem’s feelings certainly reflect an orientation toward efficacy more complex than a static “I have high expectations for success” or “I have low expectations for success.” This recognition calls for modification of the expectancy section of the 2x2 model of the expectancy x value framework. Using terms and concepts from the dimensional engagement model, student expectancies about success can be depicted more accurately as existing along a range of feelings, shown along an axis, rather than in one of two discrete, either/or columns. See Figure 8.
Rejecting (Natalie): “I am not even going to try next time”
Completing the task (Kareem): “I didn’t skip nothing”
Deeply engaging (Latrice): “It is my challenge but I love it!”

Figure 8. Continuum of expectancy in the expectancy x value framework

In this figure, to most graphically represent Natalie’s, Kareem’s and Latrice’s differing expectancies of success, only the top row of the expectancy x value framework is depicted. In between Natalie’s rejection of engagement and Latrice’s full engagement is Kareem’s more superficial engagement, at the task completion-level. He has high expectations for success, but does not engage on the same level as Latrice. If we see Kareem and Latrice only as two students who both display high efficacy beliefs, we fail to notice a difference in the depths to which they are engaged. This modified model allows us to note and inquire into different dimensions of student efficacy beliefs, student feelings of competence, and student engagement.

Teachers’ negotiations of students’ achievement goals

What is clear in Latrice’s, and to a lesser extent, Kareem’s descriptions of the work they do are the accommodations their teachers have begun to make to students’ prioritization of effort. Teacher testimony shows that, by the 2004-2005 school year, they had found different ways to modify their evaluation practices and definitions of mastery to include recognition of student effort. The fact that teachers had begun to use M’s to validate student academic attempts as well as academic proficiency was important for a
couple of reasons. One, rewarding developing abilities as well as expert performance allowed struggling students -- and it could be argued that the majority of Mastery students are struggling students--to feel competent when they applied themselves and worked hard, which is arguably a necessary precondition for academic commitment. And second, given most Mastery students’ tendencies to embrace an entity theory of intelligence, it allowed MCHS teachers to require all students to be challenged.

The shift to including effort as a criterion of mastery grading may have come about because Mastery teachers realized the importance of hard work to their students. In assigning primacy to effort, MCHS teachers were, perhaps, recognizing and accommodating their students’ tendencies to embrace entity theories of intelligence. People who have an entity theory of intelligence tend to believe that needing to expend effort indicates low intelligence. Given this view, people who work hard are seen as not being as smart as people to whom things come easily (Dweck, 2000, pp. 39-40). At Mastery, this means that if bright students faced an assignment which required considerable effort from them, they might not attempt it. In their belief systems, the hard work it called for would make them look somehow intellectually deficient.

Ms. Nolan, a Humanities teacher who has seen students bring beliefs like these into her classroom, discusses the decisions she has had to make to address them. Ms. Nolan believes it is important to establish fair standards that are consistent with student values. In maintaining these standards, she thus prioritizes effort and does not let bright students rely on native intelligence to pass tests while they skip more medial or mundane assignments. She says,
There are some students who come in thinking they already have the skills. And it’s not that they haven’t learned anything. Not at all, you know? You can tell by what they say in discussions, whatever. But they haven’t *earned* anything, they haven’t done anything to show that they know…. And so I have to be fair and equitable to the rest of the students in the class, and [tell those particular students], ‘No, you can’t pass. I know that you know the material, but you didn’t DO anything. You did nothing!’ (7.14.05)

Ms. Nolan appears to be trying to counter her students’ entity theories of intelligence by making hard work a requirement for all students. As they attempt to do only the assignments which allow them to enhance feelings of competence, Ms. Nolan adjusts her expectations to ensure that these students do all salient tasks. In Ms. Nolan’s classroom, mastery has to mean *doing* for all students.

Other teachers found different ways to accommodate student beliefs around effort and modify grading practices accordingly. Some, like the teacher Latrice noted above, started giving students M’s when they came for extra help, and when they completed preliminary activities before engaging in more summative mastery projects. Teachers who worked mostly with ninth graders gave their students what amounted to M’s for social and academic compliance—that is, for coming to come to class prepared and attempting assignments. One of these teachers, Mr. Mooney, said, “We meet the students where they are. In my class they set their own goals. Sometimes we have to start small, and that means paying attention in class, writing homework assignments down every night, participating in class, and what have you” (12.5.05). Mr. French, who worked with 9th and 10th grade students, also rewarded academic compliance with a complex, homemade system that gave students mastery points for participation and classroom behavior. Teachers of older students tended to reward their students’ efforts by giving
students points when students submitted first drafts, by awarding M’s when students met incremental deadlines, and by letting students do extra work.

Such practices may be common in other schools. They are especially significant at Mastery, where teachers who adapt them are pushing against original assumptions about student motivation and assessing only ultimate skill mastery. These practices show teachers struggling to make the mastery system work so that it fits better with student understandings, reinforces student success, and serves student needs to feel competent.

Mastery equals 76 points

At the start of the 2004-2005 school year, the mastery system was changed so that all assignments received number grades in addition to or instead of I’s and M’s. All assignment scores were averaged, and any student who achieved a course average of 76 was considered to have demonstrated mastery in that course. All students who demonstrated mastery in this way were promoted to the next course in the sequence. Although it is tempting to believe that Mastery leadership recognized students’ understanding of mastery as doing, and changed the grading system to better align with this vision, no one at the school claims that these changes were made in direct response to students’ ideas about mastery. It was a practical decision, made by Soloway after observing wide variations in teachers’ and students’ usages of the old system. When he talked to me in 2004 about making the system number-based, he said that making grading practices more “transparent and consistent” would enable “continuous improvement” at the school (field notes, 5.21.04). Later, he explained the change as a necessary simplification, “… a concession to reality. 76 is a numerical approximation. If a kid can
get to a 76, it shows they’ve learned... We had to change to a simpler, easier system that more people understood” (2.13.05).

Points and Mastery teacher practices

Once the change to numerical grading took effect, teachers and students had to learn to work with it. They negotiated these changes, and each others’ responses, in a variety of ways that may have made the system more effectively serve students’ needs for competence. According to teachers, the switch to numbers standardized and clarified grading practices. Some teachers were pleased with the ways numbers improved communication with students about academic progress, and with the ways it helped enable systematic evaluation of students’ academic performances. While some expressed the strong belief that evaluation of learning is never a simple game, teachers on the whole seemed gratified (and perhaps a bit surprised) to discover that a number-based system could help them develop more reflective and effective grading practices. Using numbers in evaluation also helped some teachers organize and more effectively assign relative weights to various assignments. Teachers adjusted instructional systems and practices in their classrooms to take advantage of the control and specificity that they felt the new system gave them. In addition, some teachers felt that the switch to numbers gave them more freedom to differentiate evaluation for students with special needs.

Overall, the decision to make mastery equal a particular number of points represented an institutional acknowledgement that task completion and student achievement are, if not synonymous, then inextricably interwoven. The numerical system reified the challenges that had always been inherent in pre-numerical mastery grading
practices. Teachers always had to figure out whether an assignment would be graded for completion or for mastery, and had to organize instruction so that they could give points for incremental progress as well as for eventual, ultimate skill mastery. Numbers concretized the unwritten accommodations teachers had been making within and despite the original mastery grading system. Mastery as a concept still stayed at the center of the school’s culture of high achievement. Now, however, that concept had a simple, quick reference point that most teachers, students, and administrators found helpful. Numerical grading helped the staff capitalize on the sense of control that task performance can give students, and challenged them to fight against creating assignments that exacerbated students’ less thoughtful work habits.

Although teachers who had been at Mastery for a few years initially expressed some concerns about the switch to numbers, they were mostly enthused about its alignment with students’ ways of understanding, and saw it as a much-appreciated end to the school’s experimentation phase. Mr. Bryant says,

I wasn’t sold on [the switch to] numbers in the beginning, but I think we’ve lost some ambiguity, which is a good thing because in the context we’re in, when the school has changed a lot of things about its program and everything,8 I think it’s good to have something for kids to have that’s concrete. So I think we’ve gained clarity and things make more sense for kids, which is good (8.14.05).

Mr. Bryant’s general feeling is consistent with Soloway’s. The change to numbers represents a move to simplicity and clarity.

While Mr. Bryant believes that the switch to 76 allows the notion of mastery to make more sense for students, other teachers believe that grading by numbers is also

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8 The “program changes” to which Mr. Bryant refers include changes to the after-school tutoring policies and revision policies noted here, as well as other logistical changes (i.e., academic course names, the school’s name, semester length, etc.), which he feels added to a sense of instability and excessive flux at the school.
fairer to students. Ms. Miller, a Science teacher, explains that the undifferentiated values of pre-2004 mastery were not only confusing, but inequitable:

My first year, it wasn’t points. It was essential assignments, all that. But [she says with great enthusiasm] I love the change! I like it because now I can really assess mastery. I can put a number on it. Kids see the number and they learn something about how far they have to go, where they are at. This person has a 50, but this one is almost there and has a 70. With a number, now I can see the difference. I can show the difference between a 76 and an 85 or a 95. There are huge differences in the ways a student thinks if they get a 76 or a 95, and before their grades couldn’t show that. Everyone was just sort of lumped together. (11. 22.05)

Ms. Miller believes that numbers give her and her students more information about student performance. She values the control and specificity brought about by the switch to what she sees as a more precise and revealing way to measure mastery.

Another teacher, Mr. Hopper, agrees with Mr. Bryant and Ms. Miller in saying that the new system helps teachers and students communicate about mastery more effectively, and also notes that numbers actually make him more thoughtful about evaluation:

I think it is better for [the students] to be able to say, ‘Look, you’ve got a 62. Let’s do the numbers and see how you got there and what you can do to pass the course.’ It is more helpful to a kid to know what he has to do to make it…When I didn’t have to put a number on a kid’s work, when I could just roughly assess where he was, it made me less thoughtful. Which is kind of funny, because everyone thinks of numbers as being so rote and nondescriptive, not at all evidence of reflection. But just having a need to quantify made me much less fuzzy. Made a lot of people much less fuzzy. (11. 29.05)

Although Mr. Hopper has been unexpectedly gratified by the ways numbers have made his evaluation practices more precise, both Mr. Hopper and Mr. Bryant also say that a reliance on numbers may reduce learning, in students’ eyes, to “stuff you have to do.” In fact, both teachers use this exact phrase in our conversations, and both complain about students’ tendencies to work through assignments carelessly. Still, they agree with Ms.
Miller that the clarity and fairness numbers bring to them and their students is worth the trade-off. Numbers seem to provide all mastery stakeholders with a kind of *lingua franca* which facilitates communication about student achievement. As Mr. Hopper says, the switch “gave the whole school the same terms to work with, and probably made it easier… for students to know what teachers expected from them in terms of work habits and academic standards in general” (11.29.05).

The new system of mastery grading had notable effects on some individual teacher’s instructional practices. Mr. Quinn, a science teacher, was able to use the system to turn students’ tendencies to engage at the dimension of task performance to their own advantage. He began to design, sequence, and evaluate activities that assess more medial skill objectives:

So I discovered teaching last semester when we first implemented this system that numbers let me actually pick and choose what I was assessing in a much more focused way. I view my prerogative as a teacher now to use the assignments to assess students’ skills of…well, various skills. It could be content, it could be reading directions, and I try to, I don’t know, I try to deconstruct the major assignments a little bit more, so that they’re actually steps that students can take to fulfill the purpose of the assignment. They do a little, they get some positive feedback in the form of a high grade, they do a little more, they learn from their mistakes and their successes. I feel empowered now to take control of those steps, and I feel like I could tweak them to get what I wanted out of the student, in terms of content, or skills, or whatever. (6.20.05)

Mr. Quinn’s use of numerical grading deserves attention. He appears to feel empowered by numbers. Their exactitude gives him new ways of analyzing and planning lessons, and new opportunities to direct instructional attention to student needs. Number-based grading has allowed him to define and hold students accountable for the constituent elements of a learning activity. Mr. Quinn uses mastery grading by numbers to focus instruction around student needs. The way he defines and parses an assignment (to use
his term, the way he “deconstructs” it) enables him to replicate the learning-to-learn approach of Mastery’s Academic Literacies program.

Accommodating students’ views of school assignments as tasks to be completed, Mr. Quinn does not fall into the trap of making assignments so easy or automatic that students feel apathetic or bored. He instead uses students’ beliefs about mastery as doing to inform and refine his processes of assignment creation and skill assessment. He supports students’ learning by providing them with discrete opportunities for engagement, feedback and self-reinforcement as recommended by Bransford et.al. (1999) and Csikszentmihalyi (1993). Finally, Mr. Quinn’s comments show that concretizing the mastery system via numbers not only increases feelings of competence for some students, but for some teachers, as well.

Developing mastery and academic skill assessment

Numerical grading at Mastery increased feelings of competence among students not just because the new system was more concrete, but because it allowed teachers to reward students’ developing mastery as well as expert knowledge. Common to the teachers’ comments above is not only a concern about mastery grading facilitating effective communication with students, but also a need to make the new system more fair than the old, non-numerical mastery grading system. Ms. Miller’s testimony, especially, reminds us that before the change to numbers in the fall of 2004, Mastery staff had not resolved whether or how the M grade should reward developing, as opposed to expert knowledge. The only way the ongoing records of a student who was close to mastery in a course could be differentiated from a student who was totally lost was by comparing how
many assignments each student needed to revise. This points to a fundamental problem that lay at the conceptual core of mastery as a standard. If the school defined mastery as expertise, then it could not use grades of M to assess progress toward expertise. Switching to a system that allowed teachers to assign and then average a series of assignments to be completed on the way to terminal mastery projects helped resolve this dilemma. It allowed teachers to reward developing skills in ways that are more in line with theories of learning in general and with the requirements of special-needs or low-skilled students in particular.

Expecting a student to demonstrate expertise in every assignment shows an incomplete understanding of learning on the part of the educator. It is especially inappropriate to expect consistent expertise from MCHS students after only a few months of instruction, given that their work at school often includes remediation of academic skill deficits. Bransford et.al. (1999, p. 19) have written about the fallacy of expecting expert knowledge from students who are still struggling to gain novice understanding in foundational areas. In growing recognition of this reality, MCHS teachers began looking at the ways in which students improve their skills over time, and the school as a whole began moving toward recognizing developing mastery.

This shift had begun for some teachers earlier. Mr. Wolf, who works exclusively with Special Ed students, and Ms. Craft, who teaches only ninth graders, explain that even before the school changed its grading system, they knew that their students benefited more from evaluations based on personal improvement rather than on strict, absolute achievement standards. Mr. Wolf believes “...that if a kid with an IEP in that subject is there [in class] every day, working as hard as they can, then they’ve met
mastery” (3.10.05). Ms. Craft says she gives M’s on homework assignments “...not for accuracy. It is for definitely for trying, for bringing the work home, doing more than what you’ve done in the past. It is incremental. [It is about]...showing improvement. It is definitely based on you putting forth the effort (11.18.05). These teachers describe the accomplishments of students who are inching along the dimensional engagement continuum as they move from social compliance to academic compliance to task performance. Their comments demonstrate the belief that with or without numbers, students’ consistent efforts and their daily actions that say “I can” are evidence of mastery.

Recognizing effort and progress toward mastery rather than insisting on an ultimate mastery standard keeps M’s in reach of all students, including those with IEP’s. Mr. Wolf says that in order for mastery grading to work, “there has to be some way, something Eli [a very low-skilled student] can be successful in. Otherwise he’s not going to do it, he’s not going to try” (3.10.05). Ms. Miller explains: “There are some students that have low skills but as long as they put forth effort, come to office hours,⁹ do their part, they are going to get mastery. They won’t get higher than a 78, maybe, but they can do it” (11.22.05). Both these teachers acknowledge that even when mastery is described in terms of fixed standards, those standards must include a measure of effort.

As noted in Chapter 3, the mastery system was originally conceived to enable all students to reach a fixed standard. There were many supports available to students to achieve these standards, but there were no incentives rewarding incremental progress along the way. Before 2004, no student got credit for attending weeks of after-school

⁹ “Office hours” are open, voluntary after-school extra help sessions offered by each MCHS teacher at least two days a week. Office hours replaced A.S.P. (Mastery’s original, “Academic Support Program”) in 2003.
tutoring, or for improving every time she or he took a retest. The only extrinsic motivator for struggling students was the elusive M. When teachers began to use M’s to recognize students’ efforts as well as their end performances, mastery grading became able to increase feelings of competence in those students who have the desire but not yet the skills to achieve at high levels. This change also brought the mastery system into closer alignment with a more egalitarian and more student-based notions of mastery as doing.

Based on these increased feelings of competence, it might be supposed that the changes to the mastery system described so far in this chapter resulted in increased achievement for students, overall. Stipek et. al. (2004, p. 37) have explained how this relationship usually works. They write that “[f]eelings of competence give... [students] a feeling of personal control, which has been shown to be critical for engagement, effort, and actual learning.” The rest of this chapter shows, however, that while the switch to numerical grading may have increased Mastery students’ feelings of control, these feelings did not necessarily lead to increased learning.

**Problems with “mastery as doing”**

Although there may be advantages associated with regarding mastery as doing, particularly in relation to increasing students’ feelings of competence, accommodating this view by changing to a numerical system and including measures of effort and progress in mastery grading did not fix all the problems of the old system and did not necessarily increase student achievement and learning. There are at least four possible explanations for this. The first is that the increased attention to task completion accompanying those changes may invite a sense of decreased accountability for
understanding. Just because a student does all ten out of ten problems does not mean that he or she understands the concepts. Second, assigning a value of 76 points to mastery does not eliminate the need for professional development in evaluation. Although administration could, in the fall of 2004, simply tell students and parents that “Mastery now equals 76 points,” this did not mean that teachers in 2004 knew how to use points effectively and fairly to evaluate student learning. Third, setting the numerical standard for mastery at 76 may have represented a low threshold for some students. Correlating mastery with a 76 percent accuracy or task completion rate might actually encourage underperformance for more able students. These are all trade-offs that came with the 2004 change to numbers and its accompanying tendency to make grading an accounting of requirements done rather than as assessment of learning. And finally, no simple system can overcome the needs some students have to work out various personal and developmental issues at school. For some students, these needs are much stronger than needs to gain feelings of competency through schoolwork. No matter how transparent a grading system is, or how generously it rewards effort, it will have little effect on how much work some students do.

Task performance vs. understanding

The first problem associated with assessing doing rather than understanding is an obvious one. When teachers give students M’s for simple task performance, student misunderstandings may not be adequately recognized and addressed. When a teacher gives a student a grade of 76 for attempting to complete a particular assignment, and does
not note whether that 76 refers to assignment completion or conceptual understanding and/or skill mastery, students' learning can suffer.

This situation presented itself in my conversation with Kareem, the second year-student quoted at the beginning of this chapter. During our talk, it became clear that Kareem had not really understood his Humanities reading, had serious misunderstandings about the lesson's basic ideas, and in fact might not have had the skills he needed to complete the assignment successfully. He may have gotten an M from his Humanities teacher because he answered ten out of ten questions, but my field notes, written immediately after our conversation, indicate that Kareem's understanding of the assignment's topic, the Enlightenment, and his reading habits were in need of some attention:

He read his answers aloud, one by one. As he did, I was (almost) struck dumb. Some of the answers did show a basic grasp of who Hobbes or Locke was, or what they said about human nature or government. But most of his responses were nonsensical. He read his responses easily and with great facility, and is clearly a verbal, conscientious, smart kid. But as he read aloud, he was clearly unfamiliar with ... even knowing where one name ended and another began. For instance, 'Rousseau' was one man, and 'Jean Jack' was another person altogether (a woman), and their ideas about government were completely opposed... I tried to see if talking with me about these thinkers and their ideas would allow him to show more of a grasp, but the one thing our conversation revealed was that Kareem had absolutely no understanding of most of what he had read. With the exception of his paragraph on Hobbes, which showed actual comprehension (Kareem agreed with Hobbes that people will try to get away with whatever they can, and that you need a 'leviathan of rules' to keep them in line) but did not relate to the prompt, Kareem showed consistent confusion and misunderstanding about great figures of the Enlightenment...What is this teacher assessing? (field notes, 4.26.05)

Kareem’s grade of M notes his success in completing the assignment rather than his understanding of the task or the content. His teacher—who had one year of teaching experience-- either failed to recognize or chose not to record Kareem’s uncertainty about
Rousseau and the social contract, as well as his inability to follow directions for the writing prompt. Different grading practices could have given Kareem useful information that might help him deepen or correct his understanding of the Enlightenment, or might have required him to seek help. A different grading approach might have also given his teacher information about key concepts or reading skills that needed to be reviewed or taught again. Kareem’s teacher may have decided to use mastery grading to give Kareem a sense of competence as regards his schoolwork, but it is important to create such a sense based on accurate, thorough assessment. Students start to devalue evaluation when it is inflated and inaccurate; such practices may ultimately undermine feelings of competence at school, and contribute to students’ disengagement from learning (Stipek et. al., 2004). Factors other than the mastery system’s switch to numbers and a view of mastery as doing are certainly at play in Kareem’s missed opportunities for learning about the Enlightenment. However, it is fair to say that the high grades which students like Kareem earn when they and their teachers regard mastery as doing do not necessarily indicate increased learning.

**Mastery grading and professional development**

The problem of hasty and imprecise evaluation is not isolated to open-ended Humanities assignments at MCHS. Anthony said that when his Math teacher checks the homework in his Beginning Algebra class, for instance, without reading students’ papers, he believes his peers’ learning suffers:

Like there is this boy in my Math class, Antoine, and he come in and Mr. Ruggle, he say take your homework out. And Antoine, he just be writing anything. When Mr. Ruggle come by to look at it, he not checking the answers, he just looking to
see that you did something. And I just say to myself, that is a shame. He [Antoine] don’t even know it. (5.17.05)

It is important to ask whether Anthony and Kareem’s experiences represent isolated incidents. Could it be that I coincidentally happened upon two situations where busy and/or inexperienced teachers checked off students’ work quickly and thoughtlessly, and that such situations actually occur only rarely at Mastery? While I intentionally avoided interrogating teachers about their specific grading practices, it was impossible not to notice, as they talked about mastery as a concept, teachers’ ranges of awareness about the difference between grading for completion and grading for understanding.

Most of the teachers interviewed for this study did not mention that they needed to decide whether each grade of M they awarded meant understanding or completion, or that their grading practices included any distinction between the two. When we analyze their awareness of grading practices according to years of teaching experience, a clear picture emerges. Of the seven interviewed teachers with less than five years’ experience, only one teacher said that she made conscious decisions about whether she was grading for completion or accuracy. The six other less experienced teachers were not queried directly because our conversations strongly indicated that they were not operating at this level of awareness. Most of the experienced teachers said that they graded either for completion or accuracy and depth of expression, depending on the nature of the assignment and on what one teacher called “student maturity.” (11.18.05)

The range of practices and understandings around evaluation reveals two challenges built into assessment at MCHS. One can be traced to the tension and uncertainty within original mastery grading practices about whether a grade of M referred
to task performance or actual skill and content mastery. The other contributing factor is a problem inherent in every grading system: subjectivity. Just because teachers all use numbers does not mean that they all align those numbers with common grading standards. Saying an assignment deserves a grade of 76 is, in actuality, often no less a random, subjective judgment than saying an assignment shows mastery.

A grading system is most useful for teachers and students when it is implemented with substantial training and professional development (Wiggins, 1998). The change to viewing Mastery as 76 percent in the fall of 2004 gave Mastery administration and teacher leadership opportunities to reopen school-wide discussion about evaluation, and to support teachers in meeting the challenges of using a numerical grading system to assess content and skill mastery. This was a prime opportunity to engage teachers in conversation about using assessment to pry students away from task performance and move them toward deeper cognitive activity. Leadership did not take advantage of this opportunity, did not follow through with the discussion, practice-sharing, and professional development that would have allowed the new grading system to enrich every teacher’s practice. In the end, switching to 76 did make it easier for staff and students to talk about mastery, but it did not clear up any “fuzziness” at MCHS around mastery as an evaluative standard.

The change to numbers does, however, seem to have resulted in more thoughtful teaching and assessment practices for some teachers. It may have invited some other teachers to convert opportunities for useful formative assessment into superficial checklists of completed tasks. As one new teacher said while showing me his list of requirements for mastery on a given writing assignment, including proper heading, three
to five sentences per paragraph, and other formal but no content-based elements:

“Mastery is 76 now, but it is still whatever you make it” (6.20.05). When “what you make it” is a checklist of formal requirements, when an M means simply, “it was done,” students’ needs for feelings of competence may be more easily served, but less thoughtful teachers may be using numbers to make assessment simpler and easier for everyone, and also less meaningful and formative. Numbers for some teachers increased the tendency to reduce learning to a number of tasks that could be performed and counted. Numerical mastery grading provided new opportunities for teachers to increase student feelings of competence, but without thoughtful implementation and support, it did not, overall, result in improved student learning.

Is 76 too low?

Another problem with making mastery mean that a student has completed 76 percent of his or her work, or that he or she has reached an accuracy level of 76 percent, is that such a standard is not high enough to constitute a challenge for some students. In order to ensure maximum engagement and learning, students must be challenged at an optimal level of difficulty (Csikszentmihalyi, 1993; Vygotsky, 1930/2006). The critical factor here is student perception of standards and expectations, rather than actual task difficulty, so that students are neither excessively frustrated with work that is too difficult nor bored with work that is too easy. If students think the standards are too low, if they will not work for a “mere” 76, this will greatly affect their efforts and motivation to achieve.
A number of interviewed older students, those who attended MCHS when the old, pre-numerical system was in place, mentioned that they thought the new system brought the standards down because it set mastery at 76 rather than 80, which had been the default number grade used by teachers and administrators when they needed to provide parents or other schools with a numerical equivalent for mastery before fall 2004. Some students voiced concern about 76 requiring only minimal effort. One said she thought that since “MCHS is not just some high school…working for a 76 is not good enough” (focus group, 6.05). Seven interviewed students said they thought that a 76 was too low and that mastery should be a higher number. Students in three of the June 2005 motivation study focus groups said that they believed that most students are satisfied with a 76 and will not try to go higher. In the same way that the previous chapter showed students devaluing tests which could be retaken until they were passed, lowered mastery requirements may negatively impact some students’ motivation and achievements, as well. Students will not seek to gain feelings of competence at school if they perceive that the standards are too low.

Opting out of the mastery system

The last reason the mastery system, whether it rewards effort or learning, whether it uses numbers or not, may fail to effect students’ achievement is because some Mastery students do not seek to gain feelings of competence through academic work. Unless students are invested in their own success at school, it doesn’t matter whether teachers reward intentions, efforts, incremental progress or ultimate performance, whether they use numbers, letters or any other grades. Students and teachers may jockey around each
other in efforts to control student engagement, but ultimately, if a student’s fundamental investment in making an effort at school is compromised for some reason, the dance will go nowhere. Students will not seek to gain feelings of competence at school, and they will not achieve.

There are two reasons Mastery students may not be vested in gaining feelings of competence through academic work. These are, first, that a student may be so concerned with establishing or preserving a positive self-image that he or she embraces neither performance nor learning goals, but work-avoidant goals. Since these students will not be doing much work at school, the grading system makes little difference to them. The second reason a student might not seek to take advantage of the new grading system’s recognition of effort relates to that student’s needs to maintain feelings of autonomy and agency at school. These needs will be explored at length in Chapter 6. In this chapter, focused on student feelings of competence and efficacy, it is useful to revisit students’ achievement goals to see how the relationship of these goals to the modified mastery grading system affects student learning.

We have already seen that some of the instructional modifications which accompany the change to numbers (i.e., dividing and structuring assignments into smaller, constituent tasks), tend to foster performance goals rather than learning goals. It may also be true that these changes tend to foster work-avoidant goals, as well. This was seen above in the example of Natalie, the first-year student who was so affected by a grade of I that she did not attempt subsequent assignments. Natalie is the student who said, “When I get an I it doesn’t motivate me to do anything. Like I am not even going to try next time” (5.22.05).
Students like Natalie may seek to avoid work that puts their self-confidence at risk. They do not seek feelings of competence through school work because they are trying to protect their egos. These patterns of disengagement may have been established in earlier grades and strengthened by prior experiences in school; such experiences feed students’ self-efficacy perceptions and their needs to protect a sense of self-worth (Brophy, 2004; Stipek et.al, 2004). These students are less likely to try to gain feelings of competence through schoolwork, no matter how segmented, structured, and achievable the assignments may be at Mastery. Mr. Michaels is a dean of students at MCHS. He adds another reason it may be especially hard for some Mastery students to use school as a place to pursue feelings of competence:

And then in the academics, if we make it a challenge, we are asking even the smartest ones to take a risk and be caught not knowing the answer—well, that is hard for adults, for anyone. It’s tough. Especially when they have taken a risk in the past and put their trust in an adult, and that adult has not been there for them! They’ve left so many of these kids high and dry. So now, these kids don’t trust. They don’t go outside their comfort zones. It’s dangerous for them. (12.6.04)

Dean Michaels acknowledges that vulnerability accompanies learning, and that more challenging learning situations at Mastery may be doubly risky for those students who have been betrayed or let down by adults, as he believes many Mastery students have been. His observations echo the conclusions Stipek et.al. (2004, p.33) have drawn about students’ dispositions toward learning – that these dispositions develop in relation to the educational environments and experiences which students have known.

Some students feel that their efforts to attempt difficult assignments are supported adequately at Mastery. One first-year student in a focus group explains: “I do it if I know how, if the teacher has broken it down and shown me how to do it” (6.05). For some
students, though, previous educational or other experiences may have damaged their motivation to perform in school so much that no system or approach can change it. For instance, another first-year student, Howard, said,

For me... most of the time I be thinking, 'This is too hard. I don’t get it.' Sometimes you just fool around. Or you just fall asleep. Could be either one. But ain’t no way you gonna put yourself out there and say you don’t know... It [is] just school. (5.17.05)

Howard is saying that school itself is not important enough for him to risk looking like he does not know something. Skillful teachers may find ways to engage students like Howard (by making the classroom environment warm and supportive, and by increasing the relevance of the curriculum and materials, for instance), but making changes to the mastery system cannot guarantee that a student like Howard will feel compelled to pursue feelings of competence at school. Similarly, basing mastery grading on numbers will not help protect a student like Natalie from feelings of inadequacy and helplessness. Nor will it help Zack, a low-achieving junior, who said,

If I don’t know it, I am not going to do it. Sometimes when you think about going after school to see a teacher, sometimes you feel like you gonna be there forever, too, and still not get it. Like you go, ‘Oh no, not again.’ So you just pass it up. (5.13.05)

Zack acknowledges the extra opportunities to strengthen learning at MCHS, including extra time after school, but his frustration with making what he views as fruitless efforts renders these mastery system supports moot. Students like Howard, Natalie, and Zack carry around a kind of psychological baggage that prevents them from finding meaning in school activities and from seeking feelings of competence at Mastery.
Summary

In 2004, the mastery system's adoption of numerical grading resulted in assessment practices that were more concrete and more aligned with students' views of mastery as the result of effort-based task performance. In some ways, these system changes allowed for increased feelings of competence among students at school. Although research has shown increased feelings of control to be a critical factor in increasing learning, these feelings do not necessarily contribute to increased learning at Mastery. At least four factors emerged in conversation with Mastery staff and students which seemed to characterize and compromise their negotiations of the mastery system changes described in this chapter. These factors may also help explain why changes in the system, which did seem to result in increased control for students, did not seem to result in increased learning. These factors are teacher inexperience, lack of administrative support, some students' perceptions of the effort required to earn a "mere" 76, and some students' ego-protecting behaviors.

Given these compromising factors, and given that students' pursuit of competence at school is only one road to self-determination, it is important to look at other aspects of self-determination before drawing conclusions about Mastery students' understandings of mastery and the ways they affected the evolution of the mastery system and student learning. The next chapters detail two more aspects of self-determination: pursuits of connectedness and autonomy.
CHAPTER 5

STUDENTS’ NEEDS FOR CONNECTEDNESS AT MASTERY

There are a thousand things we are already doing to help students achieve here. Teachers, administration… It all comes back to relationships. Relationships are woven into the formal structures of school. That is the crux of why small schools like Mastery work. Every kid that comes in the door in the morning shakes my hand, says hello walking down the hallways. [Ms. Wilber] says hello, [Mr. Hopper] says hello because they are working with him on Robotics. Everyone cares.

Mr. Ringo, Mastery Principal (2.16.06)

Feelings of competence are not alone in helping a person feel self-determining. Another way students satisfy their needs for self determination at school is through pursuing a sense of connectedness. Continuing to explore student achievement as it relates to the fulfillment of student needs for self-determination, in this chapter we look at Mastery students’ efforts to establish a sense of connectedness at school. We also look at Mastery staff moves and countermoves in relation to those efforts, and at the ways these negotiations interact with one another. To begin, it is again helpful to review and question accepted terms and concepts in the research on relatedness, connectedness, and caring at school.

Defining and troubling terminology: Relatedness, connectedness and caring

Most literature and scholarship does not distinguish among “relatedness,” “connectedness,” and “caring” (Stipek et.al. 2004), but does recognize that embedded within each concept are values that pertain both to motivation and to relationship. It is most useful in this analysis to regard caring as a general tendency to work toward goals.
(Bropehe, 2004), as well as referring to involvement in a reciprocal relationship characterized by attention and concern with the needs of others (Noddings, 1992). MCHS students identify both the motivational and the relational aspects of caring as defining and necessary “ingredients” of mastery. In other words, when students say “I care about earning Mastery,” they refer both to emotions and actions--to ways they feel and to things they do with and for others.

In this chapter we discuss students’ senses of connectedness in terms of the ways they enjoy feelings of belonging, affiliation, and interest at Mastery, and how these feelings affect their attitudes, interpersonal relationships, and actions at school. We examine ways in which students’ motivational and relational senses of connectedness tend to affect their engagement, achievement, and learning. In the first half of the chapter we show ways in which the mastery system and students’ senses of caring have worked sometimes in harmony, and sometimes counterproductively as the system continued to evolve in years four and five of the school’s operations. One core assumption of the original mastery system—that Mastery students would care about progressing in school—is under particular scrutiny here. In the final sections of the chapter, we suggest that while Mastery students do seek feelings of connectedness at school, there are times when students and staff tend to work with these feelings in ways that undermine each others’ efforts. In fact, both groups may use students’ senses of caring and connection at school in ways that do not necessarily lead to increased learning or academic achievement.
Motivational caring

Mastery students emphasize that they are more likely to care about schoolwork and attempt to complete an assignment if they can relate to it some way, or if they recognize it as having some relevance in their lives. Joyce, a junior, explains that this kind of caring is necessary to earn mastery:

Kids need to make connections to what they learn in school. It’s got to be something that we can reflect with, compare to. That is really important to gaining mastery, because that is the only way to really learn something. I have to understand something in my own language, my own terms. (3.10.05)

Joyce evokes two important learning concepts here: first, the notion of personal relevance, recognized by Brophy (2004) as contributing to a task’s intrinsic value for students. A sense of relevance has also been identified by Means, Jonassen, and Dwyer (1997) as an effective enhancer of students’ learning, and by Gutiérrez (2000) as a quality that augments achievement in ways which may be particularly powerful for urban student. Joyce also recognizes that being able to relate to a topic in school is what will allow her to transfer her own understanding to that new topic and construct new understanding. It is, in other words, what allows her to learn. Her use of the phrase “reflect with” is also particularly interesting. We can recognize that she is perhaps blending two notions here: the pleasure of being able to relate to something made familiar, and the concomitant critical thinking and reflection prompted by such connection.

Other students similarly acknowledge the necessity of caring about their schoolwork and then expand on it candidly. These students talk about caring as a quality they need to possess in sufficient strength and quantity in order to stick to their
schoolwork. Two students in a focus group associated with the student motivation study at Mastery in June 2005 refer to caring as a kind of trigger, something that must be activated to set off the chain of efforts and actions which results in mastery, and something whose absence signals more than simple boredom with school.

Student 1: If you don’t care, you ain’t gonna do nothing.
Student 2: That’s right.
Student 1: [If] You don’t care about school, or your life, you just want to fool around, you don’t do your work.
Student 3: For me, when I don’t care enough, I don’t remember it, I am not going to go home and do it. If it is something to make me care that is different, I am going to [do the work]...But mostly I don’t care, so I don’t do it. (6.05)

These students, all first- and second-year boys, recognize that if a student is going to produce anything, it is absolutely necessary, first, for him to care enough about it. Student 1 indicates that when he is motivated neither by the specific present (“You don’t care about school”), nor by the general future (you don’t care about “your life”), he doesn’t do his work. These students see caring as the *sine qua non* not only of school work, but of cognitive functioning, itself. This is evidenced in Student 3’s comments about “not remembering” even to go home and do an assignment about which he doesn’t care. It is interesting, too, that this student recognizes that it is possible to care and still not have that caring carry over into action. Students’ caring apparently has to reach a certain minimum level before it influences their behavior.

Dante, a ninth grader, articulates clearly what happens when Mastery students care enough: they earn M’s. Dante says that whatever else an I indicates, it shows, overall,

That you didn’t care really about it. That you didn’t care enough about that specific thing you doing, that work. Cause if you cared, you could always find a way—office hours, or ask a friend to help you, or whatever. It’s like

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if you really care, you can always get an M. (5.17.05)

For Dante, caring is a quality more fundamental than effort or ability. He appreciates it as the determining and definitive first step in achieving mastery.

As with exerting effort and developing ability, caring about school work does not come easily to all Mastery students. Another freshman, Anthony, explains that sometimes, developing a sense of caring about schoolwork is harder than developing academic skills:

When it [schoolwork] just start getting irritating, and you are tired of it, your body start falling asleep. That is when you do not care. And then when the test come you see it there on the page, and you see you coulda learned it, but then you just like-- automatically, you like, 'Forget it.' If you don’t care, you ain’t even going to try. (5.22.05)

Anthony says his difficulties with caring, rather than with mastering mathematics, are what could compromise his performance on a test. The relationships among caring and working to improve academic skills are complex, representing a kind of chicken-egg conundrum. Anthony’s comments might indicate that when the work gets too challenging, beyond his current learning level, he adopts a stance of not caring, of “defensive pessimism” (Elliot et. al., 2005) in order to cover up insecurity about his skills and avoid anxiety about performing poorly. On the other hand, he might also mean that there is a simple and direct connection between a lack of motivation and poor grades. If he is apathetic about a school task, he is likely to perform poorly on it. In either instance, Anthony’s statements show, again, how critical caring is to Mastery students’ completion of academic tasks.

As these students discuss caring about their schoolwork, their comments suggest that to more accurately depict the range of values they assign to tasks, we need more than
the simple dichotomy typically depicted in the classic 2x2 expectancy x value framework. Discussion of the valuation of school tasks is taken up again in chapter 6, but in this chapter, it is important to think about the ways caring affects students’ tendencies to engage with school tasks. The types of caring feelings relevant to this discussion are motivational, rather than relational. Just as seeing students’ beliefs about efficacy in simple yes or no terms limits our understanding of student engagement, ignoring the degrees of caring with which students regard school tasks similarly inhibits our understanding. It seems inappropriate, for instance, to lump together the feelings Joyce might have for an irrelevant assignment with the feelings Student 1, above, has about not caring about school or life. Perhaps another way of looking at students’ caring about school tasks would yield more insight. There may be more to learn from the differences between Dante’s unwillingness to seek extra help and Anthony’s unwillingness to stay awake in class than it is to group them together, simply, in the category of students not valuing an assignment.

The classic expectancy x value model does not allow Mastery students’ feelings of caring about and connection to their schoolwork, and the potential these feelings have for affecting students’ task valuations, to be depicted accurately. The model allows us only to characterize every feeling about schoolwork’s value with a yes (the activity is valued), or no (the activity is not valued). The last chapter called for modification to the efficacy dimension of the expectancy x value model, and suggested a depiction of students’ expectancies on a continuum rather than in two columns. MCHS students’ ranges of task valuations call for a similar modification. The ways Mastery students care
about academic tasks can also be better represented as existing along a continuum. See Figure 9.

![Continuum of perceived values in the expectancy x value model](image)

**Student assigns higher value to task**

- *(Relating to a task) Joyce:* "...something we can reflect with"
- *(Appreciating a task) Dante:* "If you really care, you can always get an M"
- *(Rejecting a task) Anthony:* "Forget it"

**Student assigns lower value to task**

Figure 9. Continuum of perceived values in the expectancy x value model

Although the original expectancy x value model defines the second factor in students’ engagement decisions as perception of task value rather than caring *per se*, caring, as described and defined in this chapter, aligns with the three aspects of a task’s subjective value. These have been defined by Eccles and Wigfield (1985) as consisting of (1) attainment value—how completing a task fulfills a student’s needs for achievement, power, or prestige, (2) utility value—how completing a task will move a student closer to future goals, or (3) intrinsic value—the enjoyment a student obtains in completing a task. As is evident in this chapter, students care about school because it behooves them to
care — caring results in satisfied needs, achieved goals, and increased satisfaction. The more students believe they have to gain from completing a task, the more value it has for them, and the more they care about it.

Mastery teachers similarly testify to the primacy of caring. One teacher, Ms. Abbott, believes that students can come to feel so deeply connected to school that their caring actually allows them to overcome feelings of inadequacy and achieve even when assignments may be beyond their cognitive abilities. She explains that one of her students, an upperclassman with some cognitive limitations, managed to earn an M in her class not so much because he had made great intellectual gains, but "...because he has developed enough of a sense of commitment to school to attempt the work, despite his fears" (11.28.05). Ms. Abbott believes that this student’s strong sense of caring and relatedness at school allowed him to persevere and ultimately achieve mastery in this upper-level Humanities course, even though his IEP and low reading level had indicated that an alternate, independent course might be more appropriate.

Ms. Abbot acknowledges caring as a quality which facilitates academic success. For the most part, Mastery students’ comments show that while caring about schoolwork is not an automatic “given” at MCHS, it is a recognized and appreciated value, a motivation that many students access. Because these motivational aspects of caring seem to point students in the direction of academic achievement, it is ironic that some relational aspects of caring may lead some students in another direction, entirely. And yet that is what appears to happen in some instances, as the next section shows.
Relational caring

The second and more prevalent way Mastery students and teachers talk about caring is as a characteristic of relationship. Both students and teachers remark on the close connections among staff and students at the school. One student says that the fact that everyone cares at Mastery is “what makes the school special” (Sabrina, 5.22.05); three students and two teachers use the word “family” in their descriptions of the school. At Mastery, it appears that while emotional connections are a *prima facie* condition underlying and supporting all types of engagement and effort at school, it is one which may not necessarily facilitate learning and academic achievement.

Multiple studies have shown that students who report feeling connections to caring adults at school are more motivated to learn (Bryk & Driscoll, 1988; Bryk, Lee, & Holland, 1993), tend to stay in school (Berktold, Geis, & Kaufman, 1998), and have more positive academic attitudes overall (Baker, 1999; Ryan & Deci, 2000; Skinner & Belmont, 1993). Some studies have shown, furthermore, that such connections are of particular importance for African American students (e.g., Casteel, 1997; Entwisle & Alexander, 1988). Mastery students’ comments, as well as their everyday behaviors, bear these findings out. All 22 students interviewed for this study made some reference to “caring teachers” during our conversations, and to the ways this caring positively affected students’ commitments to school. References range from a simple acknowledgement that “Mastery teachers care about their students” (Liana, 9.13.04), to the avowal of Tarina, a sophomore student, who speaks passionately of the necessity and consequences of Mastery teachers’ caring:
Mastery teachers take time and help the kids... the teachers here make me change my mind about staying and asking for help, because they really care. The things that go on at home, or how they feel they are being treated at school can make a child feel like nobody cares and why should I be moving up when nobody's looking at me, saying, ‘Oh, [Tarina’s] moving up,’ or, ‘Oh, [Tarina’s] doing her work and getting all M’s.’ Why should I do that if there’s nobody gonna be there for me? Some people feel that way. A child shouldn’t have to go through that at school. When a teacher cares about you, that can help bring you along. (2.8.05)

According to Tarina, a teacher’s caring can do more than inspire a student to work hard. It can provide a student with a reason to perform, and also give him or her an audience for whom to perform. As Tarina indicates, her teachers’ caring can stand in stead of family supports she or her peers may lack. This is consistent with Bryk, Lee, and Smith’s (1990) views of the increased importance of positive interpersonal relationships in the absence of traditional supports such as stable families and communities.

Relationships with Mastery teachers may provide this kind of support for students like Tarina, and aid in building her feelings of relatedness and belonging at school.

Informal observations may most decisively reveal the close relationships that exist among staff and students at Mastery. As at many small schools, a visitor walking around the building during lunch is likely to see a teacher and her students eating together in classrooms while they work, or teachers and students joking and talking after class. Students and teachers participate together in music, athletic, and creative writing activities, book groups, school decoration committees, and cooking clubs. With one exception, every mastery teacher interviewed for this study used the word “relationship” in describing their teaching values. As Ms. Reynolds put it, “Teaching at Mastery is all about relationships” (12.05.05).
Types of caring relationships at Mastery

Overall, Mastery teachers’ relationships with students are purposeful and mutual. As Mr. Quinn puts it, “To teach here is to see how relationships really, really matter. Relationships matter for motivating people and for connecting with people, and for having intellectual contact with people and for sharing in the experience together” (12.5.05). These comments suggest a framework that can be used to characterize the types of caring relationships Mastery teachers and students enjoy with one another. These are, first, relationships that motivate students to devote themselves to schoolwork, second, relationships that support intellectual activity, and third, relationships that center around emotional connections and sharing.

Two teachers describe how they use relationships to impact students’ motivation and work habits. The first, Ms. Abbott, says that Mastery’s small size and the “academic press” (Lee & Smith, 2000; Murphy, Weil, Hallinger & Mittman, 1982) that exists at Mastery—that is, the coherent collection of policies, practices, expectations, and rewards at the school which are focused around academic success—position her to be consistently demanding of her students. She says,

I am not going to let go. I am always going to care. I am always going to be there. I’ll never just accept that they are going to fail, and let them go... So part of what makes the students work is the high expectations of the teacher. Part of it is the culture of the school. They know that mine is not an isolated classroom. It’s a part of a larger community where, I feel, all the teachers have similar expectations. It’s not like, ‘Oh woe is me, I got stuck with [Abbott.]’ We all get to know our students, and we all expect a lot of them. So that’s two related things: the expectations of the teacher, and the culture of the school... (11.28.05)

Ms. Abbott’s comments show two ways that caring relationships between teachers and students affect students’ motivation at Mastery. First, she implies that her concern buoy...
students up and provides constant support for their individual academic achievements.

Second, because she believes all Mastery teachers “have similar expectations,” she states that a code of caring pervades the entire school. In this way, the collective weight of all the teacher-student relationships at Mastery come to create a surrounding motivating culture, an ethos that engenders continued caring.

Mr. Quinn also uses relationship to increase his students’ motivation. He says, when he spends time after school,

...Just sitting around and playing a board game with students, you know, that board game has zero to do with Science class, but the next day, having worked on that relationship, maybe those kids are a little more willing to do something for the course that they don’t put a lot of value in, otherwise. And I’ve been very glad to take advantage of those opportunities to make relationships with them, and do things other than teach biology to them, because I think—because it’s actually made a difference for the teaching, made it more relevant, more connected to the kids. (6.20.05)

Mr. Quinn notes the reciprocity of his relationships with students. Not only do his informal connections with them tend to increase the value they assign to school tasks, but he notices, also, that these kinds of interactions with students have helped him make the tasks (“the teaching”) more responsive to the students. In this way, caring works both to motivate students and to motivate teachers.

Not all caring Mastery teachers cultivate relationships with their students for the purpose of increasing motivation. The second kind of caring relationship that Mastery teachers and students tend to form is a relationship built around schoolwork. In this type of relationship, teachers and students engage in intellectual activities together, most often discussing course content. These relationships happen because students care about schoolwork, or about passing, and because teachers care about their content areas and
their students. These relationships enhance teachers’ pedagogical content knowledge and students’ learning, both. Ms. Miller describes the way this happens in her Biology classes:

The thing that has helped me understand how to get them to mastery has been getting to know my kids. I talk with them about cell membranes, about diffusion, see where they get it and where they don’t. And that helps me see that not all of them are on the same level. Some are really high-functioning, some really low-functioning. Not all of them understood my expectations, or how to do what I was asking them to do. Until I understood more about what they were thinking, I couldn’t tell them how to give me what I was expecting from them. (11.22.05)

Ms. Miller’s caring and learning about her students’ understanding has become a keystone of her teaching. Her relationships with students have turned her teaching into a dialogue—one of the core components of moral, caring education, according to Noddings (1992). Mr. Quinn also comments on the dialogic nature of teaching and learning when he says that an assignment is “... not a fixed thing. An assignment is kind of a—it’s an interaction with a student, you know? You pass it to them, they complete it, they pass it back, but there’s several stages of that interaction” (6.20.05). Ms. Miller and Mr. Quinn use relationship to help strengthen students’ connections to course content and to help make their teaching responsive to their students.

The third kind of relationship teachers make with students is built around emotional intimacy and connection. This is perhaps the most obvious and striking kind of caring student-teacher relationship at Mastery; Mr. Hopper explains the nature and the potency of these kinds of relationships when he says

Most of these kids have never had a relationship with an adult outside their family, or maybe even inside their family, that is as supportive. That’s what makes them care about school. Intimacy: That is the most important word. They can come up to you while you are talking and pluck a piece of lint off your shoulder and not think twice about it. They are your kids. (11.29.05)
The kind of close relationship Mr. Hopper describes above is special, but it is not unusual at the school. One reason Mastery teachers choose to work at MCHS is because it is a place where close student-teacher relationships are the norm rather than the exception. Three teachers said that the primary reason they wanted to work in a school like Mastery was because of the close student-teacher relationships—relationships which are, in the words of Principal Ringo, “woven into the formal structure of the school” (2.16.06). The school’s small size is one reason these relationships are so common; as Dean Michaels says, at Mastery, “Everyone knows your name, and you can’t slip through the cracks no matter how hard you try” (12.06.05). Ms. Craft explains what this relationship-based dynamic looks like in her classroom:

There are kids in my room all day long. Every day. They are in here all day long. They come here during lunch, whenever they can, because they know that they can speak to me openly… They can be themselves when they come into this classroom. I’m not going to put up a barrier. I tell them I learn from them just like they learn from me. So when they come into the room, they know they can take a deep breath and be themselves…. (11.18.05)

Ms. Craft believes that her relationships with students benefit them, because they can be honest and open up to her, and also benefit her, because she learns from students. Other teachers, too, talk about the mutual gains that ensue from sharing with Mastery students. Mr. French, for one, mentions that when he talks to students after class, he has a better understanding of some of the “…problems that they are dealing with from junior high, or whatever, and so [he] can take some time the next day to clear up those misunderstandings. And students feel good about someone taking the time to help them” (6.20.05).
These teachers show how important and beneficial they believe it is to get to know their students. In years four and five at Mastery, teachers tried to build on student caring and the various types of close relationships they formed with students in a few different ways. Some, like Mr. Quinn and Mr. French, above, tried to capitalize on their closeness with students to improve student learning. Others constructed management systems around students’ caring. Ms. Miller, for instance, made Office Hours attendance a prerequisite for revising work or retaking a test (and used her students’ willingness to retake tests during office hours as opportunities to squeeze in additional tutoring). Another teacher who worked primarily with freshmen, Mr. Mooney, established an intricate system of classroom privileges and playful titles for students who demonstrate various levels of classroom preparedness and neat work habits.

Caring classroom and school communities

These different kinds of caring relationships inform the multiple contexts within which students and teachers negotiate mastery. At MCHS, one of these contexts is, as previously noted, the school’s “academic press,” established by the administration, enacted by teachers, and within which students participate, willingly or not. Another is students’ peer culture, which is a particularly strong force in adolescence, as numerous theorists and researchers (i.e., Brophy, 2000; Schunk, 2000; Stipek et.al. 2004) have pointed out. These two contexts come together in individual classrooms, creating particular norms, understandings, and dynamics within which teachers and students operate.
Some Mastery teachers try to use peer culture and peer pressure to increase student achievement in the classroom. In classes like Ms. Craft’s, students are seen as part of an intimate community of learners. Ms. Craft uses that sense of community and student peer pressure to establish customs of hard work and achievement tailored to her understandings of her students’ developmental levels. As she says, “…it is the norm in the room to care, to say yes. And it’s a big decision at 14 to go against the norm” (11.18.05). Ms. Craft also structures her class activities to balance learning and performance goals. There are many displays of student learning and performance around the room, including posted essays, charts listing students by name and noting completed assignments, student portraits and student-written biographies. Sitting in her classroom during a free period, she says:

Look at the wall. Students write about themselves at the beginning of the year, and put a picture up there to set it up off the bat. You can’t write so publicly about your goals and hopes for achievement and then not do your work. (11.18.05)

Although these public postings would seem to encourage performance goals rather than learning goals, they seem to work effectively for Ms. Craft’s students. This may be because while performance goals are associated originally more with superficial learning strategies than with deep-level engagement, more recent scholarship (e.g., Barron & Harackiewicz, 2001) shows that most negative correlations are actually associated with performance-avoidant goals rather than with performance-approach goals. Ms. Craft’s public postings, as well as creative group assignments (e.g., reader’s theater, literature circles, and reading tableaux) let her students work together and satisfy their desires to appear successful in front of peers.
Ms. Abbot teaches older students. She notices less implicit peer pressure in the classroom and instead sees more explicit peer solidarity:

There are one or two kids in [twelfth grade Humanities] I thought might be a bit of a problem. A bit of a motivation problem. But they were not. As soon as the work really started to get intense, the class just came together. And as a group they really push each other, so I have been working with that. (11.28.05)

Ms. Craft’s and Ms. Abbot’s classrooms demonstrate ways in which students of different ages and levels find ways to satisfy their needs for feelings of relatedness with peers. Classroom-based student-to-student and student-to-teacher relationships exist within more general school cultures at Mastery, as well. These larger peer cultures have very strong effects on students’ senses of caring at Mastery.

Brophy (2004, p.88) has written about the importance of peer groups to adolescents, noting that these motivational patterns are especially affected by “peers in ongoing social groups” such as classrooms. Given this notion, it might be expected that the positive peer culture identified by Ms. Abbot would have an impact on overall school culture. This does not appear to be the case at Mastery. Although teachers may try to encourage and utilize student caring within classrooms to increase student achievement, students outside of class do not mention that their peers provide any positive academic motivation. When asked whether their peers support their learning and success in school success, 36 percent of the students interviewed said that peers would congratulate them on grades, but only one student, Konrad, said a friend would encourage him to do his homework (10.20.04). The June 2005 survey of Mastery student motivation also showed trends that reinforce this finding. Among other things, the motivation survey investigated issues related to peer culture, and found that while most students do want to achieve as
individuals, student peers neither condone nor condemn academic achievement. As one student said in a motivation survey follow-up focus group, “It’s OK to care, but it’s OK not to care. It’s neutral here” (6.05). Or, as the in-house coordinator of the survey phrased it, there are places at Mastery where academic achievement is the social currency, and places where it is not (Keane, 2005). This qualifies most recent research, which shows that not only do individual adolescents want to achieve in school, but that there is a norm among adolescent peer groups that supports academic achievement (Brown, 1990). At Mastery, this norm exists—but it apparently coexists alongside norms of academic apathy.

Limitations of caring

At Mastery, there appears to be a norm of caring overall, a variety of caring relationships formed between teachers and students, some norms of achievement in the intimate and communal settings of the classroom, and some ambivalence about being publicly achievement-oriented within peer groups. Given this mix of feelings about caring and achieving at school, it is perhaps not surprising that the staff has had mixed results in trying to institutionalize practices that leverage student caring to increase academic achievement. Caring appears to be a necessary but not sufficient characteristic of achievement at Mastery. Mastery students may care about school, but as staff learned in 2004-2005, as the school’s first class of students began their senior year, such caring is not always strong enough to keep a student on-task, even when the stakes are high, as when graduation approaches. Furthermore, although Mastery students may want to build relationships with teachers, it does not necessarily mean that students will use these
relationships to increase their learning. And finally, while the school may successfully establish a powerful ethos of caring and use it to strengthen norms of academic achievement, this does not mean that these norms will be able to compete with other personal or cultural imperatives pulling students toward specific behaviors.

Mastery teachers use their relationships with students, and students’ feelings of relatedness to school to move their students along the dimensional engagement continuum from relatively superficial, compliance-level behaviors into deeper levels of engagement. Just as the last chapter showed teachers redefining mastery according to the incremental improvements students made in satisfactorily “doing” at school, this chapter shows teachers redefining mastery according to the incremental improvements student make in coming to care more and more about school. It is not clear, however, how far caring can take a student—whether enhancing connections and relatedness actually results in stronger academic achievement. Only one teacher quoted above, Ms. Abbott, attests that she believes caring allowed one of her students to achieve at a higher level than might be expected. Outside of this statement, no evidence exists showing that Mastery teachers believe that close relationships with teachers help students learn. These relationships can position students to learn, but, as Ms. Nolan says, students

...will show up [to office hours]—but they are still going to do everything at a mediocre level. They haven’t internalized anything. So that showing up is pretty much it. That’s what we get from them. I mean, it’s not—I don’t take it personally, but all the relationships and supports have not made much of a difference in the quality of their work. (7.14.05)

Office hours provide prime opportunities for teachers to motivate students, to share ideas with them, and to connect emotionally. However, as Ms. Nolan says, attendance at office hours is insufficient to improve a students’ learning. Students can show up and, in fact,
can enjoy all these kinds of relationships with teachers at office hours. Caring enough to show up will not, however, necessarily lead to increased achievement.

There seem to be three kinds of problems associated with associating mastery closely with caring. One of these is that students of different ages tend to care about different things. The mastery system is actually constructed around concerns that are of unequal value to students of different ages. Another problem is that the close connections between teachers and students, and the ways these connections complicate negotiations of mastery seem, ironically, to result in decreased expectations for learning and achievement for some students. And finally, there is the fact that caring at and about school is not a simple value for most Mastery students. It is rife with social meaning and potential conflict. The remaining sections of this chapter discuss these three limitations of caring and connection at Mastery and how they affect student achievement.

Caring about graduation

The mastery system’s promotion requirements operate on the assumption that students will care so much about passing courses and about moving expeditiously toward graduation that they will apply themselves assiduously to school tasks and learning. If we look at students’ stated reasons for working, this assumption seems to make sense. A desire to progress toward graduation is what motivates Mastery students, overall. Indeed, the motivations for achievement most commonly cited by all students in interviews are “promotion” and “grades,” the extrinsic motivators at the center of the mastery system. 85 percent of all students interviewed for this study named promotion toward the ultimate goal of graduation as a reason they worked hard; 78 percent named grades. These
Tendencies are echoed in the June 2005 motivation survey in which 331 Mastery students participated. 90 percent of the students queried in that survey named graduation as a reason they worked hard, and 73 percent named grades.

Aligned with students' identified desires for speedy graduation is their general reluctance to retake classes. Except for the months when the P grade was implemented, every student who has not passed a core academic course (Math, Science, Humanities) has had to retake it. As noted in Chapter 3, although original mastery promotion requirements were created to give all students opportunities to master challenging skills and content no matter how many attempts it took, most students have tended to regard repeating a class with all the stigma associated in traditional schools with being "left back." Students at school typically voice aversion to being in classes with younger students, and for the most part, say they are bored with doing the same kinds of assignments twice. All interviewed students express some negative feelings about needing to repeat courses.

In addition to the feelings of decreased social status named above, these negative feelings are also generally colored by students' frustration with and fear of extending their time at school. The comments quoted below illustrate the resentment and sense of dread with which students regard needing to repeat a class:

- If you don't get the grade, you gonna be there in the class doing it again and again and again, and you ain't never gonna graduate! (Simon, 5.13.05)
- Getting an 'I' feels like an 'F,' and like I have to do it all again, and like I am never gonna graduate. (Tashira, 3.14.05)
- You gotta do it so you can get out of here! If you ain't do it then your grade gonna go down, you might have to repeat the class, then shoooop! You not gonna get outta here! (Kareem, 4.26.05)
In these students' comments about repeating classes, they display a type of motivation characterized by Shah and Higgins (1997) as having a "prevention" focus. These students appear to work not so much to achieve a good thing (Shah and Higgins have called this a "promotion" focus) as to avoid a bad thing. It is also helpful to recognize that these students are operating at the less autonomous end of Ryan and Deci's (2000) continuum of regulatory control, displaying motivations determined by anticipation of punishment (repeating a class) or reward (promotion).

Not all interviewed students feel this way. Some do seem to accept and utilize mastery system disincentives more constructively. They are fully aware of the consequences of not doing their work, but instead of dwelling on them, these students focus on working in order to achieve semi-internalized goals. These students’ comments exhibit more autonomous regulation of mastery extrinsic motivators, as well as Eccles and Wigfield's (1985) different kinds of subjective tasks values. Jasper, a senior, shows the kind of caring that relates to an assignment’s utility value. He says, "Even if I don’t like the work, it’s not gonna go away. It’ll be better for me to learn it once now instead of me doing it twice later, and be here longer than I need to" (4.1.05). Dante, a freshman, exhibits caring that relates clearly to a task’s attainment value. He says, “If I want to move up, I gotta do the work. And that’s what I want. Unless you get a Mastery, you gotta take it over again. That makes me think twice about not doing something” (5.17.05). Jasper and Dante appear to have found reasons to care that are personal, authentic, and potent.
Caring despite the threat of delayed graduation

Mastery promotion policies were intended to enhance students’ learning and provide them with second chances, accommodating different abilities and learning speeds. Despite the negative feelings with which most Mastery students appear to regard repeating a course, the policy has actually worked well for some students, leading to increased feelings of competence, connectedness, and autonomy. Ms. Wilber, Mastery’s Internship Director from 2003-2006, explains how repeating a class appears to allow some of her students to increase achievement and feel more self-determining:

[It’s] good that we have this mastery thing. I like that we have it, that kids can take the course a second time. It can help them be motivated to be there. I think some kids get overwhelmed by the responsibility [of Internship class] the first time around and it is too much for them. I have two kids, Paul and Marcus, who are retaking the course now, and they say ‘OK, [Ms. Wilber], I can do it this time. I can do it.’ They just have this renewed sense of confidence. They take it a second time, they pay attention, they do what they need to do, write things down, come talk to me. (11.17.05)

Paul and Marcus are students whom, after failing to achieve in Internship class the first time they took it, we might expect to “disidentify” with academic achievement (Steele, 1992), or discourage each other from “putting forth the time and effort required to do well in school and...adopting the attitudes and standard practices that enhance academic achievement” (Fordham & Ogbu, 1986, p. 183). Instead, Ms. Wilber says that Paul and Marcus, when they retook Internship class

...Were coming up with great responses [during a class discussion]. They were looking at their notes from last quarter and offering up ideas that hadn’t been said yet, adding onto what each other said. So that was great. They were participating and last quarter they were not participating at all! That was great! (11.17.05)

Paul and Marcus do not seem to feel the need to reject academic achievement. By 2004, norms of achievement had been established firmly enough at Mastery that no strong anti-
academic peer culture exists at Mastery. Even so, given these students’ past academic performances, and the general distaste with which most Mastery students view repeating a course, we might expect Paul and Marcus to sabotage their own success in a class they had already taken, or expect them simply to be unmotivated to complete work in this class. There is also reason to think that these two particular students—both with identified learning issues, neither one a high academic achiever—would choose not to care about a class they had already taken. It is doubtful whether their teachers would have observed increased motivation and confidence in classes they retook as first- or second-year students. But when they are mature seniors, Paul and Marcus make a signature feature of the mastery system—retaking a class—work well for themselves. Repeating and succeeding with the challenges of Internship class allows Paul and Marcus to satisfy needs for self-determination.

Based on anecdotal evidence and informal conversations with teachers, somewhere between a third and a half of the students who retake courses appear to gain at least some feelings of increased competence from retaking a course as Paul and Marcus did. However, even when repeating a course does allow a student to experience some heightened feelings of satisfaction, it may be hard to balance those positive feelings with disappointment about delayed graduation. Students may be able to make up time in summer school, but more often, the more I’s a student earns in core courses, the more likely he or she is going to need to extend their time at Mastery and stay for an extra semester or year. The school’s policy of making students repeat courses in which they fail to earn mastery is basically a wager that a student’s sense of caring about a course and/or timely graduation will compel him or her to earn mastery whenever possible.
This wager has had mixed success, traceable to students’ relative distances from graduation. Seniors, who need to earn mastery or else not graduate, are more likely to do whatever they need to do to pass than freshmen, for whom graduation is a distant goal. The younger students are, the more likely they are to lack what Husman and Lens (1999) have called a “future time perspective” linking immediate tasks and long-term goals. Younger Mastery students repeat classes almost blithely; at 14 or 15, the threat of delayed graduation has little meaning for them. Most mastery students do eventually “do what they have to do” to graduate. Of the 98 percent of Mastery’s seniors who graduate within two years of beginning their senior year; 74 percent graduate at the end of their fourth year at the school, with the remaining students staying on at MCHS for a fifth year to graduate the following January or June. About 25 percent of the students who stay on for a fifth year have an IEP.

The threat of a fifth year is not an effective disincentive for most younger Mastery students. Taking a fifth year to finish high school is a foreign concept which fails to register, no matter how many times they hear it, as something they might have to do, themselves. This is notable given that prospective Mastery students and their parents first hear of the fifth year at mandatory information sessions before they apply to the school. The fifth year is also discussed explicitly and repeatedly in First Year Seminar classes, and at parent-teacher conferences. Still, most younger students do not think about the long-term consequences of failing to do enough of their work to earn M’s. Kareem, the second-year student quoted at length in Chapter 4, shakes his head at his younger colleagues’ cavalier attitude toward I’s: “Ninth graders, they think they got four more years so they just messing around. They don’t think about what that ‘I’ really mean, that
they gotta get serious" (4.26.05). Several teachers also attest, with Dean Michaels, that ninth graders, “could not care less if they get an I. Repeating a course is nothing to them” (12.6.04). Or, as Billy, a student who appears to have eventually “seen the light” as a junior, explains

People don’t even really care when they’re younger, even if they fail a major subject, Humanities, Science, and Math. They don’t really attempt it. That happened with me. I figured like, every year [at other schools, I used to]... do that, but I wind up passing. This school, it’s different. Now I know I am gonna be here longer than four years and I realize I can’t be running out the door at 3:10 if I want to graduate [at all]. I didn’t understand it before. (12.23.04)

Billy did not recognize repeating classes as a threat to his timely graduation until it was “too late”—until he had earned so many I’s that he could not avoid additional time at Mastery. When he was younger, Billy adopted work-avoidant goals (i.e., he sought to meet minimal requirements with minimal work investment), because graduation, a defined but distant goal, was not yet real to him. The risk of the fifth year had to become present and immediate to make a student like Billy pay attention to the consequences of not caring at school.

**A fifth year at Mastery**

Original mastery system designers hypothesized that all students would feel as Billy eventually came to feel—that they would care deeply about promotion, and behave accordingly at school. That is, they believed that students would do enough work to earn M grades, avoid repeating courses, and move toward graduation, course by course. That is one rationale behind the sequenced course structure, and does provide powerful motivation for some students, eventually. Although Billy professed during the 2004-2005
school year that he understood the consequences of his attitude toward schoolwork, he actually continued to earn mostly I’s that year. Mr. Hopper, Mastery’s college counselor, worked with Billy the next year and reflects:

Other kids, like Billy—he did nothing for the first few years, and then he came in this year and said, ‘[Mr. Hopper], I am going to do all my work now cause this is my senior year!’ And I told him, ‘No it isn’t, Buddy.’ And he said, ‘It isn’t?’ I told him, ‘You’ve got at least two more, ‘cause you haven’t done anything!’ He straightened up, went home, talked to his mom. Said, ‘Here is the plan we laid out. It is going to be another year.’ He talked to Lucas [an older student who took four and a half years to earn his diploma at Mastery, co-registering at community college and working at Mastery part-time during Billy’s fourth year], so he has some models, some idea of how people go on to successful things. And now he is getting all passing grades. He never did before, because he never grew up. It just didn’t matter to him. Some kids don’t seem to understand that—they aren’t going to graduate in four years. The thing that motivates this group of kids, and for that matter, their parents, is that they get to graduate in a somewhat timely manner. (11.29.05)

Mr. Hopper notes that Billy appeared to be surprised about the fact that he was not on track to graduate this year (“It isn’t [my senior year]?”), even though his interview from eleven months earlier indicated that Billy knew perfectly well he would not graduate at the end of his fourth year at Mastery. Such denial is common. Most Mastery students who accumulate I’s ignore the consequences of these grades as long as they can.

Rather than call these students short-sighted or immature, we can see their priorities as different but legitimate ways of making sense of school demands. Citing Bandura’s (1997) work in self-efficacy, Brophe has advised practitioners that it is more appropriate and effective to help students set and reach short-term, specific, and “proximal” goals rather than have them work for ultimate, long-range “distal” goals (2004). If Brophe is correct, it makes sense that Mastery’s efforts to use graduation as an extrinsic motivator are not always effective. The school might be better off utilizing
immediately achievable, proximal goals for younger students, rather than counting on these students to work to avoid far-off consequences.

Until the school's fifth year of operation, when eight students from the first class stayed on for a semester or a full year of additional coursework, Mastery staff did not know whether the plan to extend high school past four years would ultimately increase achievement and feelings of competence for fifth year students, as it was intended, or engender, instead, feelings of failure and frustration and cause students to drop out. Again, the fifth year was originally intended to be not a punishment for off-task students but an opportunity for all students to attain high levels of achievement. As it happened, seven of the eight students from the original class of 2005 graduated mid-year or the following spring. The other student got his GED at another institution. Their younger peers at Mastery refer respectfully to these students in interviews and informal conversations, but still tend to display consistent horror at the idea of needing to take a fifth year to graduate, themselves.

The dramatic word "horror" is used here intentionally. During June 2005 student motivation focus groups, students tend either to laugh or gasp when the subject of the fifth year comes up, and a few students express feelings that show they regard the fifth year as a potential disaster, one that must be avoided at all costs. In his interview, Anthony says, "Sometimes an "I" will push their [other students'] buttons. They panic and they start cheating, cause they thinking, I gotta get outta here! I can't stay for an extra year! I am never gonna graduate! (5.17.05). And it is true that in the first two years of the school, approximately 10-15 percent of third-year students, once they realized that the large number of I's on their transcripts meant that they would need to attend Mastery for
a fifth year, did choose to transfer to other schools where any grade above 59 counts as passing, and thus does not impede timely graduation. Kareem expresses what might be these students' views. He says that needing to repeat classes “does make some people give up. Cause they don’t want to do another year here. So they give up, transfer out. Go to another school where you can get by with a lower grade” (4.26.05).

In sum, holding students accountable for earning M’s by delaying graduation appears to represent a disincentive that is only partially effective. The mastery system tries to utilize students’ caring about graduation to regulate their progress toward it, but this strategy is most successful when students mature and see graduation as an immediate possibility rather than a distant terminal objective.

When caring backfires

While requiring students to repeat unmastered classes may be at least partially successful in leveraging students’ caring so that it results in increased academic efforts, not all policies and practices at Mastery produce similar results. In fact, the mastery system’s reliance on a student’s psychological need for connectedness brings with it a considerable caveat. When students feel close to teachers, they may seek to use that closeness to minimize the amount of work they do. In such cases, relationships may actually undermine students’ academic achievements. There are three ways in which students’ relationships at Mastery may compromise their achievement. First, students may become so accustomed to working to please teachers they like that they refuse to work for teachers whom they do not like. Second, some students may expect their relationships with teachers to “buy” them special privileges. Third, some students may
begin to hold teachers, rather than themselves, responsible for their learning. In all of these instances, a reliance on mutual trust and caring affects students’ achievement in unexpected and counterproductive ways.

Mastery teachers and students do depict each other as players in trusting, caring “web[s] of social relationships” that Stipek et.al. (2004, p. 17) have called “critical to and supportive of learning.” Nevertheless, the ways that students endeavor to use these relationships at Mastery may shine some light on the fact that supporting learning does not always make learning happen. Relationships among Mastery teachers and students do appear to be very important to students, but they do not exist in a void, and it may be that the larger school context within which these relationships exist causes the relationship to have unintended effects on student achievement.

**Working for teachers**

The first set of circumstances within which Mastery students and staff’s relationships may actually disable student achievement occurs when students construe academic performance as something they do *for* teachers with whom they have formed attachments. Small class size, after-school office hours, and the overall ethos of caring that pervades the school may encourage close connections among Mastery students and teachers, but they do not guarantee that every student and every teacher will form a positive, productive relationship. Students who are used to working to please teachers they like will sometimes simply not work in a class where they have not formed a positive relationship with a teacher. Thus, when students like Tarina (who said there was no sense in working unless somebody was going “to be there for” her) fail to connect
with a teacher, they feel they have no reason to work and no one to work for. Their work ethic, their grades, and their learning may suffer.

In interviews, while a number of students made reference to the benefits of working closely with a teacher whom they found to especially insightful or supportive, even more students said that they flat-out refused to complete tasks in classes where they do not like the teacher. Their comments ranged from general reluctance to take advantage of academic support to complete refusal to do any work at all. For instance, Elissa’s comments show how her unwillingness to get extra help from a teacher may compromise her learning. She says, “If I am having a problem, I won’t go to office hours if I don’t like my teacher. I will ask somebody else” (5.22.05). Elissa went on to explain that that “somebody else” might not be able to help her understand her schoolwork, but that it didn’t matter, because there was no way she would “ever ask a teacher for help unless [she] liked” that teacher. Another student, Natalie, reacts to a lack of emotional connection with a teacher in a way that is even more telling. Unless Natalie likes a teacher, she ignores opportunities to learn and to earn M’s. She says, “For me, if I do not get along with the teacher, I will just put that assignment by and I don’t care about it” (5.22.05). These students devalue engagement in academic work unless they can enjoy the emotional connections they have come to expect from such engagement. Their reliance on caring causes them, consciously and deliberately, to limit the work they do, even if it means their learning and grades will suffer. Their actions suggest that they value caring relationships with teachers more than they do academic achievement. This is a striking possibility. Mastery students’ candor about the power of relationships to affect academic effort calls for more research in this area.
Working for perks

The second way in which students’ sense of relatedness may undermine their achievement is related to some students’ beliefs that there are “academic perks” that accompany strong relationships with teachers. Some students appear to think that if they get close to a teacher, the teacher will relax standards or expectations in the course. These students admit that they exhibit earnestness, enthusiasm, and open up with teachers in order to gain advantage. Zack, a junior, says, “I do that with all my teachers: get to know them, show up for office hours and get some help, talk. They see if you cool, they gonna cut you some slack... they see you trying and they would cut you a break” (5.13.05). Zack’s comments imply not so much that his connection to his teacher is insincere, but rather that he hopes to get a good return on investment for it.

Lucas, a senior, makes comments which show that while such manipulation is by no means diabolical, it is entirely conscious. Students understand fully what they stand to gain from sharing with a teacher:

When you actually talk to a teacher, like a personal conversation, what goes on outside school and stuff, that isn’t about your work but is about why you not doing the work at home and stuff, it helps you a lot. Because then the teacher can know you a little and sometimes then, office hours, that is enough. (4.1.05)

When he says “sometimes then... that is enough,” Lucas implies that, once a student has a good relationship with a teacher, attending that teacher’s office hours may, itself, register with the teacher as a meaningful effort, instead of or in addition to assigned work. Based on comments like these, it seems fair to say that Mastery students use relationships with teachers skillfully and strategically—not to avoid doing work altogether, but in an attempt to minimize the academic efforts required to earn an M.
Given that Mastery teachers tend to believe that teaching is relationship-based, it is not surprising that they may "cut some slack" for a student with whom they have a strong connection. Some teachers concede that a strong link with a student can make them willing to stretch the rules for that student, and that relationships with students tend to act as a kind of baffle between typical student transgressions and system consequences. Dean Michaels refers to what seems like an unspoken set of understandings teachers and students have about the reciprocity inherent in student-teacher relationships at Mastery:

If you have a good relationship with a teacher, you can get by the overall "no revision" policy that is in place now. Even I do it [allow some students to bypass strict policies]: I have a credit system. Depending on what I know about that student, they will be or will not be in good credit standing with me. So when they screw up, if they are in good standing or not determines the consequences. So how many times have I had to talk to you before, how good a student are you, how well do you represent Mastery—that is how you get credit with me. So the more credit you have, the less likely it is that you are going to wind up in the doghouse. (12.06.04)

Such leeway is a normal part of school life. As in schools everywhere, Mastery teachers and students, alike, invest in caring relationships that are laden with significance and within which are embedded certain privileges and understandings. These associations give both parties a certain flexibility in enacting the rules and requirements of the mastery system. And they may be particularly powerful in a small school like Mastery, where it would be hard to find a student who does not have a close relationship with at least one teacher. As the examples above show, students and teachers at Mastery use their closeness to one another in ways that are conscious, creative, and benign. The only problem with these practices is that they may not result in improved academic performances. Students do work. They just might not be doing as much work as they
would if they were involved in less personal, less laden relationships with teachers at school.

**Depending on teachers**

Some Mastery students rely so heavily on their connections with teachers that the relationship colors the student’s understanding of who has ultimate responsibility for academic performance. This is the third way in which relationships at Mastery may undermine student achievement. While no student said that he or she thought that it was a teacher’s job to do the work for them, the range of student remarks around responsibility for learning show that some students seem to believe that they do not have to work in a classroom where a teacher fails to make it interesting, relevant, and/or easy. Some students believe that when a teacher does not keep up his or her end of the relationship in this way, then the students do not need to keep up their end, either.

One student, Aliya, says that “on days when it’s boring, I don’t pay attention. The teacher don’t put no—no excitement into it. So I just—I get distracted. I figure if he don’t care about it, why should I?” (5.22.05). She seems to feel that she and her teacher are equally responsible for her learning. She feels no compunction to participate if her teacher violates the rules of engagement --which, in Aliya’s opinion, require this teacher to “put excitement” into Math class.

Another student, Tashira, shows me a test she calls unfair and complains about her Science teacher’s tendency to ask application questions that seem unrelated to what is on the study guide. She says, “He always makes us a study guide. But when he asks us problems, other stuff like this, I don’t know it. If he didn’t put it on the study guide, why
do I have to do know it?” (3.14.05). Tashira’s comments indicate a belief that her teacher holds ultimate responsibility for ensuring her learning, and that she believes it is unfair for him to ask her to find meaning, independently, in what she learns.

Similarly, several students say that they rely on their teacher to “break down” the meaning of a challenging reading or problem—to teach students how to do math problems by articulating each step while modeling problem-solving “for” students (Aliya, 5.22.05), or to dissect a text and model its analysis with graphic organizers (Liana, 12.14.04: Zack, 5.13.05). These students become dependent on such support, and express views like Howard’s, when he says,

When I miss the teacher going over it, I didn’t know what was going on. That is what really put it in your mind. Like maybe you don’t read it, or maybe you just skim it over, or whatever—the important part is to listen to the teacher. She [is] the one who put it in your mind. She break it down, so you can pass the test. She make the test, she is the one who go over the stuff you need to know. (5.22.05)

Howard’s comments show students and teacher cooperating to make meaning from a text, with the teacher doing a disproportionate amount of the work. They also display Howard’s reliance on his teacher to prepare him for assessments. Students like Aliya, Tashira, and Howard, having become accustomed at Mastery to classroom dynamics characterized by caring teachers who make academic content interesting, meaningful, and accessible, seem unwilling to function under other conditions. They appear to abdicate responsibility for learning when their teachers do not meet their expectations.

A few teachers spoke about this phenomenon in their interviews—how Mastery students had come to depend on teachers so much that these students were, in effect, handicapped by this reliance. Several teachers spoke of the considerable amounts of scaffolding students get in classes. They fear students have become dependent on this
support and are “paralyzed” without it (Mr. Bryant, 8.14.05). These teachers are concerned that, in an effort to exploit a sense of connectedness, teachers may adopt practices which inhibit student learning. Ms. Nolan told of a student who had done little work in her class and yet, when he did not earn Mastery, came to her

...As if he had nothing to do with it, like it was me. A lot of kids feel that way. That is one of the hardest things we have to undo... we do so much hand-holding, we keep it fresh. That is not how the real world works. We are spoiling them. (7.14.05)

These sentiments are echoed by Ms. Wilber when she says that she is afraid Mastery’s instructional dynamics encourage students to have unrealistic expectations for life after high school, because what they learn at Mastery

...Is to just sit there and wait to be told what to do. Here in school you’re handed everything, you’re fed—you’re told exactly what you need to know, exactly how you need to know it. Here it is in your textbook, here is an assignment sheet, it’s written on the board. You’re reminded, reminded, reminded. But in the workplace, you’ve got to be your own teacher. You’ve got to be responsible for your own learning. You need to ask questions, think about what you see, be an observer—figure out for yourself, what is important for me to know? (11.17.05)

Ms. Wilber bemoans what she considers the excessive support Mastery students get at school. She believes that teachers are spoon-feeding students with such practices, and that students’ dependency on this is unrealistic and disabling, engendering a sense of entitlement which is ultimately self-destructive.

Some students’ lack of ownership of their school work is reflected in the very language they use to talk about it. Rather than say they are doing assignments for “Science,” or completing “English homework,” Mastery students regularly say they are doing “Ms. Reynold’s work,” or “Mr. French’s work.” This casual but practically universal convention (77 percent of interviewed students referred at least once in their
interview to a particular assignment as being a particular teacher’s) reinforces rejection of ownership, and may also allow reflect a general passivity in regards to their own school work. Such an attitude makes sense when students feel that the work is their teachers’, not theirs, and may reinforce the “Dario Syndrome” of partial engagement, low academic expectations, and superficial learning.

A few students’ comments also imply that some of them have found ways to work with the system and their close relationships with teachers in ways that minimize the effort it takes to earn M’s. These students all seem to adopt work-minimizing strategies because such approaches are practical, and because they may serve particular learning needs, as well. As Howard explains, above, he relies on his Humanities teacher to tell him what happened in a text; it could be that Howard knows he is an oral learner, and feels that listening to his teacher is the way he learns best. He does say, “…what really put it in your mind is … to listen to the teacher. She the one who put it in your mind so you can pass the test. She make the test, she is the one who go over the stuff you need to know” (10.20.04). Or he could also be recognizing that there is no need to read an assigned text if his teacher is going to tell him everything he needs to know, anyway.

Sabrina and Liana admit they have adopted this rationale for not completing independent Humanities reading assignments:

I don’t read at home. You know? My teacher, Ms. Alexander, she make it so you don’t necessarily have to do it. There is stuff on the board to do, and you can just listen in class. I hate—I HATE Humanities. And I am still passing by three points... cause I know how to do it (Sabrina, 5. 22.05).

And I’m gonna be honest, I really don’t do a lot of the readings... I just listen a lot in class, in discussions and stuff. For Humanities 601, I tried to read that book [Tale of Two Cities], but the way it was written, it kind of confused me. I never
got good grades when we had quizzes and stuff, but once we go over it in class, I get it and I pass the test and I pass the class (Liana, 9.13.04).

These students use classroom instruction not to support or supplement the work they are supposed to do on their own, but to replace it.

While it is entirely logical for students to try to turn academic support to their best advantage, some students do recognize that the balance is “off,” and that they actually benefit more from taking responsibility for their own work. The interviewed students who reflected this insight most succinctly were seniors. The first, Latrice, says,

I think the advice I would have for a new teacher would be that in this school, you are probably going to get closer to your students than you would anywhere else. But if you have a child in your room, and you just give them a mastery, then you only gonna wind up hurting that child. You have to teach them to use their own mind. That is what the teacher has to make sure you can do—translate whatever it is for yourself. (3.10.05)

Latrice recognizes that it is ultimately self-defeating for a student to exploit a relationship with a teacher in hopes of getting an undeserved M, and warns new teachers to avoid this trap. She believes it is a teacher’s responsibility to use his or her closeness with students to teach them how to make sense of new ideas themselves. She advises teachers to use caring to lead students to find their own ways to construct new understandings and learn at school.

Lauren, another senior, also has advice for teachers whom she thinks may meet their students more than halfway. Her comments, like Latrice’s, are indicative of an internalized sense of regulation. She says that teachers should not have to chase students to attend office hours: “If you want students to work, instead of making them come to office hours, like make them come, you should let them come on their own. Then they will pay it more mind, cause it was their choice” (4.1.05). Students like Latrice and
Lauren recognize that in the end, it is up to the student to figure out how to use caring and relationships effectively at school, and that this is the skill that will compel ownership of learning and academic achievement.

Figuring out how to negotiate learning relationships is not easy. Tarina, the student who gave a fervent avowal of the importance of teachers’ caring earlier in this chapter, provides what may be the most succinct summary of the dilemma Mastery students face when they form caring relationships with teachers. These relationships, while they may provide support and be enjoyable, may also tempt some students to slack off, which ultimately diminishes their learning:

At my old school, they didn’t care. They just, like, ‘OK, you failed, you failed, that’s your fault, I am not gonna help you.’ At Mastery, they take time, they stick with you, and if you don’t do it, that’s your fault. Some people have this attitude like, ‘Oh well…’ They be thinking they just can relax since their teacher’s so nice. But it is your work and they not going to do it for you! You didn’t want to do it, so that’s your problem. (2.8.05)

Tarina realizes that relationships with teachers must propel students toward responsibility. Unless caring relationships with teachers engender internalized motivation for students, they appear to interfere with student achievement.

Cultural connections

The above examples show some of the limitations of Mastery’s valorization of relational and motivational caring. Another problem is associated with this emphasis, as well. Some Mastery students, no matter how responsive, accommodating, and caring their teachers may be, still do not care enough about school to comply with its demands. More than the connections these students may form with people at school or with the
school itself, these students prioritize concerns for safety, street or home culture, and real-world relevance more than they value school and school work. To the extent that the mastery system relies on students' caring about grades and graduation, it falls short due to the conflicts experienced by some students in connecting to school.

Since Mastery opened in 2001, there have been many students who seem willing and eager to engage. These are students who behave appropriately in the halls and in classrooms, causing no problems for their teachers or peers, looking like model high school students. This is where their efforts stop, however. These students may appreciate the social codes and safety of Mastery, but are not interested in engaging at deeper levels, or more cognitive dimensions. Furthermore, while they may appreciate the safety Mastery offers, MCHS's academic demands make it impossible for these students to use the school merely as a shelter from outside demands. As Dean Michaels says, there are MCHS students who

Want to be in school cause it is safe. Our students go through a whole lot of emotional and financial adversity, and personal drama. Some get here at 7 AM to escape all that stuff. It is like Peter Pan for them here, but I tell them they can’t remain a child forever. There is no such thing as Peter Pan. There is such a thing as peanut butter, which is made of squashed peanuts. And we will walk on you in here, and you will either produce or leave. (12.06.04)

Dean Michaels’s comments are both lighthearted and serious. It is not enough for a student to behave at Mastery. Students are pushed to achieve academically. No matter how willingly they may comply with the behavioral norms at Mastery, students must eventually start engaging cognitively. Some freshmen never make the leap. Some older students, after years of hard work and deep engagement, may experience crises that rearrange their priorities and make even simple behavioral compliance difficult at school.
Although these students form deep relationships and connections to Mastery, these are not strong enough to outweigh other concerns.

The desire for safety blends with the next factors mediating students’ connections to school: concerns of street and home cultures. No matter how fully students may embrace some of the demands and codes of the school, their lives outside MCHS may compete with these demands. Mastery students’ needs to navigate between competing cultures (to “code switch”) are explored in detail in Chapter 6. This chapter will identify conflicts that appear to arise between Mastery’s academic demands and some of the other concerns which pull on some MCHS students.

Some of these other concerns center around the need to maintain nonacademic social capital, to preserve the kind of self-image and values that are consistent with students’ worlds outside school. To explore this phenomenon, it is important to note that one of the most striking features of Mastery is the lack of fights at the school. As previously noted, all MCHS students and their parents sign a nonviolence contract agreeing that the student will voluntarily withdraw from Mastery if involved in a fight at school. As a result of this contract and of the kinds of students who want to attend a school where fighting is forbidden, there have been an unusually low number of fights at Mastery: about one fight a year where punches are thrown, and three to five lesser incidents of pushing or threatening. As Mr. Wolf puts it: “Our kids don’t fight. They don’t fight. That’s an incredible thing to expect of a kid. Every other school in Philadelphia has, even the good ones have more fights in a week than we have all year, you know?” (3.10.05). This fact is significant because, despite the commitment represented by the nonviolence contract, and despite the fact that some Mastery students
may be glad they attend a violence-free school, the nonviolence policy challenges Mastery students to violate a basic “code of the street” prevalent in most of their neighborhoods, a code which says that fighting is a necessary step in earning and maintaining respect (Anderson, 2000).

An incident in the winter of 2005 shows the entrenched nature of some students’ cultural disposition toward violence and the tensions between this disposition and the school’s policies. By this time in Mastery’s development, the prohibition against fighting was well-established. Still, this did not keep two high-achieving juniors from trying to settle a conflict with fists, even though both were, in Principal Ringo’s words, “academic superstars.” Jasmine and Kalina had a disagreement that did not get defused even when Mastery teachers and deans tried to mediate. When the conflict between the girls became too intense and too public for either girl to back down without losing face, MCHS became a staging ground, a location with a mix of people whose energy can spark violence (Anderson, 2000, p. 77), and make conflict escalate. Conflict did escalate, exploding one afternoon into what the school considers fighting: aggressive contact between students consisting of pushing or shoving.

Both Jasmine and Kalina travel the length of Philadelphia every morning to attend Mastery in Center City. They both work hard in school and are leaders in extracurricular clubs. Both are articulate, intelligent young women. Still, as Dean Michaels says, “You can take the child out of the neighborhood, but it is tough to take the neighborhood out of the child” (informal conversation, spring 2005). No matter how much and in what ways these two young women had internalized Mastery’s academic values, no matter how deep their attachments to teachers and to the school, no matter how glad they might have been
to attend a violence-free school for two and a half years, other life-long habits and needs to earn respect proved to prevail for Jasmine and Kalina that afternoon.

Principal Ringo remembers that even though Kalina and Jasmine may have let street values take precedence over school values when they fought, they were quickly sobered by their experience. After their altercation, both girls were put on long-term suspension from Mastery and had to attend local neighborhood high schools for a semester. He says, “So now they are back and they are speaking to freshmen in First year Seminar classes, saying, ‘You know, this place isn’t so bad. It’s a joke over there. You can’t learn anything. You have to watch your back the whole time you are there’” (2.16.06).

Jasmine and Kalina are not the only students at Mastery who struggle to blend the values of two worlds. Principal Ringo tells another story about a student who was finally making progress in reading and writing, but who decided that his need to save face one afternoon was more important to him than anything else:

And then there is Kip. He had detention, but he felt he had been treated unfairly and didn’t want to stay. I caught him walking out the door. I told him it’s real simple. You have a choice. You can walk out and be suspended for three days, miss school just when things are going so well for you, or stay 40 minutes and that’s it, detention’s over. He had to think about it. But then said he would rather be suspended than come back in and serve detention. He just could not show any vulnerability. (2.16.06)

Kip has a reputation at school for being stubborn. He spent many afternoons during his first years at Mastery butting heads with deans over issues of respect. Kip had to choose between school values, which dictate that he advance his learning, and street values, which dictate that he appear in control and never back down. Like Jasmine and Kalina,
Kip did not act impulsively. After some consideration ("he had to think about it"), he chose street values over school values.

In addition to asking students to change the ways they handle conflict, Mastery also challenges students to trade in other street or home culture norms, as well, especially in social and emotional arenas. Different stakeholders at Mastery characterize these exchanges in different ways. Malcolm Stillman, Chairman of Mastery’s Board of Directors, says Mastery asks students to "to walk into a new place and be a whole kind of new person" (4.29.05). Ms. Abbot maintains that Mastery students are asked to "develop their student selves, their intellectual selves, their achievement selves" (11.28.05), and Ms. Craft says that the school makes "multidimensional demands" on students, and that, "the social and behavioral requirements...make this school not for everyone. Some kids are not looking for school to be changing them socially or emotionally" (11.18.05).

Such changes require considerable support—and again, when there is disjuncture between what the school asks of students and what their home and street cultures ask of them, some Mastery students may have trouble connecting deeply and consistently to the school. These disjunctures crop up in surprising places. One is in Mastery students’ notions about college. One of the most common reasons teachers and administrators give students for working hard at Mastery is that they need to prepare for college. They tell students that if they expect to be ready for college’s demands then they had better get used to doing lots of reading, and at least two or three hours of homework a night.

Based on anecdotal observation, most Mastery students appear to accept this characterization of college’s demands. It is not always enough to motivate them, though, and after talking with Elissa and hearing her impressions of college students in her
neighborhood, I begin to understand why some Mastery students might not believe that college actually requires such sacrifices. Elissa tells me,

This school will get you ready to go to college, like prep you for it. Help you grow up. Start you off. When you get to high school you have to get over your childish ways and just do what you have to do. But I do know some people who never did their homework in high school and they in college now and they doing fine. They still don’t do they work in college, neither. It’s the neighborhood. (5.22.05)

Elissa believes that MCHS will give her what she needs to go to college—but at the same time, she says that no matter what kinds of messages a student may get in school about working hard, street mores will act to mitigate them. It is also interesting to note that Mastery students, even though their SAT scores tend to be relatively low, do get accepted at some more highly-ranked universities and colleges. This fact, too, may cause some Mastery students to doubt some of the messages they get from Mastery staff about the rigors of college.

Some students get conflicting messages about school requirements and rules from another source, as well: their parents. Several Mastery administrators and teachers spoke of Mastery students’ parents’ differing values around appropriate behavior at school. While no one reports that a parent has ever wanted anything but success for their child, a few teachers and administrators tell me that that they found some parents not fully embracing the rules and policies the school requires their children to follow. For instance, Ms. Craft says,

We have a population of kids here whose parents say, ‘Yeah, that’s where you going. That school sounds nice. Just go there and do what you have to do. And don’t worry about the rules and regulations—the no fighting... no defending yourself. Just do what you have to do. It will be all right.’ (11.18.05)
Ms. Craft believes that this particular group of parents, themselves, are deeply immersed in cultural modes which permit young people to fight to defend themselves and otherwise “do what they have to do” to survive – so immersed that they do not take Mastery’s nonviolence policy seriously, and advise their children not to do so, either. While these parents are in the minority (“3 to 5 percent every year,” Ms. Craft says), they do exist, and their embrace of street values may add to the difficulties their children may experience as they struggle to form feelings of connectedness at Mastery.

Given that some Mastery students might be getting mixed messages about whether street or school codes matter most, it is not hard to imagine that they would have trouble fully committing to and caring about the school’s requirements. Seen in the light of these cultural imperatives and other messages, it is somewhat surprising that the school is as successful as it is in enabling some strong feelings of connection and relatedness in students, and perhaps not so surprising that these feelings may backfire in some ways. The fact that most students at Mastery do seem to care deeply about the school is testimony to its deeply dedicated teachers and to their consistent, meaningful caring about and for Mastery students.

Summary

This chapter shows that school culture at Mastery is characterized by strong motivational and relational caring, especially evident in the deep and strong connections many students form with their teachers at school. While we cannot overstate the salience of caring at MCHS, there are some caveats inherent in this value. Not every student feels connected at school, and not every relationship fosters academic achievement—indeed,
some relationships seem to backfire, leading students to avoid work and abdicate responsibility for learning. In the previous chapter, we looked at students’ beliefs about hard work at school bumping up against the mastery system’s efforts to foster achievement. In this chapter, we illuminated ways in which Mastery students’ caring works with and against the institutional features dependent on it. Together, in these two chapters we have seen ways in which students’ pursuits of competence and relatedness, two of the three defining features of self-determination, have shaped the mastery system. In the next chapter we will look at the ways Mastery students’ pursuits of autonomy, the remaining element of self-determination, mediate their achievements and further challenge the mastery system.
CHAPTER SIX
STUDENTS' NEEDS FOR AUTONOMY

An ‘I’ mean I didn’t do the work cause I had too many other distractions. Or it takes too long to do it right! Or if you passing, you can always afford to fail a few assignments and catch up with other things in your life. -Joyce (3.10.05)

Analyses of students’ and teachers’ negotiations of mastery at school have revealed both groups of stakeholders’ tendencies to equate engagement with achievement, and to believe achievement is synonymous with learning. In particular, Mastery students’ pursuits of competence and connection seem to lead them, at times, to make superficial engagement choices, prioritizing grades over understanding and a host of emotional concerns over achievement. In this chapter we see that students’ pursuits of autonomy—the third drive comprising self-determination, and one which the mastery system does not generally accommodate—may strongly contribute to students’ decisions about engaging and achieving at school. It also connects students’ engagement and achievement decisions with another powerful and essential psychological need: the need for agency.

Defining and troubling terminology: Autonomy and agency

Just as students’ academic achievements are influenced by their pursuits of connectedness at MCHS, so too, are these achievements affected by students’ pursuits of autonomy, the third, and according to some theorists (Little et al., 2002, p. 392), central psychological drive in peoples’ pursuits of self-determination. Before exploring Mastery
students’ pursuits of autonomy, it is useful, again, to define and consider key terms and definitions. The first of these is autonomy, itself. Because all behavior is volitional (Deci & Ryan, 1985; Little et. al., 2002), autonomy overlaps with other pursuits, and so describing and characterizing students’ pursuits of autonomy at school is a more slippery task than describing their pursuits of competence or connectedness. Additional complications arise because, although autonomy turns out to be a critical issue in relation to school achievement, and although the notion of autonomy figures prominently in various frameworks of different motivation researchers, there are disagreements (Schunk, 2000) and overlapping meanings and uses (Murphy & Alexander, 2000) around what the term “autonomy,” itself, signifies.

Key figures in the field of motivation theory provide some helpful, basic descriptions. Deci and Ryan’s (1985) original theorizing about self-determination implied recognition of the primacy of volition in human motivation. They define autonomy *de facto* as the making of action choices (pp. 5-6). In later work, Deci and Ryan (1991) add that autonomous behaviors are those actions that are integrated, authentic, and congruent with intrinsic aspects of the core self. Brophy (2004, p.10) has defined autonomy as “self determination in deciding what to do and how to do it.” If, as these definitions indicate, autonomy is about independence, agency is about power. Among psychological researchers, the term “agency” refers to the “full sense of personal empowerment” enjoyed by humans when they act with volition in goal-directed activities (Little et.al. 2002).
The mastery system and achievement decisions

It is useful to explore the mix of impulses acting within and on Mastery students as they decide whether and how to engage in school work. In keeping with this study's ongoing references to and modifications of the expectancy x value framework, it is also helpful to consider Mastery students' expectancies of success and their valuations of school tasks in relation to their pursuits of autonomy. According to the expectancy x value framework, when students have expectations for success and perceive high value attached to academic tasks, they will be motivated to engage at school. Various scholars have experimented with this model by emphasizing different motivational aspects, including attribution of self-efficacy (Schunk, 1981), achievement goals (Dweck, 2000), and perceived instrumentality of school tasks (Husman & Lens, 1999). All variations of the expectancy x value framework hold out a kind of promise to practitioners: If we can just make students feel more academically efficacious, or get them to adopt learning goals instead of performance goals, or if we can somehow increase an assignment’s appeal, students will want to engage and complete school work. The right interventions will increase students’ intrinsic motivation, will “convince” them to complete school assignments, and will thus locate at least some students in the engagement sector of the expectancy x value framework.

The mastery system, with all its limitations, tries to provide just these types of interventions to all students, thereby hoping to move them all to engagement. By endeavoring to make it possible for every student to earn M’s, the system is organized to increase students’ expectancies for success. The system makes each academic task a step toward promotion/graduation and tries to weigh it with relevance and value for students.
The system thus operates on an assumption advanced by Wigfield and Eccles (1999), that “expectancies and values are assumed to influence directly achievement choices” (p.69).

The mastery system’s interventions have been somewhat successful in getting students to engage and achieve mastery at school. The Mastery rate (i.e., the number of passing grades on report cards) in the first term of the 2001-2002 school year was 34 percent. By the 2005-2006 school year, 79 percent of students’ semester grades were at or above mastery level. Still, teachers and administrators at the school are not yet satisfied with the overall academic performance of Mastery students. Mastery grades may have improved, but Mastery student skills and work habits are still below the levels of their suburban counterparts, and below where they need to be if Mastery is going to fulfill its mission and ensure that its graduates can “compete in the global economy and pursue their dreams” (Mastery revised mission, 2003). Average 2005 and 2006 Mastery SAT scores are 850, compared with a national average of 1028 (College Entrance Exam Board). The system has vanquished neither the “Dario Syndrome” nor the sociocultural achievement gap.

One reason for this is because the mastery system, in all its permutations, has not been universally successful in convincing Mastery students to do their schoolwork. Recognizing that no child will ever do all of his or her work all the time (as Soloway says, “No, they don’t all do their homework, they’re still high school students,” (2.13.05), and that no set of interventions is likely to change this, too many Mastery students are engaging only superficially in schoolwork which they appear to value and which they could complete successfully, and too few hand in class or homework assignments. This chapter addresses the questions lying at the heart of this study, and at the heart of the
school’s charter: When and why do confident, able students who perceive the value of school tasks still decide not to do them? What is it that gets between a competent, caring, motivated Mastery student and high academic achievement? What can a school do to increase the likelihood that its students will decide to engage, achieve, and learn?

In this chapter we explore the contexts within which Mastery students pursue autonomy and agency. These contexts impact students’ decisions to engage or not in school tasks, and mediate their feelings of efficacy and the values they assign to school tasks. Three of the contexts within which students must decide whether to engage in school work, and which connect students’ decisions to continuing developments of the mastery system are identified here. These contexts are, first, the tenuous balance of school culture and home or street culture, second, the intensified focus on working strategically which has been amplified by mastery grading system innovations, and third, the needs and concerns of adolescents. In this chapter we see how these contexts affect Mastery students’ academic engagement, and then use this understanding to create a more complete picture of the ways Mastery students’ desires for self-determination and agency may be affecting their academic achievement.

The first context within which students make decisions about whether or not to engage in school is the context of cultural conflict which Mastery students may experience. No matter how competent and caring some MCHS students may feel about their school work, they may also experience some ambivalence about adopting Mastery’s academic norms (Jury, 1997) and cultural models (Gee, 1996). For some students there is a mismatch between the aspects of school culture which prioritize abstract goals, and students’ lived experiences outside of school, where goals and needs are more immediate.
and concrete. These students must exercise autonomy when they decide how and when to identify with the values of school, home, or the street.

The second context surrounding Mastery students as they make academic decisions is the context of strategic work habits which has been intensified by mastery grading system innovations. After fall 2004, when every assigned task at school was given a point value, some students engaged only when they calculated that their efforts would win them enough points to keep their average at 76. A number of system features enable and exacerbate students’ tendencies to appropriate and “game” the system with such calculations.

The third context within which Mastery students operate, as simple as it sounds, is adolescence. Unlike younger, elementary-school-age students, who are more likely to work because their teacher asks them to, adolescent students require more opportunities to make choices and exercise autonomy (Brophy, 2004, p.349). In this chapter we see that if these opportunities are not provided, students will create them for themselves by regulating their engagement. It appears that some Mastery students may choose not to work simply because they can choose not to work. Their counter-achievement choices reflect these students’ needs to make independent decisions about the ways they spend their time.

The decisions Mastery students make about devoting time to school tasks, their moment-to-moment actions and choices (Sansone & Harackiewicz, 1996), and their preexisting work habits take place within and are shaped by these three contexts. Specifically, this chapter identifies the types of maneuvers students use to limit the time and the effort they put into school work. While these maneuvers may increase the number
of mastery grades students receive, some of the evidence in this chapter suggests that they may also inhibit student learning. In the last part of the chapter, we consider the ways the mastery system, which sought to work with students' basic needs to self-determine, left other student needs out of the picture. We also look at how some teachers at Mastery deal with this omission, and imagine a new way to conceptualize the relationships among student motivation, autonomy, and achievement.

Cultural conflict

As discussed in previous chapters, many Mastery students do want to succeed in school. Given this finding, it is worth asking whether there is actually a conflict between students' values and school norms. Answers to this question are embedded in MCHS students' talk about the amount of time they say they spend on schoolwork. Students' reports of the amounts of time they spend on daily homework vary anywhere from “None, I do it all at school,” to “Two or more hours a day.” The most-commonly reported response to “How much homework do you tend to do every day?” was “About an hour,” although many students volunteered the information that they worked on much of this hour's worth of homework during class or other times at school. Even the low-achieving students interviewed for this study said they did homework every day. (All of these students reported that they did most if not all of their assignments at school.) Significantly, most students – those who said they never took work home, as well as Konrad, the only student who said he did “two to three hours every night, and more on weekends” (10.20.04) – responded to the follow-up question, “Is that enough time to earn M’s?” in the affirmative.
Most of these students’ reported efforts, although they may represent increases from previous school requirements, are out of line with Mastery staff’s ideas about the appropriate time college-bound high school students with below-grade level skills should spend on their work. Despite students’ reports of doing one or more hours of homework a night, all interviewed teachers reported frustration with students’ inconsistent attempts to complete school assignments and homework. No teacher felt that Mastery students spent enough time on school work. Principal Ringo believes that much of Mastery students’ underachievement would be reversed if they could get past this stumbling block:

What our kids need to understand is that the difference between successful people and unsuccessful people is that successful people are willing to do things that unsuccessful people are not. A lot of the time, that means simply putting the time in: staying for office hours two or three times a week, doing two hours of homework every night, four hours a night for older kids. Some kids think handing in a little homework and just showing up in class is enough. For many of them that is a big step, but not near enough, not nearly enough... but for many of our students, that is where we are starting. ‘What do you mean I have to do homework every day?’ ‘Well, if you don’t do it, you are going to fail the class.’ It’s that simple. (2.16.06)

A few points are noteworthy here. The first is the way Principal Ringo envisions academic success as requiring prolonged, visible denial of other pursuits. As will become apparent in later sections of this chapter, this vision is echoed by Mastery students who also tend to believe that academic success calls for time-consuming and somewhat formulaic sacrifice. Unlike Mastery students, however, Principal Ringo believes that MCHS students do not devote enough time to school work. There is a mismatch between students’ ideas about the amount of time they should spend on school work and Principal Ringo’s (and other Mastery staff’s) ideas about the time it takes to earn mastery. The
conflict between these two sets of beliefs shows one instance where some students’ concrete, home values bump up against school’s more abstract demands.

Referring to these values and demands as either concrete or abstract is a notion borrowed from Roslyn Mickelson—specifically, from her work on the “attitude-achievement paradox” among African American adolescents (1990). Mickelson’s research took on the prevalent belief that while many African American youth express positive attitudes toward education, they still receive poor grades. She resolved this paradox by acknowledging that individuals may hold dual values, some in line with a dominant value system and others belonging to a subordinate value system. She argued that when African American youths hold positive attitudes about school, these attitudes are abstract—that is, they are informed not by experience, but by a mainstream ethos valuing school. Mickelson wrote that some African American students’ concrete attitudes are based in their lived experiences outside school, where they see adults whose educational attainments may not have won them expected rewards. Because of this, these students’ concrete attitudes may be more pessimistic, and their performances may reflect decreased motivation.

Mickelson’s terms are useful in understanding the contrasting values embraced by Mastery students facing the demands the school makes on their time. The efforts required to negotiate abstract and concrete attitudes are evident in the comments of Aneesha, a high-achieving junior whose comments, below, about both her previous and early Mastery school experiences show an embrace of more concrete attitudes.

Before I came here, school was easy for me. Like they said, ‘Oh you in the high group so you get all the hard work,’ but it wasn’t hard to me. I was, like, ‘OK,’ but I never took it home... That was how it was for me [here at Mastery, too] for
9th and 10th grade. I have always tried my best but I still never had to take books out the building. Now that I am Upper House... I have more to do and I might be staying after school every day, putting in the time, getting help with my work. All my friends be like, ‘Come on, you ain’t have to work all the time,’ but I don’t pay them no mind. It is getting easier now that I been working at it. I don’t give up. I give 100 percent effort, that is why I am going to be successful. I don’t accept low grades. I’ll try my hardest. (12.14.04)

Aneesha’s well thought-out statements deserve careful analysis. Earlier in her schooling, her teachers may have sent her messages about the need to work harder, to put more time into her academics, but her own experiences contradicted these messages. Thus, while her abstract attitude may have shown a concession to school demands (“I was, like, ‘OK’ [I’ll do my homework]”), her concrete attitude reflected a logical conclusion: homework was actually unnecessary.

Aneesha is engaged in a reflective-evaluative feedback process where she interprets and evaluates her actions and their consequences. Now that she is in the Upper House (11th-12th grade) at Mastery, Aneesha wrestles with a future time perspective, defined by Husman and Lens (1999, p. 115) as “the degree to which and the way in which the chronological future is integrated into the present life-space of an individual through motivational goal-setting processes.” This perspective is out of line with her friends’ value systems. She struggles to internalize abstract attitudes and values, making room in her everyday after-school activities for school’s increased demands on her time.

Mastery staff also recognize the kind of leap students are asked to make in adopting dual attitudes toward school. It is worthwhile to consider adult stakeholders’ views of the struggles Mastery students experience in conforming to school demands for two reasons: first, in this area, especially, students’ responses to my probing tended to feel disingenuous. It is a lot to ask high school students to talk candidly with a school
administrator about why they do or do not do their schoolwork. Reading over the 22 student interviews conducted for this study, I am struck by the few that feel “real” regarding this question, the many that do not, and the unreliability of my own judgments in this area. Second, there is striking consistency in interviewed adult Mastery stakeholders’ views of what the school is asking from its students. In one way or another, all Mastery adults voice clearly the belief that Mastery requires students to change—to exchange lived values for school values, concrete attitudes for abstract attitudes.

There seems, first, to be a general consensus among staff that the rules by which Mastery asks students to abide are intensely demanding. Mr. Wolf explains that teachers and administrators “…expect an awful lot of the kids…We, I mean, we just expect them to be --better. In every way: socially, academically. I mean, hey, it’s a fact. They have a standard to live up to here that you can’t touch in most other schools” (3.10.05). Mr. Wolf believes that Mastery’s expectations around social and academic behaviors require students to perform at levels beyond the expectations present at other schools.

Other Mastery staff expand on this notion, articulating the added challenge placed on their students by these behavioral demands. Mastery students, mostly poor urban youth of color, may be used to other behavioral norms, codes, and expectations. They may struggle with the dilemma explicated by Boykin in his “triple quandary” theory (1986), which holds that African American students must simultaneously identify with mainstream values, the African American minority experience, and values rooted in traditional African cultural experience. Other scholars, such as Fordham and Ogbu (1986) have asserted that, because of social and economic racism, African American students embrace an “oppositional cultural identity” and an “oppositional frame of reference” or
set of protective boundaries between themselves and the dominant White culture in
schools. Both these constructs cause African American students to “experience inordinate
ambivalence and affective dissonance in regard to academic efforts and success”
(Fordham & Ogbu, p. 177). More recent scholarship offers a more nuanced view of the
challenges faced by African American who want to succeed. Ainsworth-Darnell and
Downey (1998, p. 551) have noted that while White as well as African American students
may exhibit resistance to school norms, White students may not live with the same
material conditions that many African American students do, conditions which inhibit the
development of mainstream academic skills, habits, and styles.

Some Mastery staff beliefs align with theories of cultural dissonance when they
say that Mastery students reject school rules because they are at odds with other values in
students’ lives. Dean Michaels, for instance, believes that Mastery students get
inconsistent and conflicting instructions about priorities in general and effective time
management in particular when they go from home to school. He says,

Here at Mastery we are asking kids, in my opinion, when they have a problem and
can’t decide what is important, to go against everything they know in all the
different cultures they encounter at home, in the street, in church—it goes against
everything they’re taught. Behavior-wise. It doesn’t work for all kids because
they can’t culture switch, culture hop. There are a whole lot of messages sent to a
student all day, every day. They are getting different messages, and some are not
too harmonious with some others. A parent doesn’t always help their child get out
the door and get to school on time, a parent doesn’t always even know whether a
child has any homework, so that is a message the kid is soaking up. (12.06.05)

As Dean Michaels notes, Mastery students thus not only have to measure up to exacting
standards, but have to “culture-hop” between multiple worlds. Principal Ringo explains
that some students have become adept at this kind of juggling, and that teaching students
to negotiate the expectations of these different worlds is, in fact, a major goal of the school:

Some of our most successful students can code switch—they walk into a room and their body language changes, how they walk changes, how they give and get respect changes. Everything. He is not a sell-out—that kid really wants to be successful, so he has to pick up on what it takes. He ‘gets it’: The whole world is not North Philly. If a kid wants to make it, he needs skills to talk to different people, listen to different people, know how to get along in different environments. That is what it takes. That is what we have to do here. Part of what helps our students be successful is the learning-how-to-behave-with-different-people piece. I’d like to do more with that. (2.16.05)

Not only does Principal Ringo identify students’ needs to code-switch (Anderson, 2000) as a central goal of the school, but he also says he wants to develop the program so as to increase Mastery students’ opportunities to practice this skill.

To Principal Ringo, students’ abilities to code-switch are neutral, skills a student can practice without feelings of ambivalence or internal conflict (“He is not a sell-out”). While, especially in the first few years of the school, the politics of academic success was a topic of lively debate among staff—should the school honor students’ home cultures over the culture of power (Delpit, 1995)—by years four and five of the school’s operations, the debate had fizzled out. Following those long discussions about whether the school existed to prepare students to change the unjust power structures of the world or participate in them, the overwhelming pressure to raise student achievement took precedence over this debate at staff meetings. Principal Ringo’s attitude is consistent with the sentiment predominant in the school by this time, and with Mastery’s mission.
statement, revised in 2004. For a student to be successful at Mastery, the school’s values must triumph over all other values.

The skill of adapting to demanding, mainstream rules gets a different gloss as described by the chairman of Mastery’s board, Malcolm Stillman. Stillman recognizes the social and political implications of code-switching. He believes that the code-switching Mastery requires of its students is an opportunity not only for them to practice using different skills, but to exchange their old values for new values, shedding those aspects of their culture that may have been hampering their individual growth. He says,

Mastery gives kids a place where they can trade in street values. We’re talking about creating an achievement culture, a different kind of—a counter culture, a culture different from the one kids know... This school is also an opportunity for them to figure out, for the first time, who they are. Because that street world of being was just a world of taking on another set of values. So it wasn’t like that was the authentic self. (4.29.05)

Stillman emphasizes the fact that a culture of high achievement might serve as a balm to students who have struggled to fit in with street values and norms. He postulates that these students, alienated from their intrinsic core selves, have had to create ego-invested, false selves in defense, and that Mastery provides a kind of sanctuary where these false selves are not necessary.

While such theorizing echoes some of the ideas associated with the controlled functioning theory of psychological self-regulation (Hodgins, Koestner & Duncan, 1996), it does not acknowledge any strains that such identity-exchanging might put on students. Some of these strains have been identified through sociological rather than psychological studies. Phelan, Davidson, and Cao (1991), for instance, look closely at students who

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10 “All students will gain the academic and social skills they need to succeed in higher education, participate in the 21st century global economy, and pursue their dreams.”
come from non-mainstream backgrounds, and at the various patterns of mainstream-value assimilation (what they call “border negotiation”) these students effect at school. They recognize, along with Dean Michaels, above, that students do more than hop back and forth between school norms and street norms, or abandon one set gladly for another. They believe students consciously strategize and shift beliefs, expectations, and actions in order to transact between the values of multiple worlds. Phelan, Davidson, and Cao’s model shows students achieving varying levels of success in these shifts, finding them sometimes smooth and manageable, and other times hazardous or insurmountable. Their model provides insight into Mastery students’ struggles in reconciling their concrete and abstract attitudes toward school achievement, and into the ways these struggles might affect student engagement at school.

**Working strategically**

Two features of the mastery system as it evolved over the years have increased students’ tendencies to work strategically. The first of these is the way mastery as a grading standard changed from a relatively inchoate notion of excellence in 2001-2003 to a quantified 76 points in 2004. Among other things, this change gave students a clear average to maintain. This is not to say that students did not try before 2004 to work selectively, or that all students after 2004 try to exploit the system and turn every academic effort into a pursuit of points. Nevertheless, it is impossible to deny that once numerical grades were established at Mastery, they gave students tangible goals toward which they can and do work tactically and selectively.
The second condition at school which facilitates Mastery students' tendencies to work tactically is the focus on utility value that pervades the school. Something is said to have "utility value" when people perceive it as being beneficial and useful to future goals (Brophy, 2004). The mastery system, in all its incarnations, has put task utility value at the very center of mastery motivation. In the June 2005 student motivation survey, a majority of students dismissed all extrinsic motivators—honor roll, pizza parties, academic awards, class trips—as "not such a big deal" (6.05). Only "grades" and "promotion" were recognized as consistently valuable. In establishing and maintaining this value, the school has formulated a defining condition underlying and informing Mastery students’ decisions about when to engage in schoolwork.

Utility value is, again, only one of the three types of reasons first identified by Eccles and Wigfield (1985) as comprising subjective task value. Students who see an assignment’s relevance to future goals recognize its utility value. Students who appreciate the feelings they get upon successfully completing an assignment recognize its attainment value. Students who appreciate the task for what it is in and of itself recognize its intrinsic or interest value. While Mastery teachers may strive to foreground tasks’ intrinsic values, the mastery system relies on the more instrumental aspects of subjective task value. For instance, a student who believes she will be an engineer may perceive utility value in mathematics assignments because she believes that they will be useful for her future studies and career. Such an orientation requires that a student not only have some professional goals, but also that the student have a future time perspective, which includes the ability to temporarily displace goals to an abstract behavioral plan (Husman & Lens, 1999).
Liana is a Mastery student whose awareness of future and professional goals imbues some of her school tasks with utility value. She says that because she wants to be a veterinarian, she tends to complete all her Science assignments, and is “like[ly] to struggle on her own [in that class] to get ready for the real world” (9.13.04). Kareem gives testimony that reveals a similar consciousness of future goals and the self-discipline required to serve these goals in the present. He says,

When I be sitting down looking at the words trying to figure out what they mean and it get too hard sometimes, I just remember that I want to go to college, study criminal justice. That help me make up my mind to do my work, make me not stop and just be writing something down the way I think it is. I know I gotta do extra work on my own, go farther than what you asked to do. You gotta go above and beyond. And that could make some people feel like it ain’t worth it. That’s the way it is in all Science. Is that fair? Yeah, I think it fair. You gotta know what you doing. (4.26.05)

Kareem says elsewhere that he does not like Science, but he is able to displace negative feelings about the subject with a positive regard for the devotion and depth his current studies require, a sacrifice he believes will stand him in good stead when he goes to college. He also recognizes that not all students feel the way he does. Some “feel like it ain’t worth it.” These students have not found meaningful reasons to complete assignments. School tasks apparently have little utility value for them, and they therefore choose not to work.

Students like Liana and Kareem do not say that moving closer to their professional goals increases their self-esteem, but it safe to speculate that they also appreciate serving their goals, and that this satisfaction augments their assignments’ perceived values. Other students express more explicitly the feelings of self-esteem they get from their hard work in school. We may recall the words of Latrice: “It is my
challenge but I love it. I love it! It is hard, but it is what makes me believe that if I can do
this, I can do anything in life” (3.10.05). Another student in a 2005 motivation study
focus group spoke about the self-knowledge she got from completing a very challenging
Humanities assignment, and how she draws on that knowledge now when faced with
other challenging school tasks. She says she sees each new daunting task as something
she can do no matter how long it takes, because her teacher told her she was a
perfectionist rather than a slowpoke (6.05).

Liana, Kareem, Latrice, and the student quoted immediately above have all found
productive reasons for engaging in school work. For them, an assignment’s
instrumentality provides additional motivation to achieve. For other Mastery students,
utility value has another dimension. The great majority of interviewed and focus group
students, when asked about why they engaged in school work, referred only to the fact
that completing an assignment could earn them points. This is not to deny that a student’s
interest may function as a motivator for action (Sansone & Harackiewicz, 1996), or that
sometimes, a student may complete one assignment rather than another because the first
assignment holds more interest for them. It is merely to suggest that most interviewed
Mastery based their decisions about deciding to work on more utilitarian considerations.

Working for points and playing the numbers

When students’ primary motivation for working is to earn just enough points to
pass, their learning suffers in a number of ways. This orientation limits the number of
assignments students will attempt and also compromises their engagement on the
attempted tasks. As Stipek et.al (2004, p. 18) have noted, students can “be strategic, even
conniving, focusing on 'doing school' rather than on learning or mastering academic material.” Mastery students admit to “finessing” the system and “playing the numbers” (focus groups, 6.05) in variety of ways. One boy admitted, “I will do half of a long assignment. It gets me enough [points] to pass, and that is all I want to do” (focus group, 6.05). Another said, “When I do it [an assignment], it’s only the problems that the teacher check” (focus group, 6.05). These students have figured out how to work selectively so they spend exactly the amount of time and effort they need to earn requisite credit, and no more. One student summed up this approach succinctly: “You do what you need to do stay at 76. Anything else is a waste of time” (focus group, 6.05). While it might be tempting to discount these student stances as postures adopted to distress the school administrators and teachers facilitating focus groups, this sentiment was echoed so often in interviewed students’ testimonies, as well as in teacher interviews, that it must be believed that many Mastery students regard the primary, if not sole value of school tasks is to earn them points.

Students’ focus on points extends beyond choosing how hard to work on a particular assignment. Mastery students also rely on points to determine whether and when a given assignment is worth attempting. They receive progress reports weekly, which, in addition to showing students’ running course point averages, list all assignments and all assignments’ values. Students use these reports to self-pace: to determine which assignments are worth doing based on their point values and on how they align with students’ other time commitments. Howard says, simply, “If it ain’t worth the points, I ain’t gonna do it” (5.17.05). He means that if an assignment isn’t worth enough points to affect his course average, if the assignment is a minor one that is worth,
say, only ten points out of a semester total of 2000 points, he will not bother attempting it. He will not engage in work when the time he would have to put in to earn a mastery grade is out of proportion with the points to be gained. Simon says he works hard to "get [his] average up over an 80, so [he] can 'take’ an I or two" (5.13.05). He picks and chooses his assignments, too, based not on point values, as Howard does, but on the rest of his social schedule. Simon regulates his work habits, putting in the time and effort necessary for him to skip assignments when it suits him.

Such self-regulation, although it might seem excessively instrumental, is actually common at Mastery. Billy describes how most of his peers "work a lot at the start of the semester. They, like, get a cushion so you could slack off when you need to later" (12.23.04)—and based on his switching from third-person to second person-subject, it is probably true that Billy also works in this way, too. One student who was not formally interviewed explained to me in Advisory one day why a student might feel it is wise to work hard and then "slack off" later in the semester; she said it was important to get "a solid foundation of M’s" so when it “came time for prom and parties” you could make sure your average was still high enough to pass (field notes, 3.05). These students may be thinking about the immediate future, but they do not appear to embrace a future time perspective. They value an assignment only when it serves their immediate needs to achieve a 76 average, and they do just the work that will accomplish this.

The mastery system was set up, originally, to allow students to “self-pace” – to work in ways and according to deadlines that fit their learning needs. As chapter 3 makes clear, students for the most part rejected self-pacing in the school’s early years, because they perceived self-pacing practices such as revision and A.S.P. (Mastery’s original,
voluntary but strongly encouraged after-school tutoring program) not as opportunities for
learning but as traditional school practices of compulsory remediation and academic
detention. Changes to mastery grading in 2004 allowed students to self-pace in new
ways, including the strategic ways described above. This self-pacing is no more
successful. As students try to decide when and which work to do, their efforts to
manipulate the system proved mostly detrimental to learning and to achievement.

Teachers have been generally frustrated by students’ appropriation of point-based
mastery grading practices, and respond to students’ selective efforts and achievements in
a variety of ways. Some ignore and thus try to counteract students’ tendencies to work
hard at the beginning of the term. Even though they take note of it, they sequence
instruction without regard to it, maintaining that “students should work hard all semester,
not just at the beginning and the end” (Ms. Reynolds, 12.05.05). Other teachers try to use
what they see as students’ enthusiasm at the start of a new grading period by making it
possible for students to accumulate points – not so students can avoid work later, but so
they will have had some confidence before they have to tackle the challenges that tend to
arise later in the semester. Ms. Abbot explains:

I try to give them [students] a floor in the first few weeks of the semester, so they
start off with success. It is like baseball. You start off batting .500 in the first two
weeks, and if you don’t do so well after that, your average drops pretty soon to
.280, and once you’re at .280, you stay there. It is the same way with the point
system. They build their own success. I give them the easy start, lots of short,
small assignments… Giving them a floor is helpful. It helps on multiple levels. It
feeds their ego, it feeds their academic person. It helps them understand they can
pass. It also sets them up so when they hit the bumps later or complete fewer
assignments and their grades drop, which they do on larger assignments, they are
not dropping from a 60 to a 50. (11.28.05)
According to Ms. Abbot, students will do more work at the start of the semester because they are eager to “start fresh” and “build success” (11.28.05). She does not see this as a game students play—or, if she does, she arranges things to let her students’ machinations work most effectively for them and their learning. She views their decreased academic performances later in the semester not as lazy, but as responses to the “bumps” of academically challenging work. Ms. Abbot’s students may have appropriated numerical mastery grading, but she has responded with a countermove designed to increase students’ success both in concert with and in spite of their strategic work habits.

Even teachers as experienced as Ms. Abbot have no wiles to help the student who realizes mid-semester that his or her course average is so low that it will be impossible to bring up it up to a 76 by the end of the term. When it becomes mathematically impossible to pass, these students decide to stop working all together. Ms. Abbot, Mr. Bryant and Ms. Nolan all bemoan the dilemma of having students in class who “have just given up. If it isn’t going to help them pass, they aren’t going to even try. They’re done. They are looking at taking the same class again and they are pissed” (Ms. Nolan, 7.14.05).

Similarly, these teachers express frustration with seniors, who, if they don’t need to pass a course to graduate, will simply hand in very little work (Ms. Nolan, 7.14.05).

It is natural that students do not want to waste their time making unnecessary efforts. However, the mastery system has allowed this natural impulse to become distorted and destructive to developing balanced achievement goals. Students’ over-reliance on the utility value of assignments is due in part to the fact that the Mastery system developed in a way that encouraged this focus. In an effort to increase transparency for students, the system became point-based and teachers began issuing
progress reports. Assigning a quantified value to every assignment has tended to encourage students' performance goals (wanting to win positive evaluation of one's performance) and diminish their learning goals (working for the sake of mastering new skills and concepts). In previous chapters we saw that points are not the only motivators to which Mastery students respond; there is also self-satisfaction, parents, school-based rewards, college, etc. When the system is set up so that points are so public and so simply determininistic, points take on added power. A focus on points strengthens the other mastery system practices which encourage students to stop at the level of task performance, and tips the balance toward performance goals and away from learning goals.

Mastery students’ appropriation of the number-based grading system is opportunistic but logical and proactive. In using progress reports and numerical averages to inform their decision-making regarding schoolwork, their exercises of autonomy are quite systematic and sophisticated. Unfortunately, their choices often do not usually result in increased achievement. When students try to earn semester grades of mastery by carefully calculating exactly which assignments they have to do to clear the hurdle of 76 points, they sometimes leave no margin for error and end up missing the mark (Mr. French, 6.20.05; Ms. Reynolds, 12.05.05). While it is true that students everywhere work for grades and try to “game the system” to win advantage with minimal effort, Mastery students’ efforts to work selectively may be especially (and ironically) complicated by their poor math skills and weak grasp of averaging. Students report frustration-- with “losing points and I don’t know why,” (focus group, 6.05), and with “the numbers [that] don’t make sense cause I figured that I was passing” (focus group 6.05). One student says
"I know exactly which assignments to make up and which I can forget about because they won’t matter to my average, but my Geometry teacher’s math is screwed up! I look at progress reports as a conspiracy. My grade goes down when I don’t miss anything” (focus group, 6.05). These students’ efforts to work strategically compromise their engagement and their achievement. We might wonder whether students like these would succeed better in school if they spent less time deducing which assignments they can skip, and more time trying to master mathematical skills.

“Just getting it over with”

Once students commit to completing assignments at school, they use particular strategies to minimize the time and effort they spend on them. These strategies, like the tactics described above, exploit the very elements of the mastery system that were designed to help all students achieve, and may, also ironically, result in decreased student achievement. That is, while some of these additional strategies may lead to higher mastery grades, they also may undermine student learning.

As students intentionally control when, how long, and how they work, they are efficient above all else. Anthony explains his system: “Like if we have to do ten questions, I do a couple of them at school, make sure my answers right. Then I don’t do the rest of them. I just be askin’ people to give me one or two of theirs, so I get all ten” (5.17.05). For Anthony, the shortest route to task completion and an M is through his peers’ work. Other students avail themselves of the instructional scaffolding in place at Mastery so they can get the job done as efficiently and as quickly as possible. In describing their approach to difficult readings in Humanities class, Liana and Sabrina (as
noted previously in Chapter 5) rely on their teachers to tell them what happens in their assigned texts, and to tell them what it means. As Liana says, “And I’m gonna be honest, I really don’t do a lot of the readings... I just listen a lot in class in discussions and stuff... once we go over it in class I get it and I pass the test” (9.13.04).

Teachers of students like Liana and Sabrina most certainly planned instruction to support and supplement students’ reading efforts, not render them unnecessary. However, students’ highly tactical approach to working “just to get it over with” puts considerable pressure on teachers’ instructional practices. Teachers voiced persistent annoyance with students’ refusal to do anything that would not provide them with immediate gratification in the form of points to raise their grade average. When Mr. French, a new teacher, gives students the opportunity to use a chapter outline as notes for a chapter quiz in Humanities classes, and his students make no outlines, he is irritated with their apparent inabilities to recognize that they can do something that will not only aid learning, but also potentially raise their grades. He says,

Some of my students refuse to do any work unless they get points for it up front. After the first two weeks, when people did all their work, there were some who wanted to challenge me—‘Am I getting points for this? Why do we gotta do this?’ And I’m like, ‘Why are we having this conversation? Just DO it! It’ll help you understand the chapter! I’ll give you credit as it’s due,’ and they were, like, ‘No, no, because it’s not worth it’ (6.20.05).

Mr. French’s students have defined the rules for task completion in his class. They will devote time and effort to assignments only when the rewards are immediate and definite. Even though creating an outline increases their likelihood of earning a high grade, some of his students choose to not expend the effort unless the additional points are guaranteed—that is, unless the teacher awards them points for completing the outline,
itself. Even though creating an outline or reading a text would ostensibly help a student master a class, some of Mr. French's students are not interested in completing assignments like these. They do not believe that the time such tasks require is commensurate with the likelihood that completing the tasks will make a difference in their grade.

**Taking the time to earn mastery**

In a number of interviews and especially in focus group conversations, students at Mastery emphasize the time commitment that full academic engagement requires from them at school and at home. Their comments exhibit shared beliefs about the relationship of time to academic mastery: Students acknowledge that grades of M, above all else, require a substantial time investment. Choosing to spend this time is, again, a decision that may be affected by any of the social, school-based, or personal contingencies described in this chapter. While students do not deny the intellectual or emotional efforts involved in earning mastery, their language tends to reflect, overall, a sense that earning mastery at school literally "takes time out of your life" (focus group, 6.05). As Mr. Quinn put it, "In my experience with students, they are seeing mastery as sort of putting in the time to hand in a, b, c, d, e, and f, and so they see taking time as what they need to do if they are going to get the grade" (6.20.05).

Dominique, a sophomore, articulates the centrality of time to the mastery-earning process particularly clearly when she explains why she got an M on a Humanities assignment. She says, "Getting an M come from the simple fact that I took the time to read it and I just took the time I needed to do a good job. I didn't let anything get in my
way. It took as long as it took” (9.13.04). Dominique concedes that not only must she spend the required time, but that she must also resist the temptation of other activities that might get in her way. Above all else, Dominique needed to spend as much time-- “as long as it took” --to do the job.

Lucas also articulates the relationship of time to earning mastery. He explains why some of his peers do not earn mastery:

They get an I even when they know their stuff. If they just be more specific they [would] probably get an 80 or 90. They just don’t want to work hard. They just want to get done with it. They got a certain amount of time or something to give it and then that’s it. (4.10.05)

He recognizes that for his peers, at least, schoolwork is worthy of a particular expenditure of time, and no more. Like his peers, Lucas also views mastery in terms of time. He shows me a Math assignment and says,

I got an M because I put more time in it. I spent more time on it than some other people. It’s not that I necessarily understood more than they did. They coulda understood as much as me, or vice versa. I just wrote more out... They didn’t put the effort into writing everything about it that is in their heads. (4.10.05)

Lucas’s comments show that he believes his achievement surpasses his peers’ not because he mastered course content more thoroughly than they, but because he simply devoted more time and thus greater effort to the task. For both Lucas and Dominique, it seems that the most notable part of making an intellectual effort is putting time into it.

Even more directly than Dominique, above, Lucas tends to discount the intellectual efforts required for mastery. He acknowledges that his peers’ grades may not reflect their actual understanding, and says that his grade reflects not so much the amount or depth of his learning, but rather the time he devoted to the task. Lucas sees the efforts required to earn mastery in terms of quantity rather than quality. He makes meaning of these efforts
in a way that does not negate understanding, but which does relegate it to a secondary
concern. Lucas makes sense of mastery in the following way: If students want grades of
M, they have to take the time and make the effort to squeeze out onto the page whatever
understanding is in their heads.

Of course, any young person might see little difference between making an
intellectual effort and merely putting time into schoolwork. Any student—especially high
school students, who usually have to learn to balance school responsibilities with
increased independence —might voice dissatisfaction with the time school tasks demand
of them. At Mastery, the heightened emphasis on task performance enabled by the
mastery system enable an important insight into students’ motivation. Caring teachers,
chances to revise work and retake tests, retaking courses, mandated or optional office
hours: these increased opportunities, instead of enabling achievement, may instead appear
to students as more tasks to do, more hoops to jump through to earn mastery. They
complicate the challenges students face in determining priorities and taking initiative to
make their own decisions—that is, to be autonomous.

These intensified conditions around time and task performance emerged a few
times in motivation study focus groups, where students characterized the time they spend
on schoolwork as a kind of sacrifice—time away from fun, clubs, friends, earning and
spending money, outside problems, and other typical teen concerns (6.05). Although
these students’ complaints about competing priorities are no doubt repeated by high
school students everywhere, at Mastery, the references to the amount of time it takes to
do schoolwork in class, at office hours, or at home are always qualified by the sense that
doing a task once is rarely enough. There were groans around the table acknowledging
the extra burden put on students by the mastery system, when one student at a motivation study focus group said, “Yeah. And then they make you revise it, which takes MORE time!” (6.05). Here again, providing students multiple opportunities and pathways to earn mastery - a key feature of the mastery system that changed over the years, but did not disappear - is seen not as privilege, not as a useful, alternative route to mastery, but instead, is recognized as an imposition on a student’s time.

Notions of time are central to the ways Mastery students think about engagement in school tasks. To a Mastery student, engaging in an assignment is all about giving his or her time to that assignment. This belief underlies several of the findings of this chapter. As MCHS requires students to devote more time to school work than most students believe is necessary, Mastery students struggle to juggle differing cultural prescriptions regarding time. Because most Mastery students do not typically embrace a future time perspective, many are not motivated to complete tasks unless those tasks provide immediate, short-term rewards. Because Mastery students understand effort as time, their efforts to regulate when and how they complete assignments to maintain a 76 average can be seen as efforts to save time.

While there is research into the ways people regulate their own learning (Zimmerman, 1990), as well as research which explores the ways mindfulness is related to autonomy (Brown & Ryan, 2003), there is little investigation into the connections students make between autonomy and devoting time to learning. When students talk about sacrificing, wasting, and guarding their time, they also appear to be talking about doing or not doing what they want to do. Students’ notions of autonomy and time seem to be closely connected, and are worth exploring in depth in future studies.
Adolescents’ concerns

The mastery system’s evolutions over the years have, for better or worse, accommodated students’ views of time and effort. While Mastery teachers value and evaluate students’ work for correctness, depth, and thoroughness as well as for simple completion, students search for the spaces and loopholes in the system that will allow them to earn points with as little expenditure of time and effort as possible. Such approaches may come as no surprise and sound quite familiar to educators who work with teenagers. If this is the case, we ought to ask not how can we subvert our adolescent students’ natural tendencies to perform tasks with a minimum of time and effort, but rather, what can we learn from these tendencies that might enrich our school practices and reform initiatives?

Student internship at Mastery

One Mastery program that seems to work effectively with students’ needs as adolescents is Internship. This program offers students content and processes which prove resistant to their efforts to game the system. It also seems to offset the mastery system’s more counterproductive accommodation of students’ tendencies to concentrate on accumulating points at the expense of learning. In the internship program, what changes everything for students is the context of the workplace, where students strive to reach beyond the minimum point requirements. They do this because they come to feel competent in a new environment, because their learning has immediate, powerful utility value, and because they are able to exercise autonomy and agency in researching, interviewing, and choosing their internship placements.
The internship program at Mastery is meant to open the door to the world of work for eleventh and twelfth graders as they prepare to graduate. Before students are sent out on nine weeks of Wednesday afternoon internship, they take a nine-week preparatory course at Mastery. This course explicitly teaches students the expectations and codes of the workplace, including all expectations for various dimensions of engagement at work: social compliance (punctuality and attendance), behavioral compliance (learning how to interact appropriately with coworkers), task performance (learning how to initiate projects and ask for help), and deep understanding (reflecting on the work experience and the transferable skills gained in it).

During internship’s preparatory academic class, and during students’ subsequent internship placements, they get powerful training that, in the words of Ms. Wilber, the internship program founder and program director from 2003-2006, “undoes” the mastery system. In internship class, she insists that students learn to take initiative and responsibility for their own learning. Ms. Wilber says that part of what she does is

...Unteach a lot of school culture: You can’t revise things, people won’t repeat directions and instructions again and again and again ‘til you hear them. In the workplace, you’re expected to hear something once. If you don’t get it, you ask the right questions to the right people. You make sure you understand. It is on you. (11.17.05)

Ms. Wilber believes that these real-world standards help “up the ante” for students, and compels them to adjust their behaviors and expectations according to the authentic context of the workplace. Students come to be motivated not to earn points, but to succeed at their internship. They realize, according to Ms. Wilber, that

It’s not just about you anymore, not just about your grade or your points. The work that you do doesn’t just impact your GPA. It impacts other people outside of here who you work with, who you don’t even know yet, and your future...
Eventually] the grades don’t really matter. They fade away. Kids are working because they care...At this point, it’s so much bigger than the school day. They are outside school. They are like, ‘Wow, it is real!’ (11.17.05)

Ms. Wilber explains that the values of actual consequence, respect, and mutual dependency help students go beyond mere task completion to deep understanding and internalized intellectual engagement.

When students are allowed to make choices—about how to characterize their own experiences and abilities in pre-placement mock interviews, about which companies to visit on informational interviews—and are able to engage in goal-directed activity of their own choosing they develop agentic selves (Little, 2000). These agentic selves “take on more challenges, aren’t afraid of interacting, take more initiative, take more risks and contribute to the culture of greater achievement” (Ms. Wilber, 11.17.05) at Mastery. Given an environment where students, not adults, figure out the demands around code-switching, where all tasks have authentic, significant utility value because they matter to colleagues, and where students are expected to act with maturity and discretion, Mastery students exceed expectations and decide to engage deeply: 95 percent of the mentors at workplaces where Mastery students intern report they are “extremely satisfied,” and 100 percent of them will continue to take Mastery interns from the school’s internship program (Mastery Charter Schools 2005-2006 Annual Report).

The standards and expectations of the work place change the dimensions of students’ engagement at school. Mr. Bryant says,

I love it when students do their internships at the same time they take my class. They want to take on more challenges, they take more initiative. Across the board. I changed the late work policy in my class once I saw that [Ms. Wilber] doesn’t allow it, and that has definitely contributed to the greater culture of achievement in the classroom. (8.14.05)
Students who are able to make connections between school and entry into a good job or college increase their active participation at school (Gelberg, 1997). As Mr. Bryant says, not only are Mastery students able to transfer the skills and independence they gain in internship class to other classes, but teachers of those classes build on students' increased senses of responsibility and deeper engagement to strengthen learning in their classes, as well.

**When it is raining**

Although the internship program appears to inject Mastery students' high school experience with relevance for eighteen weeks, and seems to result in raised awareness and agency among students, the other 126 weeks or so that Mastery students spend in high school are more accurately characterized by the issues discussed earlier: cultural conflict, struggling to spend enough time on academics, and working only as much as necessary to gain the potential rewards inherent in school tasks. In addition to these issues, we must consider one more set of conditions which acts to affect students' engagement at school.

These conditions do not fit into theory-based categories like “potential cultural conflict” or “perceived task utility value.” Nevertheless, they should not be ignored if we want to understand the contexts in which Mastery students live and make decisions, and help them choose to make positive, learning-enhancing decisions. In addition to naming reasons for working or not working which recall the categories named above, some interviewed students and students in 2005 motivation study focus groups name what
seem to be almost random teenage past-times. These students say that they choose not to work, sometimes, because they watch TV instead, or talk on the phone with friends, or visit neighbors. While it is tempting to try to squeeze these choices into previously discussed categories—students who choose to watch TV instead of doing homework may do it because they are embracing concrete values that do not prioritize school commitments, for example—such an analysis seems a bit detached from reality.

Suburban students also choose, sometimes, to talk on the phone with friends, or watch TV rather than do their homework. While we can speculate that some urban students might not have the structures and support that suburban students have to tell them to turn the TV off, for example, such a fact speaks more to urban and suburban students’ achievement differences rather than to the impulses that drive their decision-making. Both groups of teenagers have to decide whether and how they are going to engage in school tasks; both groups seek to exercise autonomy, albeit in different environments.

When the comments of students in one particular June 2005 motivation survey focus group are examined more closely, the idea of autonomy, especially adolescent autonomy, emerges clearly. This group of eight students in grades 9-12, all female, met around a table in Mastery’s conference room and named a plethora of reasons why they sometimes chose not to do their homework, including: “Because it was raining”; “Because the weather was nice and sunny out”; “Because I had something to do with my friends”; “Because I already worked enough in school” “Because I wanted to listen to music”; “Because I had choir practice”; “Because I went to sleep” (6.05).
Similarly, Aliya, a freshman, told me plainly that when a student did not do his homework, it was because “most likely he just be home chillin’, sitting on the bed. Maybe take a nap. He probably got a routine” (5.17.05). Students such as the girls in the focus group and Aliya may or may not be affected by cultural conflict. They may or may not choose to do assignments if they see no value in them. They may also just be trying to make their own choices—to be free, autonomous, independent young adults. In more formal terms, these students may be choosing not to work because, even if the mastery system serves some of their needs for self-determination, it does not allow students to fulfill these needs at school “accompanied by a sense of autonomy, or, in attributional terms, by an internal perceived locus of causality” (Ryan & Deci, 2000, p. 58). Students who say they decide not to complete school work because it is raining, or because it is sunny, may be stating that their decisions to work must reside within themselves.

**Expectancy x value x volition**

These thoughts on motivation do not fit into any of the modified models of the expectancy x value framework found in previous chapters. The model requires a few final adjustments to accurately portray Mastery students’ exercise of autonomy in making engagement decisions at school. Examining the ranges and limits of caring at Mastery, and noting the ways in which these influence student motivation reveals a picture more complicated than is usually depicted in school motivation models. As previously noted, the “classic” 2x2 expectancy x value model typically depicts students’ valuation of school tasks as yes or no, and their expectancy of their own success in completing these tasks as either high or low. A review of Mastery students’ comments in the previous two
chapters has suggested that it might be more useful to view values and expectancies as continua rather than dichotomies. Such modifications permit a more accurate picture of factors influencing Mastery students’ motivation.

Still, the picture is not complete. It does not provide insight into the behaviors of those Mastery students who believe they can be successful on particular assignments, seem to regard the assignments as valuable, and still choose not to complete their work. These students are at the positive ends of both continua, and still, they often choose to reject or evade academic efforts. This is not logical, but it happens every day at Mastery, and at schools like it all over the country. These are the students who display inconsistent engagement. They will show strong task performance for weeks, staying late at school to work closely with a teacher, doing all their assignments for a time— and then simply stop working. What are the relationships among these students’ beliefs about their abilities and the range of values they assign to academic tasks at school?

If we imagine the continua now representing students’ expectancies and perceptions of task value as x- and y-axes, we can more precisely locate the “coordinates of caring,” or varieties of valuations and expectancies affecting these students’ motivations. For example, we can imagine a high-ability student—say, Kareem— facing a task at school, and plot a point in the appropriate quadrant representing the decision he might be predicted to make when he considers that task relevant to his personal future goals. We can assume that Kareem would engage with the task since both his sense of efficacy and the value assigned to the task are positive. We can also plot another point to represent another engagement decision made by Kareem. If this second decision is made
about engaging in a task which has only point-based value, we might expect it to be lower down in the engagement quadrant. See Figure 10.

![Engagement Quadrant Diagram]

**Figure 10.** Two decisions made by one student to engage or not in school work:

*Expectancy x value with regard to dimensional engagement*

Kareem’s two hypothetical engagement decisions have the same “x” value—his efficacy beliefs are consistent for both tasks. His differing valuations of the tasks locate his
likelihood of engagement further up or down on the "y" axis, representing more shallow or more deep dimensions of his engagement.

Although the coordinate plane does permit this framework to show dimensions of engagement, it implies that Kareem's two forms of engagement differ only because he assigns more or less value to a certain school task. In fact, this chapter has shown that students' engagement decisions are affected not by two variables alone—expectancy and task valuation—but by a third factor as well: volition. Although the findings of this study have been organized around students' drives for self-determination, the work of Little (2000) and Little et.al. (2002) on the agentic self, and Hawley (1999, 2003) on resource control theory provide additional conceptual frames which build on self-determination theory and help explain how a student like Kareem exercises volition in his academic decisions at school. These scholars have argued that humans' basic needs for self-determination—that is, for competence, relatedness, and autonomy--must be understood in conjunction with another basic human drive: the need to acquire and utilize material and social resources. They have asserted that the drive for self-determination and for resource control come together as an action-control mechanism in the agentic self. Mastery students do not acquire and utilize conventional material and social resources at school. If, however, we view Mastery students' regard for their time as something precious, as territory worth guarding, as a quantity that is necessary for their survival, and apply the agentic frameworks of Little et. al. (2002) to understand students' desires to control the ways they spend time, we can arrive at a deeper understanding of their engagement decisions at school.
This deeper understanding can be depicted on a final variation of the expectancy x value model. This modification depicts the third factor influencing student engagement decisions: students' agentic responses to different contingencies. A student may decide not to do her school work not because she does not feel competent, not because she thinks the task is not worthwhile, but because she has realized that no one else in her neighborhood is staying in on a warm spring night to do homework, so she should not, either. Or she may realize that she can get away with listening to her teacher tell her about the book in class instead of reading on her own. Or she may decide that getting ready for a date, or working extra hours at her part-time job, is of more immediate importance. These are some of the minute-to-minute conditions within which Mastery students, all students operate.

Given the highly contextual nature of student engagement, it is most representative, perhaps, to model student academic engagement decisions in three dimensions, where students’ likelihoods of engaging are depicted and their senses of agency can also be shown. Given the same sense of efficacy and assigning the same utility value to a task, two different students (or the same student, at two different times) might make different decisions to engage or not to engage. This situation is depicted in Figure 11.
Student assigns higher value to task

Student assigns lower value to task

Fronting

Engaging

Rejecting

Evading

Student has low expectations for success

Student has high expectations for success

Decision 1: Task has personal utility value

Decision 2: Task has personal utility value but student has competing concerns

Figure 11. Two decisions made by one student to engage or not in school work:

Expectancy x value x volition

This model allows us to focus not only on relationships between students' efficacy beliefs (shown on the x-axis) and values they assign to school work (shown on the y-axis), but also view the exercise of volition (shown on the z-axis) in students' minute-to-minute decisions. It can show us that two students, or the same student at two different times, may share high ability and may perceive equal values in a school task, but still make different decisions about whether or not to engage academically. When a student chooses to engage fully in such a task ("Decision 1" in the model), this choice is shown deep in the engagement quadrant. In another engagement decision ("Decision 2"
in the model), the student's choice may make her an underachiever. What has changed are the external conditions that influence her engagement.

This perspective suggests that one remedy to episodic academic underachievement may not be found in the domains of expectancy or task valuation. Answers may instead lie in finding ways to make high school education fulfill student needs for autonomy and agency so that all students—the occasional high-ability underachiever as well as those students currently rejecting or fronting in class—can learn and achieve more at school. This perspective implies that the more curious we are about students' decisions to engage, the more useful our insights can be about what helps them achieve.

When we perceive students' juggling of conflicting behavioral impulses and imperatives as threats to achievement, we, as educators, tend to take actions that further deny autonomy and agency to students. When we acknowledge that these impulses are unavoidable and tend to override other academic interventions, we operate from a position that is empowered, not trumped, by student agency. This perspective puts Mastery students' school transactions into a new light. It helps us understand a school's practices and policies, and students' psychological needs as structural elements defining and enabling achievement choices.

In 2001, the mastery system was designed to serve students' needs to feel competent about their academic efforts, and to reward them for deciding to care about school. It sought to utilize students' desires for self-determination to assist them in focused pursuit of high school graduation. In doing so, it omitted the cultural and developmental challenges Mastery students face as they make daily decisions about
school work. The mastery system’s exclusion of student agency and autonomy may have limited its effectiveness in strengthening student engagement, achievement, and learning. More work should be done in this area, with school reformers and practitioners investigating the ways in which increased attention to students’ needs for agency and autonomy affects their school success.

Summary

This chapter shows how students’ pursuits of autonomy affect their decisions to engage, achieve, and learn at Mastery. These pursuits are shaped by at least three factors: students’ cultural values, which often differ from Mastery values, the mastery system’s emphasis of schoolwork’s utility value, and adolescents’ preferences for relevance and freedom. Operating within these three sets of concerns, Mastery students make engagement and achievement decisions that reflect minute-to-minute contingencies. Looking closely at the decisions made by students who value school activities and who have high efficacy beliefs but do not choose to engage at school may have important structural relevance for new theories of motivation and achievement.
SECTION FOUR: LEARNING FROM MASTERY

CHAPTER SEVEN

FINDINGS AND IMPLICATIONS

All students learn the academic and personal skills they need to succeed in higher education, compete in the global economy, and pursue their dreams.

Findings

The main findings of this study fall into three general categories. These are the power of students to fundamentally shape and reshape school practices, academic achievement at urban high schools, and the uses and limitations of academic interventions.

Students fundamentally shape and reshape school practices

The prevailing wisdom in school reform is this: when school reformers act, students are the beneficiaries of those actions. When school districts are desegregated, students receive equal educational opportunities. If alternative instructional programs are instituted, students are taught in alternative ways or with alternative curricula. If whole-school reforms are enacted, students get research-based instruction. In the language and execution of these reforms, students are the passive recipients of school change. Earlier conceptualizations of this study which sought to show the degree to which Mastery policies and practices succeeded at making its students successful viewed students as acted upon, for better or worse, by different features of the academic system.
The clearest finding of this study has been that Mastery students’ beliefs and actions, more than any other factor, have shaped the school’s academic policies and practices. Students’ understandings of academic mastery made the mastery system more concrete and more task-based. Their theories of intelligence and their achievement goals drove the system’s instructional imperatives and academic support programs. Their drives for self-determination shaped, reshaped, and reinforced the system’s standards, as well as its pacing and promotion policies. Their needs for agency have mediated and will continue to mediate the ways the system increases academic achievement.

This finding may appear to Mastery stakeholders, especially, as somewhat ironic. Administrators at the school tend to interpret and enforce the school’s rules and policies tightly, and one of the consistent complaints of MCHS students is that they have no voice at Mastery. It is true that Mastery does not look like a typical school built around student empowerment. Student government is mostly pro forma, student disciplinary review committees have come and gone over the years, students are absent from policy discussions and do not attend staff or board meetings. Opportunities for students to make choices about their academic courses are almost nonexistent. As the evolution of the mastery system shows, however, students’ voices and visions were in no way ignored during the school’s first five years. In unexpected ways, virtually every aspect of the mastery system changed to be more consonant with student values. It is fair to say that one of the reasons the staff has been able to shape school policies and practices effectively is they have made the mastery system conform to student visions of mastery and achievement.
This effectiveness is qualified. Because the mastery system reflects student values, this means that the system reflects an idea of learning that is somewhat immature and superficial. Mastery students tend to see academic achievement as a list of completed tasks. The mastery system has come to reflect a similarly limited vision. It remains to be seen whether Mastery teachers and administrators will continue to stress task completion and other quantifiable achievement measures, or whether they will push instruction and assessment toward deeper, internalized dimensions of engagement and learning.

**Academic achievement outcomes are complex and multilayered**

This study demonstrates the complexity of assessing learning, and the critical importance of understanding the differences among engagement, achievement, and learning. It also shows the compromises and tradeoffs that ensue when a school reform initiative is established to engender all three outcomes. At Mastery, where there have been tensions among achievement, engagement, and learning, “achievement” is the prevalent goal. The prevailing desire among stakeholders at Mastery—students, teachers, administrators—is for high academic achievement. Stakeholders are unified in embracing values of academic focus and hard work.

This unity, however, does not imply a single vision of achievement or a consistent idea of what hard work in a high school looks like from day to day. On the contrary, this study finds that students, teachers, and administrators attach multiple meanings to mastery in particular and to achievement in general. A visitor to Mastery will see students, teachers, and administrators enacting seemingly shared goals of high achievement. The school is full of orderly classrooms filled with engaged students,
school test scores are displayed at the front door, and posted in halls and stairwells are lists of honor roll students and recent college acceptances. Despite this clear and public foregrounding of academic accomplishment, Mastery students, teachers, and administrators at Mastery do not all mean the same thing when they talk about high academic achievement.

Students do share some beliefs about achievement. They seem to believe that achievement is evidenced by grades, that grades reflect effort, and that their decisions to make an effort come from the fact that they care about school. In making independent decisions to complete school work, students satisfy their needs for autonomy. In successfully completing school tasks, they feel competent. In caring about school and relationships there, students satisfy psychological urges for connectedness. Deci and Ryan’s (1985) theory of self-determination has been of great value in this study; their work allows us to view Mastery students’ engagement decisions as the results of fulfilled desires for self-determination.

While mastery students do have high regard for academic achievement, they embrace various ideas about when, why, and whether it is worthwhile to exert effort in school to achieve. These ideas are illuminated by Dweck’s (2000) work on achievement goals. There seem to be students at Mastery who work to increase learning rather than for the sake of self-affirmation, but, as everywhere, they are probably in the minority. Students also display varying degrees of intrinsic and extrinsic motivation regarding academic achievement. Here, again, Ryan and Deci (2000) have developed theory which explains Mastery student behaviors logically and convincingly. Ryan and Deci’s continuum of regulatory styles suggests connections between students’ differing
motivation levels and the degrees to which they have internalized school values. There are Mastery students who care about earning points, for instance, and who are extrinsically motivated to achieve. They care about earning M’s because at Mastery, every grade of M moves a student one step closer to graduation. Some students’ caring about school is more internalized. Their reasons for achievement are rooted in professional aspirations that sustain and direct them to persevere through difficult academic tasks. Other Mastery students, for whom high school graduation is a distant target, or who do not have a future time perspective, find reasons to connect to school through the relationships they form with teachers.

Mastery’s academic practice and polices changed over the years to accommodate student needs for self-determination in the areas of competence and caring. Teachers used the system to satisfy student needs for competence by recasting learning as series of tasks that could be completed according to clear, explicit directions. Teachers satisfied student needs for relational caring by being available for students before, during, and after school for extra help, conversation, and sharing. Mastery leadership also addressed students’ needs for motivational caring by vesting every assignment with practical utility value. The mastery system stopped short, however, in satisfying student needs for autonomy. In doing so, it tended to arrest student engagement at the dimension of task performance. Many Mastery students do work hard, but without room in the system for them to make choices, their hard work is more about putting in time rather than it is about discovery and learning.

Mastery teachers, like students, are unified in valuing achievement. They display a variety of beliefs about achievement and about the degrees to which they will
accommodate student's varying achievement beliefs. Some teachers accommodate student beliefs about achievement which emphasize effort and caring, so that their definitions of mastery come to include student behaviors such as paying attention and cooperating in class, or bringing books home. Others push hard against standards like these, and try to challenge students to focus on improvement. They create classroom environments which balance performance and learning goals. Other teachers stress learning goals exclusively, challenging capable students to go beyond minimum standards and demonstrate deep cognitive engagement.

Among administrators, the need for academic achievement has been consistent, but has shifted its focus considerably over the years. Achievement for this group first meant authentic demonstration of a broad range of skills via project-based learning and traditional assessments. As time went on, as more school leaders were hired and greater attention paid to instruction in basic skills and state tests, leadership concentrated on holding students and teachers accountable for quantifiable accomplishments: completed academic tasks, satisfactory grades, and test scores. Leadership also enforced and reinforced mastery system promotion policies, which use extrinsic motivation – the promise of timely graduation— to encourage students to achieve.

Despite these variations in stakeholders' beliefs about academic achievement at Mastery, this study has shown that Mastery stakeholders are unified in valuing student achievement, and unified in wanting to increase it. The school has been successful in creating and nurturing a culture of high achievement. After five years, the gaps in students' achievements can be attributed not to differing achievement values, but to the
ways the system may encourage engagement as an end to itself, a quality that may not necessarily lead to deeper learning.

**Academic interventions have limited power**

This study shows that a variety of factors, exacerbated by the demands of starting a new school, compromised and mediated the effectiveness of the mastery system. This study also indicates that the system may have overreached in its efforts to regulate the teaching and learning that went on at the school, and that inherent in the original mastery system were misjudgments about student motivation and teacher capability.

The system's shortcomings were both particular and generic. In particular, the mastery system was overly ambitious in its efforts to be comprehensive, to define and regulate the standards, policies, and practices that would result in high student achievement for 400 high school students. Furthermore, some of the seven defining elements of the mastery system were highly unconventional, and were found to be either ineffective, impracticable or incomprehensible to stakeholders. Students rejected the academic support features in the system that differed from their ideas about the ways students work in traditional schools. Teachers also tended to be challenged by the system's more unorthodox features. Both groups of stakeholders reverted, at first, back to the familiar patterns and roles Tyack and Cuban (1995) have identified as associated with "real school."

Furthermore, in the beginning, making the mastery system's innovations work effectively required a capacity and levels of experience that teachers and administrators at the new school simply did not have. It is hard enough to orient new teachers and students
to a new system. Helping new teachers and students work effectively with and within an unusual academic system like Mastery’s added lots of additional stress and trouble. The mastery system asked students and teachers to think differently about teaching and learning. It is not surprising that students and teachers sometimes rejected these new ways of thinking and defaulted to the “real school” habits and practices they knew best. Unconventional features of the mastery system such as formative grading, mandatory revision, and voluntary academic support programs were met with varying degrees of incomprehension, irritation, and suspicion by teachers and students, and so gradually, all came to look more like traditional school programs. Until leadership and teachers became more experienced, and until everyone got through a host of start-up challenges, the very newness of the school undercut the effectiveness of the mastery system’s more novel program features.

Other limitations of the mastery system are not so exceptional and are, in fact, common to all academic interventions. No matter how intentionally wrought its policies and practices, the mastery system is ultimately just another set of efforts designed to make high school students do what adults want them to do. And, like every program created to induce and produce particular human behaviors, the mastery system has had uneven success in controlling Mastery students. One reason for this may be that, in seeking to control student effort, the mastery system makes no provisions for student agency.

There is, as well, another limitation of the mastery system that is universal: No system is a magic bullet that can ensure student success. In this sense, the mastery system’s flaws, including lack of follow-through and failure to provide options for
students, are actually beside the point. As one Mastery teacher said, bluntly, “I think that for the kids who do well, it doesn’t really matter what the system is. They are going to do the work they are supposed to do. And for the kids who do really poorly, it doesn’t matter, either, because they are just not going to cooperate.” This way of looking at the school’s efforts to increase student achievement is either cynical or realistic, depending on how much faith you have in young people’s abilities to grow and change. It does speak to the fact that, at the end of the day, no system can guarantee student achievement.

Upon further consideration another, related truth about the mastery system’s power to effect student achievement emerges: It is impossible to reduce academic achievement to a single set of factors or enabling conditions. Even if academic achievement could be so bounded and reduced, this study has shown that learning, assessment and instruction are complex and interrelated, and that students gain and lose as schools make various choices with systemic interventions. The evolution of mastery grading, for instance, showed that formative grading procedures necessitated new approaches to instruction and lesson planning. Similarly, every time the notion of mastery as a uniform standard changed, student promotion was affected and the need for differentiated instruction increased.

Virtually every adjustment to one part of the system resulted in changes to other parts of the system, and revealed the interconnected nature of curriculum, instruction, and assessment. Despite the resultant trade-offs, and despite the fact that the mastery system, like all systems, has limits and flaws, it has been successful in establishing high expectations and support for students at Mastery. It may not have ensured achievement
for every student, but it has effectively shaped the conversation about academic achievement so that students at the school expect to work hard in order to progress.

Implications

As a co-founder, former administrator, and current consultant at MCHS, it is my great hope that this study holds insights for the people who go to work and learn there every day. I studied Mastery not only to serve my own academic pursuits, but because I wanted to understand better what has been happening there, and because I wanted to help the school develop its success. In deepening my own understanding, I have come to believe that the struggles described in this study may provide insights for practitioners at Mastery and other schools, for future research and theory about improving student learning and achievement, and for the enactment of educational policy.

Implications for practice

If I were to embark on another school reform project similar to opening a new charter high school like Mastery, I would take note of lessons learned in this study, and make changes in several areas of school design and program implementation. What follows is a list of recommendations for practitioners opening a new school or implementing whole-school reforms similar to Mastery’s.

Rigorously define the school’s central construct

The central quality of an academic program, the thing that sets it apart from other schools—be it mastery-based grading, project-based learning, culturally-relevant...
pedagogy, or some other organizing notion or intervention—must be carefully researched, defined, explored by stakeholders, and then consistently supported and revisited in light of lived practice in order to sustain the school’s growth as an institution. That we, at Mastery, sought to structure a program around a notion that we never actually defined must strike most readers as problematic. Despite this fact, “mastery” as a grade, an academic standard, and a course gatekeeper nevertheless appeared to have great resonance for all school stakeholders. This indicates that a central academic concept can be a powerful unifying notion at a school, and as such, merits great attention throughout a new program’s planning and implementation phases. Such a point may seem obvious, but, as other school founders may agree, there is so much to be done to open a school that it can feel impossible to take the time to slow down, research, and reflect on its programmatic core. Especially an educator comes to a school with years of experience behind her convictions, a heartfelt and more intuitive vision of a school’s guiding principles can seem like enough.

It is not. Practitioners building a school around a singular intervention or construct should take time to visit other schools which rest on a central notion, whatever it may be, to see how their programs are structured coherently around it—how teachers communicate about it with parents, for instance, or what happens when some students fail to respond to it. Even though the construct may vary greatly from school to school, it will be immediately clear how effective programs structure systems and practices to deal with challenges, and how faltering programs operate in what seems to be a constant state of emergency.
It is also useful for practitioners to conduct academic research into their chosen construct. They may find theories and studies (as we would have found “Mastery Learning,” for instance, had we looked) to build upon and use intentionally to inform their design choices. With this kind of careful reflection and exploration, practitioners may avoid some of the flux, conflict, and uncertainty that threatened to destabilize the academically rigorous practices and culture developing in the first few years at Mastery.

**Design systems to collect data on key reform initiatives**

Also essential to full utilization of a school’s central organizing theme or construct is objective data collection about programs’ effectiveness, as well as focus groups and other opportunities to collect “soft” data from various school constituents. Unless program designers and school leaders understand where the reforms we institute bump up against stakeholders’ expectations and practices, we will be unable to address legitimate concerns and lead effectively. We gain and our programs mature responsively when we look just as carefully at process as we do at process. When we take time to conduct genuine inquiry into programmatic implementation, we enable continuous assessment and continuous adjustment of reform initiatives. Championing an academic intervention without also playing the occasional role of co-interrogator can make an administrator more of an enforcer than a reformer, and can result in prolonging the life of a failed intervention.

If we want to make programs like the mastery system work well, it is wise to ask open-ended questions and listen to different stakeholders to understand ways in which these programs don’t work — asking teachers how and when, for instance, grades of
mastery do not necessarily capture a student’s learning. A strong, defined reform can only be strengthened when it takes into account the choices teachers and students make in implementing it. After all, implementation problems will always challenge worthwhile interventions. Mastery’s struggles have shown that these challenges are most efficiently recognized as information for improvement. Taking this approach is necessary if school designers want to keep a construct alive and meaningful, and want to preserve its spirit and intention through the inevitable bumps of its implementation.

This stance and this type of inquiry require a different kind of curiosity and different kinds of relationships than teachers and administrators typically adopt at school. A practitioner must take an inquiring stance about his or her own practices and policies, and then be open to students’ and colleagues’ experiences with them. Additional challenges lie not just in soliciting information about our practices, but in listening without being defensive about our “creations,” and then in acting with, rather than reacting to, the information. Furthermore, we cannot merely solicit input and interpretation of school themes and central practices just for the sake of giving all stakeholders voice. And we cannot abandon a program simply because it does not seem to work in the way we had planned. Purposeful, continued, and deliberative inquiry does not threaten a clearly defined, comprehensively researched, thoughtfully structured, and supported program core. It sustains and fortifies it. And, if a program is less clearly defined, comprehensively researched, thoughtfully structured and supported than it should be (as is so often the case with new schools), such inquiry can help make it what it needs to be.
Establish and prioritize a robust program of professional development

Mastery’s experimentation over the first three years of its existence reveals strongly the need for an intense and sustained program of professional development to accompany reform. The support is as important as the reform initiatives, themselves. It must begin with thorough, thoughtful programmatic introductions to teachers and students, and include practice-based rationales, modeling, and reflection. It must continue with frequent check-ins, including reflective sharing of practice and guidance with colleagues and school leaders. Professional development that effectively supports and informs reform provides guidance for practitioners, and can also be used as a tool that gauges the ability of a program to engender change.

This implication is nothing new. The myriad complications that accompanied the mastery system suggest, however, that without a strong professional development program, a reform will be greatly and dramatically compromised. The need for focused and ongoing professional development cannot be overstated. New teachers need thorough and repeated exposure to new constructs and practices so they have theoretical understandings that will support their moment-to-moment decisions in the classroom. They also need opportunities to share and listen to the ways their colleagues work with and around new academic interventions. Experienced teachers, too, require continued support so that they will be able to use reforms to strengthen what they already do that works. If they do not get opportunities to revisit new initiatives frequently and thoughtfully, veteran teachers tend to revert to their previous practices. At Mastery, for example, where not enough attention was given to implementation of project-based instruction or formative grading practices, experienced teachers showed they lost the
spirit and intention of mastery system reform when they prioritized student engagement over student learning, or awarded M's for all assignment completion.

Staff misses opportunities for enriching pedagogical growth and programmatic coherence when professional development is short-changed. Schools miss opportunities to make academic interventions work. Reforms become a waste of time when they are abandoned and replaced not because of inherent weaknesses, but due instead to insufficient follow-through. At new schools like Mastery, or at any school implementing academic reform, practitioners must remember that they are calling for a culture shift, and that such shifts require continued attention and maintenance.

Professional development may be especially important for veteran practitioners in that it compels them to examine the ways particular school reforms challenge and push against their held beliefs. Educators like myself who began teaching in the 1980’s, when the focus was on keeping disaffected urban students engaged so they would stay in school, may need to reexamine their practices. We must still work to make school meaningful for our students, but older teachers may find, like I found, that they need support in broadening the goals for their students, so they can teach and assess transferable, higher-order thinking skills explicitly. Effective, powerful professional development can bring clarity and essential support—from leaders and colleagues, both -- for new visions. Without it, even the best teachers may lose focus and flounder.

Radical change needs continual nurturing at new schools, especially, when there are no long-standing traditions and new initiatives seem particularly expendable. During Mastery’s first years, modifications to the academic system came immediately and continuously. Within eighteen months of opening, school leadership had done away with
some of the policies and approaches that had drawn teachers to the school and which they had embraced enthusiastically: heterogeneous student grouping, voluntary academic support, liberal revision policies, project-based learning, and promotion by mastery. While such quick changes may evidence a leadership that will stop at nothing to secure student achievement, it does not necessarily enlist teachers in the same pursuit. Such drastic changes tend to erode confidence in leadership, alienate and threaten students’ and teachers’ motivations. And in a school where people feel alienated or lacking in agency, student achievement may be consequently undermined. When educators dream of grand reforms that are meant to succeed where other reforms have failed, we have to make sure we adopt them with full knowledge of the time and intellectual investments required to establish and support them, so that we can reap their benefits.

**Disconnect teacher supervision from support for program implementation**

Another lesson learned in this study is the need to separate teacher supervision from providing leadership and support for new programs. As teacher supervisors, school leaders can hold teachers accountable for engaging students: Is the learning environment inviting and caring? Are academic tasks meaningful? Is instruction appropriately scaffolded, challenging, and individualized? All practitioners can and should enact clear practices and policies so that students get consistent messages and expectations for engagement in every school classroom. School leaders can also hold teachers responsible for supporting student achievement in ways that are common and mutually reinforcing, making sure, for example, that school-wide expectations and “academic press” policies are promoted, and that students’ senses of efficacy are strengthened in the classroom.
As this study shows, however, assessing learning is more nuanced than following a recipe or best practices for engagement or achievement. Making teachers accountable for student learning thus requires more than checking off items on a list. To best support teachers in implementing new programs like the mastery system, school leaders must require teachers to maintain programmatic coherence in concrete ways like those named above, but they must also create an environment of inquiry into new pedagogies. This environment must be genuinely open to teachers’ struggles with new programs, and establish clearly which program elements are and are not open to negotiation and improvisation (Here again is another reason it is so critical to carefully define and discuss a school’s core concept). A teacher who is afraid that her questions about formative grading practices, for instance, will make her appear professionally incompetent is a teacher who will not be able to use formative grading to effectively strengthen her students’ learning. Simultaneous but separate leadership approaches are necessary for program development and teacher development. Taking this approach to program support will free teachers to grow professionally, and will allow programs to mature and develop responsively.

Focus on varied assessments to build and intensify a culture of learning

There is no getting around the centrality of assessment in making a school program effective, but there is more than one way to use assessment to strengthen a school’s sense of academic press and its overall student achievement levels. At Mastery, where administrators took the simplest, most direct route to hold students accountable for high academic achievement, the culture of achievement was strengthened by making 76
points a requirement for passing, but it did not necessarily lead to greater learning.

Another response to the need for meaningful, cogent assessment practices would have been to acknowledge and more carefully define the multitude of complex processes and techniques which constitute learning. Such complexity may or may not be captured accurately via traditional school assessments like point-based tasks like quizzes and tests. As this study shows, one student may grasp content but be unwilling to devote the time required to explicate his knowledge fully. Another student might, on the day of an assessment, be distracted by competing, out-of-school concerns.

If we are interested in knowing what students truly understand, what they can do, and what they are willing to do, then we should create varied assessments—tests and quizzes but also exhibitions, portfolios, and rigorous project reports, all with clear, specified, multi-dimensional evaluative criteria-- which give us information about what that student knows, what that student can do, and what that student will do. At Mastery, this would mean going full circle back to some of the original principles underlying the mastery system. Such a move would not undo the simplicity and clarity of numerical grading, but to make it less subjective and inform it with the experience, wisdom, and specific content knowledge gained by teachers over the years. Stressing multiple forms and clear standards within academic assessment can also introduce language and traditions into a school which may assist in shaping a culture of learning. Instituting alternate, rigorous assessment criteria can pull teachers’ and students’ conversations about achievement away from tasks and points, and toward breadth, depth and quality of understanding.
Build opportunities for student autonomy into high school reform initiatives

The last important lesson learned in this study relates to the need for practitioners to enlist students actively in all school reforms which are intended to improve student achievement at the high school level. Especially when students are older and becoming independent in other areas of their lives, reforms must take into account student motivation and their desires for academic achievement. This is even more true for school reform which is meant to improve urban student school performance, since these students' lives outside school might include factors which discourage them from spending time on school tasks.

When students are younger, they may buy in to a “no excuses” policy like Mastery’s with less resistance. But if urban high schools want to change the way their adolescent students “do” school, this study indicates that it is important to respect these students’ different developmental needs. It is our responsibility as educators to create environments which are safe and supportive of student learning; still, how much work gets done in these environments is, ultimately and always, each student’s choice. Rather than deny the power of this prerogative, practitioners would benefit from acknowledging and structuring curriculum and instruction around it. At Mastery, it seems that giving students opportunities to make choices and develop a sense of agency outside of the classroom strengthens and intensifies their academic engagement, achievement, and learning.

Such a prescription may seem out of place given the current conversation about urban education, in which talk about learning foundational skills seems to drown out all

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11 For this reason, Mastery schools which opened after the school featured in this study begin at seventh, not ninth grade.
other goals. There is a desperate struggle to close the race and class-based achievement
gaps among high school students in this country, and schools everywhere, including
Mastery, are using whatever works to try to close the gaps. The findings of this study
suggest that raising student skills will take more than additional instruction of the same
kind in math and reading. Providing such instruction does bring the metaphorical horse to
more water, which might make him wetter by sheer proximity, but it still does not make
him drink. The key seems to be moving students to deeper levels of engagement. This
study suggests that strong, focused instruction in caring, responsive classrooms is a
necessary but not sufficient condition for closing the achievement gaps for most students.

As measured by the 2005 National Assessment of Educational Progress, 12
percent of the nation’s African American 8th graders scored at proficient levels in
reading, as compared with 39 percent of White 8th graders in 2005. The disparities
between African American and White students’ math scores are the same, as are the
disparities between scores of those students who receive free lunches at school and those
who do not (National Assessment of Educational Progress, 2005). Whether their concerns
are about social justice or economic health, the achievement gap is a crisis that frustrates
and alarms educators, politicians, and citizens in this country. Some believe that it is a
lost cause—that what assessments really measure is a student’s cultural or socioeconomic
background, and that schools are thus unable to do more than chip away at the larger
social and economic inequities which determine a student’s chances in life.

We can accept part of this diagnosis – that a student’s background is inarguably
reflected in his or her scores – and then move on to understand this as a starting point
rather than an end to conversation about ways to change schools, improve student
learning, and close the achievement gap. Well-off, White and Asian suburban students tend to do well in school partly because they believe that the world after school has places for them, places for which they are prepared and where they can be successful.

One way to show urban students possible futures for which they can prepare themselves at school is to place them in internships. Mastery students’ internship experiences suggest that such exposure can have a positive effect on their performances in school. More research needs to be done in this area, but this study shows that students’ engagement has multiple dimensions, and that their decisions to engage are contingent on multiple factors. Making high school connect with the world of work seems to inform these dimensions and reconcile some of the disjunctions students experience as they negotiate differing social expectations. It appears to motivate students to engage more deeply in their own learning, which may be necessary for closing the achievement gap. If we want our students to think, we have to focus on learning, not just on achievement. If school reformers are serious about increasing the odds that urban students will engage at deep levels, they need to start with excellent instruction and then look elsewhere.

The “elsewhere” that seems to have the most meaning for students at Mastery is the real world of work. Making high school a place where students make real choices and learn in authentic contexts seems to make all the difference for MCHS students. The world of work helps students satisfy their needs for self-determination and agency. When student interns choose work sites based on their own interests and passions, and go off to work there once a week, their needs for autonomy are served. When students make connections to working people outside school, their needs for caring and connectedness are served without engendering expectations of favoritism. When students’ work efforts
win them not just points, but make a difference to colleagues and to the "real world" outside school, their feelings of competence are served.

Including the world of work in the academic program is not the only way high schools can try to deepen learning. Other avenues to reform—a focus on improving teachers’ instructional expertise, or on social emotional learning, or on shaping the curriculum around social justice— are equally valid and hold great potential for increasing student achievement. What this study indicates is that all such approaches, implemented at the high school level, require student buy-in, and will thus benefit from inclusion of opportunities for student participation, authenticity, and choice. The critical implication of Mastery’s success with internship is that because it is a program that involves students actively in their own education, allows for constructive student choice, and develops student autonomy—potently, efficiently, and decisively—it translates to greater ownership and achievement in other areas of school. This indicates that effective high school reform models should include some such incentive for its older students, so that these young people will have the sense of agency they need to choose to achieve in school.

Implications for research and theory

Critical research on charter schools

This study provides an inside view of a new charter school and thus adds to the emerging body of research into new providers and managers of public schools. It complicates the successes of Mastery Charter School, a school which has won a national award and which is featured frequently and favorably in newspaper and magazine
articles. This study has endeavored to complicate these successes not to deny them, but to fairly represent the conflicts and struggles that are not evident in other research and reports on charter schools.

These narrative accounts of charters and small schools typically portray these schools as places where staff come together in solidarity to make learning happen for grateful students. These studies tend to depict a school’s purpose and mission as internally consistent and homogeneous, as if implementing a coherent vision of achievement were the only challenge facing educators in small and charter schools. This study shows the heterogeneity and complexity that may be inherent even in a small school’s core values. Understanding the different ways Mastery stakeholders make sense of basic ideas such as student achievement, hard work, and learning suggests new directions for research into small and charter schools. It can encourage research that problematizes popular heroic narratives about these schools, and in doing so, paint a fuller, more balanced picture of learning environments that have as much to teach us by their mistakes as by their successes.

Critical studies of schools like Mastery are necessary not to condemn them for the mistakes that they, like every school, may make, but to go beyond glorifying them for doing some things right. Balanced studies of charter schools are needed to understand and spread the practices that are helping urban students achieve and learn. Such studies are especially crucial in today’s inflamed debate about accountability and school performance. We need more studies of the choices school leaders make as they confront competing priorities, including the school’s need to produce proficient students according to the requirements of No Child Left Behind, teachers’ needs for professional respect,
and students' needs for agency. Critical inquiry into a school's missteps and victories in seeking to serve those priorities will help view and inform the debate.

**Academic success, gender, race, and teacher experience**

This study analyzes the ways stakeholders at Mastery tended to make sense of academic student engagement, achievement, and learning. Differences within stakeholder categories were noted, but not classified according to gender, race, age, and, in the case of teachers' and administrators' testimony, according to years of teaching experience. Some attempts were made to identify particular trends within these categories, and these trends were noted and analyzed—namely, differences between young and older students' future time perspectives, and the levels of awareness more and less experienced teachers brought to assessment. Still, there is more work to be done in teasing apart the different ways Mastery stakeholders understand engagement, achievement, and learning. Preliminary analysis indicates notable differences among the views of boys and girls, and perhaps between teachers of color and White teachers. More fine-tuned analysis of this type would be especially helpful in understanding and supporting both new students and new teachers.

**Synthesizing motivation theory and research**

The findings of this study speak to the need to modify and integrate motivation theory and research into more "practitioner-friendly" arrangements. To make them more useful for educators, three problems relating to motivation theory and research must be addressed. The first problem is the inexactitude, disagreement, and lack of linkage among
theory that exists in current motivational research. In its attempts to organize and modify terms and concepts within motivation theory, this study indicates the need to bring consistency and coherence to this field. It also suggests the need for a synthesis of separate insights about student motivation based on theories of intelligence, self determination, and student agency. This synthesis would integrate all three types of theory to create new constructs which can be used to better understand student motivation in schools.

The second factor which limits motivation theory’s potential to aid educators is its usual focus on elementary and middle school students, and the tightly controlled research conditions in which it is typically formed. Bringing motivation inquiry to bear on the needs of urban high schools, in the uncontrolled conditions of these settings, will deepen theory and provide critical tools for use in understanding and improving the achievement of typically underperforming adolescents.

The third reason psychological motivation theory is not currently constituted to more effectively assist in understanding student achievement lies in its usual distance from theories of learning. Integrated and synthesized theories of motivation and learning need to connect in usable frameworks (along with theories of engagement and achievement) to help educators work to increase student achievement. We should, for instance, build on existing theory to create new constructs that speak not just to motivation, or just to achievement goals, but which integrate what we have come to understand about motivation and achievement goals. These can help theorists understand how to maximize and deepen student engagement in school, increase student feelings of self-efficacy, heighten academic task values, and improve student agency at school. Such
work would be of inestimable value to motivation and learning theorists with an interest in deepening individual students’ learning, and in closing gaps in achievement among socioeconomic groups.

**Problematizing and enriching engagement theory**

This study has advanced some new ways of looking at student engagement, and suggests a variation on the 2x2 expectancy x value model of motivation. Models of student engagement typically classify the types of engagement students demonstrate at school, and focus on the conditions needed to make engagement likely. A dimensionalized model of student engagement such as the one offered in this study draws attention toward exploration of the quality of a student's engagement. It invites investigation into the relationships among types and dimensions of engagement, or into the experiences that are likely to move a student from more superficial to more full engagement. Such an approach flows naturally from the setting in which this study took place, which represents a departure from the more controlled environments where engagement theory is often developed. Approaching the concept of engagement in this new way may yield useful insights and theories about increasing student achievement at school.

Similarly, the reimagining of the 2x2 expectancy x value model may also prompt new theorizing. The traditional model fails to capture the range of factors that influence Mastery students' engagement. The reimagined model more accurately represents students' engagement choices in three dimensions, to better reflect the interplay of students' ranges of efficacy beliefs, task valuations, and agentic prerogatives. This model

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may help pull theorists away from defining the conditions that predict student motivation, encourage a more integrated and contingent view of student engagement, and help educators figure out ways to make improved student engagement lead to increased student learning.

Implications for policy

Charter school independence and isolation

The privatizing of public education has made it possible for schools like Mastery to arise and figure out new ways to serve underserved students. The freedoms that Mastery enjoys as a charter school allow leadership at the school to act independently—to decide who gets hired, what gets taught, when and how long students are in school, and how many students are in the building. As long as the school is accountable for student learning, leadership at Mastery is able to set up conditions and arrangements at school in ways that they believe will best facilitate student achievement, and to the extent that they have been successful in doing this, their success has been enabled by their independence.

This independence is a double-edged sword. On one hand, it eliminates school district bureaucracy. For instance, when Mastery leadership decided to make the grading system clearer and simpler, it just went ahead and did it. This would not be possible if Mastery were part of a larger system. On the other hand, starting from scratch and needing to figure out, independently, every new detail involved in running a school is overwhelming. Educators at charter schools can feel as though they have to reinvent the wheel, and often do their work in isolation from other schools. This was the case at
Mastery, and it was only when the school became part of a network of schools receiving financial and intellectual support from the NewSchools Venture Fund\textsuperscript{12} that its administrators began sharing and trading ideas, resources, and practices with other school leaders.

Policy that most effectively supports new charters will not only enable their funding and hold them to strict accountability, but will also create networks and forums where best practices can be shared. These networks will allow schools that have developed effective practices to demonstrate what effort and innovation can make possible. The networks and forums should be open to educators who work outside the system in charters or other independent schools, and to those who work within and at the margins of the system, as well. In this way, all schools can benefit from the lessons small charter schools are particularly positioned to learn, including lessons about student engagement, achievement, and learning.

\textbf{Policies to promote learning}

The loudest, most public, and most prevalent educational conversation of the last five years has been about No Child Left Behind. NCLB legislation has exerted powerful pressures on just about every aspect of schooling and school reform since its institution in 2001. The conversation has sounded one note: We must increase student achievement, and these increases must be measurable and evident on state test scores. This study demonstrates the multiple and sometimes conflicting meanings inherent in a notion like

\textsuperscript{12} NewSchools is a venture philanthropy firm whose mission is to help "transform public education [so that]...all children – especially those underserved – have the opportunity to succeed in the 21st century" (2003).
“student achievement,” and shows that, while it may be worthwhile to increase student test scores, measuring understanding is actually a much more slippery and complex task.

If policymakers truly want to facilitate a closing of the achievement gap, they need to address its ineffable but critical cousin, the learning gap. To do so, they must call for a redirection of the way that learning is measured. This study does not explicitly address the efficacy of standardized state tests to measure achievement, but in revealing the multiple layers and complexities of learning and achievement, it does call into question the wisdom of using a single instrument to capture what students know. If we want our students to be successful and “competitive” in the 21st century, if we want them to be able to imagine healthy, fulfilling futures for themselves and prepare them for these futures, then our goal can include requiring decent scores on multiple choice tests, but must go far beyond this. Truly telling measures of student understanding would show us not just whether a student knows the answer, but whether and how well a student has learned to think. Policy that keeps its eyes on this prize is policy that will truly assist in closing the achievement gap.

Conclusion

Mastery Charter High School has figured out how to improve student grades at school, how to raise its students’ test scores to levels far exceeding their brothers’ and sisters’ scores at district schools, and how to enable its students to graduate and get accepted into college. These are considerable accomplishments. The school has achieved these goals with and perhaps in spite of an academic system that accommodates many needs and beliefs around achievement. The school’s accomplishments are considerable,
but we do Mastery students and others like them a great disservice unless we ask whether
this is enough, whether these gains actually close the achievement gap for students like
Kareem, Anthony, and Liana.

The true measure of this school and of other urban charter schools will be their
successes in teaching students to go beyond academic compliance and task performance,
to become problem solvers and innovators. If these schools are going to reverse the
“Dario Syndrome” which renders students passive and powerless, and also close the
socioeconomic achievement gap in this country, they will have to teach their students to
think. Otherwise, no matter how well students come to perform at school, they will still
be shortchanged.

Closing the achievement gaps for urban students means not only getting them to
value achievement, but teaching them to use it, actively, creatively, and to the betterment
of the world that they are inheriting. Mastery’s mission statement attests that it teaches
students the skills they need to succeed in higher education and compete in the global
economy, but those are crowded places. Mastery students will not be welcomed there,
and will not be successful there, unless they enter those worlds equipped to do more than
follow directions. They need to know how to ask questions, find answers, act, react,
change, and be what Gee (2000) has called “protean shape shifters”: Professionals with
arrays of social and technical skills that afford them fluid and responsive work identities.

Mastery was established because its founders believed that the world was
changing and that urban students were, in fact, getting left behind. It has succeeded in
getting most of its students to the starting line, but if it is going to produce young people
who will truly be able to deal with the challenges of the 21st century, it has to nurture
thinkers who will be able to recognize opportunity, take initiative, and think creatively and expansively. Mastery and schools like it have to help its students learn and achieve – not just so that no child is left behind, but so that students can all move ahead, take action, and create new ways of working in our post-industrial age.
Appendix A:
Comparison of Mastery 2005-2006 State Assessment Scores with State and Philadelphia School District Scores

11th Grade PSSA (Reading)

- All Students
- African American
- Low Income

11th Grade PSSA (Math)

- All Students
- African American
- Low Income

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APPENDIX B:

INTERVIEW SCHEDULES

Interview questions for students

1) How/does the Mastery system work? How would you explain grading, report cards, promotion to me, as a new student?
   • What is the difference between Mastery grading and regular ABC grading?
   • What does it mean when you get mastery?
   • What does it mean when you get an I? Is it the same as an F?
   • What’s the difference between I work and M work?
   • Will you earn mastery if you just spend time on an assignment? Is it possible to get an M and still not really understand?

2) Do you always try to earn Mastery?
   • Do you work hard? Why? What motivates you?
   • Do your friends work hard? Why? What motivates them?
   • Does a grade of M or I motivate you? How?
   • Do retests motivate you or de-motivate you?
   • Have you ever had to repeat a class? What was that like for you?

3) Evidence of mastery and learning
   • Can you show me a paper or test that you got an M on? Why did you get (or not get) an M? What does this paper say about how hard you worked? What you learned?
   • Do you feel like this M was in your control? Do you have the power or does the teacher have the power?

4) Mastery as a school
   • Why did you come to this school?
   • What do you want to get out of it?
   • How would you describe this school to outsiders? To new teachers? New students? How can each be successful here?
   • What is the goal of school, in your mind? Does it depend on what year you are in?
Interview questions for teachers

MASTERY AS A GRADE AND A STANDARD
1. How do you assess and grade students’ mastery?
2. What are you assessing Mastery of?
3. What does mastery mean in your classroom?
   a. --as a grade: is it the same as Pass/fail?
   b. --as far as student interpretation and engagement?
4. How do you help kids get mastery in your class?
   a. Are all students capable of getting mastery in your class?

MASTERY AS A SYSTEM
5. When does Mastery work for you and your students? When do you/they bump up against it?
6. Describe any tensions between students achievements and their learning in your class

MASTERY AND MOTIVATION
7. Why do you think kids do the work (or do not do the work) in your class?
8. How does your subject area impact on students’ motivation to earn mastery?

YOUR INTERPRETATION OF MASTERY
9. What has helped you understand and work w/ the concept of mastery?
10. How do you improvise?
11. How/ will/ could you explain it to a new teacher here?
**Interview questions for administrators**

1. How would you describe the mastery system to new administrators, teachers, and students? What would you tell each about it?
   - What does a grade of Mastery mean?
   - Why do we have the system?
   - What is hard about it for each of these groups?

2. What does Mastery mean in your experience w/ teachers? What do you appreciate and what frustrates you about the mastery system?
   - Evaluating student work?
   - Tension between task completion and demonstrated learning?
   - Dealing w/ the subjective, arbitrary value of “76”?
   - Evaluating student motivation?
   - Promotion?

3. What should Mastery mean, in your thinking? How could the system work to foster true mastery learning? Can it?

4. What do you believe we are assessing Mastery of?

5. How do we help kids get mastery?
   a. Are all students capable of getting mastery?
   b. Which program are effective and why? Which not?

6. What challenges do you face in helping students
   i. attend school
   ii. follow rules
   iii. behave in classrooms
   iv. complete assignments
   v. truly master skills and content?

7. What has helped you understand and work w/ the concept of mastery?
APPENDIX C:
WHAT HELPS YOU ACHIEVE MASTERY?

We know mastery grading and promotion is demanding, and so we created other policies and traditions at school to help students reach mastery. Pick the three that are most important to your achievements in school and tell me how they have helped you.

1. Dress code
2. Planners
3. Revision policy
4. Progress reports
5. Binder checks
6. IGP
7. Test prep
8. First year seminar
9. Office Hours
10. Planners
11. Deans
12. School Psychologists
13. Other ________
APPENDIX D:
INDIVIDUAL STUDENT ENGAGEMENT CARTOON
USED IN INFORMAL MEMBER CHECK

9TH GRADE
I'm here
I'm acting right
I'm handing in work

10TH GRADE
I'm paying attention
I'm fully engaged and deeply internalizing learning

11TH GRADE

12TH GRADE

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REFERENCES


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