

WHAT UNDERACHIEVING MIDDLE SCHOOL STUDENTS BELIEVE  
MOTIVATES THEM TO LEARN

By

Michael R. Muir

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M.Ed. Lesley College, 1989

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Advisory Committee:

Edward Brazee, Professor of Middle Level Education, Advisor

Constance Perry, Professor of Education Leadership

Russell Quaglia, Associate Professor of Education

Betty A. Beach, Professor of Early Childhood/Elementary Education, University of Maine  
at Farmington

Nancy M. Doda, Assistant Professor of Education, National Louis University

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# WHAT UNDERACHIEVING MIDDLE SCHOOL STUDENTS BELIEVE MOTIVATES THEM TO LEARN

By Michael R. Muir

Thesis Advisor: Dr. Edward Brazee

An Abstract of the Thesis Presented  
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Public education faces a difficult challenge: educating every youth in the country. In the face of this challenge is the fact that there are many children who are undermotivated, disengaged, and underachieving. Learning is a personal and internal process that does not happen simply because teachers want it to. Decades of research has identified at least five factors which promote student motivation and self-regulated learning: experience and context, interest and goals, autonomy and choice, learning styles, and the student/teacher relationship. The voice of students in general, and unmotivated students specifically, is largely missing from the literature. This study was guided by the question, “What do underachieving middle school students believe motivates them to learn?”

Four case studies were conducted on two teams in two different schools. One seventh grade boy and one seventh grade girl on each team were the subjects. To help support and validate the findings, two teachers on each team were interviewed, at least 10 hours of classroom observation were conducted, and quantitative data from the Maine Aspirations Benchmarking Initiative was examined. The constant comparative method was used to analyze the data from the interviews and observations, with special attention given to the participants' personal perceptions of what motivates them to learn.

The students in the study had clear ideas of how they learned well, what they liked and disliked about how their teachers teach, and what recommendations they would make about changing schools that would help them learn better. The key motivators that these

students value are a positive relationship with the teacher, hands-on work and “doing things,” choices, and attention to learning styles and individual differences. The data also revealed information on eight motivation themes: student-teacher relationship; hands-on activities; choice and student autonomy; making learning interesting and tying into student interests; contexts and connections; student goals and preparing for the future; learning styles; and high expectations and helping students to succeed. The study also discusses the ways school did not provide for motivation, what might hinder teachers’ adopting motivating instruction, and an outline of an emerging theory of meaningful, engaged learning.

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## Chapter I: The Challenge to Educate Everyone

American public education faces a difficult challenge: educating every youth in the country. In the face of this challenge there are many children who are undermotivated, disengaged, and underachieving. One of the most persistent questions facing individual teachers is, “How do I motivate all children to learn?”

Both teachers and students are frustrated and disillusioned. Teachers are challenged daily by students who don’t seem interested in learning. Teachers struggle with discipline issues, and with meeting the needs of students at widely differing ability/achievement levels. Students are discouraged, told they must learn material they don’t perceive as applicable to their lives, bored, and starting to believe that they are failures or stupid. Many are labeled at-risk, learning disabled, underachieving, or simply trouble.

This study adds to the discussion of educating all children by focusing on what underachieving students believe motivates them to learn. This chapter begins by offering a discussion of the problem, then explores the research question, and ends with an overview of the study.

### The Problem

American public education has taken on the enterprising task of not only educating children, but educating *every* child. Beginning in the second half of the 19th century, laws were passed, state by state, making education compulsory for youth (Gatto, 1996; Goodlad, 1997). By the turn of the century, all states had compulsory education laws. Schools were not new to the United States, or other countries around the world, but they were generally an institution for the financially, socially, and politically advantaged. The United States attempted what few other countries at the time tried to accomplish—to educate the entire population.

Educating every child is a wonderfully ambitious task based on the assumption that a well educated citizenry is necessary both to support a functioning democracy and to

compete in a global economy. But, educating every child has proven to be a challenge. Even early in the 20<sup>th</sup> century, there was concern that many students had dropped out physically or mentally (Kaminsky, 1992). In the 1915 book, *All The Children of All The People*, Smith's exploration into the challenge of educating all students begins:

However reluctant one may be to acknowledge the fact, it is none the less certain that the task of trying to educate everybody, which our public schools are engaged in, has proved to be far more difficult than the originators of the idea of such a possibility thought it would be when they set out upon the undertaking. (Smith, 1915, p. v)

This section will explore the concept of educating all students from the perspective of being a national priority and the great concerns over student achievement.

### A National Priority

Over the last 50 years, national policy on education seems to have been driven by two pivotal events, raising education as a national security issue and questioning the performance of our schools. The Soviet launch of Sputnik in 1957 placed national attention on improving American public education, especially achievement in math and science. In 1958, national legislation specifically charged educators with the task of assisting students in maximizing their academic potential. In the National Defense Education Act (Public Law 85-864, 1958) the change was set forth as follows:

The Congress hereby finds and declares that security of the nation requires the fullest development of the mental resources and technical skills of its young men and women.... (p. 2)

We must increase our efforts to identify and educate more of the talent of our nation. (p. 13)

This law went on to provide funding to improve teaching, guidance, and counseling for the purpose of identifying and changing the behavior and academic achievement of students with low academic motivation. The space race carried the momentum for improving academic achievement into the 1960s and 1970s.

In 1983, the publication of *A Nation At Risk*, brought the challenge of educating all children back into the spotlight. The report condemned American public schools for their poor performance, and implored schools, and other educational organizations, to set higher standards of learning for all students. The Education Reform Act of 1984 made it easier for schools to meet this goal by providing funding for school restructuring and reform. In 1989, then Governor of Arkansas, Bill Clinton, proposed six national education goals at a historic education summit. These goals turned into the backbone of President Bush's *AMERICA 2000: An Education Strategy*, released in 1991.

Education has remained a priority issue for the Clinton Administration.

Several important pieces of legislation developed by the Clinton Administration together with Congress support the efforts of local schools, communities and states to develop challenging standards and high-quality assessments and improve teaching and learning to help all children reach those standards:

- The Goals 2000: Educate America Act, passed in 1994, is helping communities across the country raise academic standards, improve teaching, increase parental involvement and expand the use of technology in the classroom. Communities in all 50 states and thousands of schools have decided to participate in Goals 2000 and many more than the program currently has money to support want Goals 2000 funding to raise standards.
- The Improving America's Schools Act of 1994 fundamentally reformed Title I--a \$7 billion program for teaching basic and

advanced skills in high-poverty schools--to get rid of lower educational expectations for poor children and ensure that disadvantaged students are held to the same standards as other children. The Improving America's Schools Act also expands professional development focused on preparing teachers to help students reach the new standards, provides opportunities for waivers of federal requirements for the first time, and offers start-up funds for charter schools.

- The Clinton Administration reinforces the importance of higher standards for all children through its proposal for the reauthorization of the Individuals with Disabilities Education Act (IDEA), as well as through strategies to support and strengthen bilingual education programs. (National Standards of Academic Excellence, 1997)

The National Education Goals Panel oversees what has grown from six to eight National Education Goals. These have been defined by the Governors and the Congress to improve learning and teaching in the nation's education system. The goals help provide a national framework for education reform and promote systemic changes needed to ensure equitable educational opportunities and high levels of educational achievement for all students. Goal 3 directly discusses the importance of student achievement:

By the year 2000, all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive

employment in our Nation's modern economy. (National Education Goals Panel, 1999)

American society no longer simply wants compulsory attendance; it also demands higher expectations for all children. Most states have adopted state content standards and accountability testing. Student achievement has become high-stakes. Florida was sued “on behalf of thousands of schoolchildren [who] are failing to receive an adequate education” (Sandham, 1999). “Increasingly, states use the results from standardized tests to reward and punish students, educators, and schools. The scores can help determine whether students graduate, teachers and principals receive salary bonuses, or schools get shut down” (Olson, 1999).

The sense of importance around this issue is evidenced within educational research agendas. Five of the seven National Educational Research Policy and Priorities Board’s priorities for educational research (1997) include helping teachers find insights into the ways diverse students learn. Not only do the research priorities include promoting high academic achievement, problem-solving abilities, creativity, and the motivation for further learning, but specifically encourage “[s]trengthening schools, particularly middle and high schools, as institutions capable of engaging young people as active and responsible learners” (National Educational Research Policy and Priorities Board, 1997). The National Middle School Association’s *A 21<sup>st</sup> Century Research Agenda* (1997) also lists numerous priority research questions directly related to the challenge of educating all students.

#### Student Achievement: Good News & Bad News

Recently there has been some indication that the focus on raising standards and accountability has had a positive impact on student achievement. The Maine Department of Education reports several ways Maine’s students outperform students in other states. Maine eighth graders, for example, placed first in the nation in Reading and Science on the 1998

National Assessment of Educational Progress (NAEP) test results (Maine Department of Education, 1999).

Student performance on the NAEP long-term trend assessments has improved since the early 1980s in mathematics and science, but not in reading. In addition, student performance on the main NAEP assessments has shown some improvements in mathematics and reading at some grade levels and no declines. These assessments are specifically designed to measure a broader range of higher-order thinking skills and capabilities for using knowledge than are the trend assessments. Between 1990 and 1996, the percentage of students performing above the basic level of proficiency in mathematics has increased. At least two-thirds of 31 states participating in these mathematics assessments also showed improvements in student proficiency scores, and none had declining scores. In contrast, little change has occurred since the early 1970s in reading. (National Center for Educational Statistics, 1999)

Despite these bits of good news, there are still many indicators that students are not achieving to desired levels. Maine reports, for example, “Although Maine students score at or near the top of the nation in mathematics, reading, and science, the statistics are deceiving—1 out of 4 Maine students have not acquired a level of literacy that is acceptable by most standards” (Maine Department of Education, 1999).

Maine’s concerns are shared by others. The Carnegie Council on Adolescent Development reports that there is clear evidence that young people are at risk educationally (1996, p. 11):

- The average proficiency in science, mathematics, and writing among thirteen-year-olds was slightly higher in 1992 than it was in the 1970s. However, these achievements have not improved enough to



keep pace with the higher level of skills required in a global economy.

- Only 28 percent of eighth graders scored at or above the proficiency level in reading in 1994. Two percent read at or above an advanced level.
- In 1990, 7 percent of the eighth-grade class of 1988 (most of whom were then fifteen and sixteen years old) were dropouts. By their senior year (1992), 12 percent of this class were dropouts. Dropout rates vary by students' race/ethnicity: white (9.4); black (14.5); Hispanic (18.3); Asian/Pacific Islanders (7.0); and American Indian (25.4)

The 1999 Conditions of Education Report points to similar findings:

In 1996, average science achievement was higher at all three age levels than in 1982. However, due to declining science scores in the 1970s, scores for 13-year-olds were about the same in 1996 as in 1970 and, for 17-year-olds, were lower in 1996 than in 1970. For 9-year-olds, science achievement was higher in 1996 than in 1970....

Average writing proficiency scores remained relatively stable for 4th-grade students between 1984 and 1996. In contrast, scores for 8th-grade students declined between 1984 and 1990, increased in 1992, and then dropped back to their original level. The average writing scale score for 11th-grade students was slightly lower in 1996 than in 1984.

(National Center for Education Statistics, 1999)

## The Southern Regional Education Board's Middle Grades Education Initiative

warns:

Eighth grade performance indicators from the National Assessment of Educational Progress reveal a discouraging pattern of middle grades underachievement nationwide. They describe students who:

- Can do arithmetic but do not understand and cannot apply concepts such as number relationships expressed as ratios or percentages to problems that need several steps to solve;
- Can memorize facts and answer specific science questions but cannot apply the knowledge nor understand the reasoning behind scientific concepts; and
- Have only some of the reading skills necessary to be successful in grade level work.

To be literate does not mean that we all must be physicists, astronomers, mathematicians or literary critics. It does mean that we should be able to read an article about business or science, understand it, and make good accurate decisions about health and economic issues in our daily lives (Southern Regional Education Board, 1998, p. 1).

Even President Clinton presents this warning in his National Standards of Academic Excellence (1997):

Student achievement is not improving fast enough. Across our nation—in our cities, suburbs, and rural communities alike—far too many students are still not meeting the standards that will prepare them for the challenges of today and tomorrow. What the top 20 percent of our students typically learn in math in the 8th grade is learned by most

students in Japan in the 7th grade. And while today America's 4th graders read as well as ever on average, 40 percent cannot read as well as they should to hold a solid job in tomorrow's economy.

So at the turn of the 21<sup>st</sup> Century the problem is really no different than it was at the turn of the 20<sup>th</sup> Century: How do America's public schools provide a quality education to all the children of all the people?

### The Research Question

The challenge to educate all children is a complex issue and prompts many possible research questions: Are there learning style differences between races? How do underachievers learn differently from high achievers? Are there other school structures or organizational designs that might help more students learn better? What is the impact of high-stakes testing on achievement? Are there alternative curricular sequences or organizations that might help more children learn to higher standards? Which teaching strategies are successful with students who aren't currently achieving? Which classroom structures and teaching strategies best provide for diverse learners working together in a single classroom?

This study will contribute to the discussion on helping all students learn by exploring the question, "What do underachieving middle school students believe motivates them to learn?" This section will explore the questions

- Why focus on instruction and classroom practice?
- Why focus on middle level education?
- Why seek out student voices?

### Why Focus on Instruction?

There is no doubt that home and social factors can have an enormous impact on achievement. Many students come to school facing problems that cannot be fixed by changes in instruction. Teachers are not psychologists and social workers, and issues from outside of school often negatively impact students' ability to learn. This study does not explore suggestions on remedying these situations.

On the other hand, some clear assumptions of this study are that school practice plays a role in both underachievement and achievement, and that changing instruction to better meet the needs of underachieving students can help reverse negative achievement patterns. Further, classroom practice is one of the few factors impacting achievement over which teachers have direct control. Dewey reminds us of the importance of effective classroom practice:

Our whole policy of compulsory education rises or falls with our ability to make school life an interesting and absorbing experience to the child. In one sense there is no such thing as compulsory education. We can have compulsory physical attendance at school; but education comes only through willing attention to and participation in school activities. It follows that the teacher must select these activities with reference to the child's interests, powers, and capacities. In no other way can she guarantee that the child will be present. (1913, p. ix)

At the same time, both followers and critics of the middle school movement recognize that "change in instructional and curricular practices in schools has moved forward far more slowly than change in structural areas" (Felner, Jackson, Kasak, Mulhall, Brand, & Flowers, 1997, p. 528). If we are serious about educating every child we must venture to absorb every child in meaningful, engaged learning. Regardless of whether we want children to learn to be learners, or whether there are specific content and skills we value

and want students to learn, we must use teaching strategies that more closely match how our students learn.

Teaching may be compared to selling commodities. No one can sell unless someone buys. We should ridicule a merchant who said that he had sold a great many goods although no one had bought any. But perhaps there are teachers who think they have done a good day's teaching irrespective of what people have learned. There is the same exact equation between teaching and learning that there is between selling and buying. (Dewey, 1933, p. 35-36)

Underserved populations, including underachieving students from all learning styles, career aspirations, cultures, and socioeconomic levels deserve a quality education. It is not surprising that improved instruction, which involves students in meaningful, engaged learning, is viewed as a remedy to the growing concern over the high social and economic cost of large numbers of disengaged and at-risk youth (North Central Regional Educational Laboratory, 1997; Williams, 1996). Identifying practices which help these diverse populations learn well is a step toward creating an educational system intent on serving all students. Finding out what motivates our underachieving students will help inform and equip teachers in the struggle to lead all students to academic achievement.

### Why Focus on Middle Level Education?

There are three main reasons to focus on middle level education. The first is that developmentally, middle level students are at a good age to change their achievement patterns and their attitudes toward school. The second reason is that the middle school movement is based on a rich tradition of trying to help all students meet high standards for academic achievement. Thirdly, there are strong concerns about middle school students' actual achievement.

### An Excellent Age To Impact

Developmentally, 10-14 year olds are different than either elementary students or high school students. “The emergence of the junior high school in the 1920s and again in the 1940s reflected a growing recognition among educators that younger adolescents were somehow different from older teenagers” (Scales, 1996, p. 8). Middle schools and junior high schools were established specifically because young adolescents are developmentally different from their elementary and secondary siblings.

Do early adolescents, 11-14, and later adolescents, 15-19, generally have systematic differences? If they do, then it is essential that schools serve the educational, social, and emotional needs of youth. If there is no difference (how anyone can credit that viewpoint psychologically is difficult to comprehend), then it really doesn't matter whether we have junior high schools or not. (Tompkins, 1960, p. 44)

Most elementary students are adult-oriented: they try to please adults and are usually willing to do whatever educational task an adult requests. During the middle school years, students strive for independence and begin a shift from pleasing adults toward pleasing their peers. During these middle years, students' academic patterns and attitudes toward school begin to gel based on their perceptions of the merit of the work, rather than on the basis of a request of a significant adult. Many high school students, however, have well entrenched academic patterns and attitudes. Reaching young adolescents while they are forming their patterns and attitudes and while they are striving for independence can help instill habits supportive of self-regulated learning. *Turning Points: Preparing American Youth for the 21<sup>st</sup> Century* (Carnegie Task Force on Education of Young Adolescents, 1989) recognizes that early adolescence may be the “last best chance” to positively influence the paths young adolescents take in their development.

### The Academic Focus of the Middle School Movement

Some middle level educators consider a middle school as any school that serves children ages 10 to 14. Alexander and McEwin (1989) found that between 1968 and 1988, the number of schools with the grade configurations 6-8, 7-8, and 5-8 had increased dramatically when compared to the traditional grade 7-9 junior high school organization. Other educators believe the middle school movement has much less to do with grade configuration than it does with creating schools responsive to the developmental needs of young adolescents. Instead of grade configuration, many educators use the issue of developmental responsiveness to distinguish between “middle schools” and “junior high schools.” Junior high is a mini version of the high school, but in middle schools, educators try to answer the question, “How can we better engage students in learning?” by starting with the question, “Who are these young people?”

According to Hough and Irvin, (1997) most substantive research studies on middle level education began after the 1960s. These studies mirrored educators’ interest in the kinds of practices that support young adolescents by focusing mostly on the question, “What are middle schools and their responsive practices?” The movement got a strong boost when the Carnegie Corporation’s Council on Adolescent Development consolidated and applied research on the characteristics and needs of young adolescents. The Council was different from other groups in that it was not made up of middle level specialists. Task Force members were political leaders, policy specialists, researchers, and other lay leaders interested in finding out what works for young adolescents. The Council’s report, *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Task Force on Education of Young Adolescents, 1989) called for changes in both the structure and practice of their educational experience:

- Divide large middle-grades schools into smaller communities for learning that foster trusting relationships between adults and peers.

- Provide all students access to a common core of high-level knowledge and skills.
- Organize instruction to ensure success for all middle-grades students.
- Empower teachers and administrators to make key pedagogical, management, and budgetary decisions.
- Prepare middle-grades teachers specifically to teach young adolescents.
- Improve academic achievement through better fitness and health.
- Reengage families in the education of young adolescents.
- Connect schools with communities.

This has led key professional middle school organizations, such as the National Middle School Association (1995), to offer their own recommendations to middle schools:

Developmentally Responsive Middle Level Schools Are Characterized By:

- Educators committed to young adolescents
- A shared vision
- High expectations for all
- An adult advocate for every student
- Family and community partnerships
- A positive school climate

Therefore, Developmentally Responsive Middle Level Schools Provide:

- Curriculum that is challenging, integrative, and exploratory
- Varied teaching and learning approaches
- Assessment and evaluation that promote learning
- Flexible organizational structures
- Programs and policies that foster health, wellness, and safety
- Comprehensive guidance and support services.



These curriculum and instruction ideas are also consistent with recommendations from the Maine Department of Education (1997), the National Association of Secondary School Principals (1985), the American Association for the Advancement of Science (1995), the National Commission on Social Studies in Schools (1989), the National Council of Mathematics Teachers (1989), the Search Institute (Scales, 1996), and the National Commission of Music Education (1991).

What grew from the middle school movement are the organizational and structural changes that we now come to expect in middle level schools: interdisciplinary teaming, looping, multiyear teams, advisory programs, and exploratory or allied arts programs, integrative curriculum, project-based and field-based learning, and alternative assessment. This strong focus on restructuring for greater academic success is one reason to focus on middle level education.

#### Concerns Over Middle Level Student Achievement

Even with the middle school movement's focus on academic achievement, there are many concerns about the actual achievement of middle school students. Reports refer to middle schools as "Education's Weak Link," (Southern Regional Education Board, 1998) and middle school students as "Boxed In And Bored," (Scales, 1996). The parents in at least one school system, "the middle school model has come under attack for supplanting academic rigor with a focus on students' social, emotional, and physical needs" (Bradley, 1998, p. 38). This parent group is not alone in believing that middle schools sacrifice academic achievement in favor of giving students choices, letting them work together, providing activities which allow for movement, and making them feel good about themselves.

But the recommendations on which these middle school practices are based include: "High expectations for all," "Curriculum that is challenging, integrative, and exploratory,"

“Varied teaching and learning approaches,” and “Assessment and evaluation that promote learning,” (National Middle School Association, 1995). These are recommendations that place a strong focus on scholastic achievement. None of these recommendations imply any sacrifice of academics, but rather a strong commitment to the unique age group that attends middle schools, and how to meet their developmental needs in order to further their academic success.

There is evidence to support the effectiveness of these recommendations. The National Middle School Association (NMSA) curriculum recommendations are consistent with the research on what motivates students to learn (see, for example, Anderman & Midgley, 1997), and on research for closing the achievement gap for at-risk and underachieving students (see North Central Regional Educational Laboratory, 1997; or Williams, 1996). Felner, Jackson, Kasak, Mulhall, Brand, and Flowers (1997) found that comprehensive implementation of the *Turning Points* recommendations as having much higher achievement gains in reading and math (almost half a standard deviation higher) than schools with little or no implementation of the recommendations.

“[I]t does appear that our most fully implemented schools are dramatically different—and better—places for students to learn and teachers to teach than those at lower levels of implementation” (Felner, et. al., 1997, p. 543). This was especially clear with high-risk students since their achievement and adjustment scores dropped by half a standard deviation in low implementation schools, but gained almost three-quarters of a standard deviation in highly implemented schools. In fact, Felner and his associates warn against a superficial approach to implementing middle level concepts:

One of the clearest patterns that has emerged from our data is the difference between a “checklist”-based implementation of structural changes and implementation that is “idea-driven”—that attempts to reflect the underlying constructs and issues in the *Turning Points* recommendations. (Felner, et. al., 1997, p. 547)

Does this explain the apparent contradiction between such strong concerns over the academic orientation of middle schools and strong evidence for the academic success of middle schools? Perhaps in part. It is important to remember that not all schools serving 10-14 year olds have successfully implemented the recommendations discussed in this chapter. Many of the changes made in schools have been structural and not instructional. These schools have changed how they organize teachers or students, but haven't changed how teachers work with students.

Finding out what middle school students believe motivates them to learn will add to teachers' knowledge of what kinds of instruction are effective at the middle level. This will contribute to closing the gap between middle school students' achievement and the promise of the academic focus of the Middle School Movement.

### Why Student Voices?

There is little doubt that teachers work with fantastically diverse students. They differ in their aspirations, their home lives, their socioeconomic levels, their learning styles and ability levels, their academic preparation and readiness, their attitudes toward school, their interests, and their academic motivation. This diversity is a classroom reality that can make it difficult for a teacher to meet the needs of 20-30 students, and is one of the reasons why we need to hear the voices of underachieving learners. "In considering the practicability of the attempt to educate all the children of all the people, the whole issue turns on the natures of the children themselves, their inherent powers and capabilities, individually and *de novo*" (Smith, 1915, p. 1).

Diversity can also lead to distraction and confusion. We may make false assumptions about our unmotivated learners, based on what we think we know about our motivated learners. They may be two different kinds of students, and how they learn well may also be different. Underachieving students may not be so much to blame for not

learning; teachers may have overlooked differences in learning styles, and what students have to say about how they learn well.

Kids blame the conflict on the teachers and on the basis of this study, I think I would have to, too. Kids are the ones who have to go to school. They are forced into a system: a vigorous response to it is one of their few rights.

Teachers—and education—will never change until they start listening to the ways kids think about the institution they share. (Davis, 1972, p. 119)

Further, the voice of students in general, and unmotivated students specifically, is largely missing from the literature. Many studies that focus on achievement look at classroom practice rather than the perspectives of the students. Although some studies ask students their points of view directly, survey data is more common. Surveys, however, have serious validity problems and provide only a tightly bounded conversation with the informant (short, written answers to written questions), allowing few opportunities for informants to speak freely about their views and few opportunities for researchers to probe into the depths of those views.

When asked, students have valuable information to share with educators. Strong, Silver, & Robinson (1995) asked teachers and students what kind of work they found totally engaging. “Engaging work, respondents said, was work that stimulated their curiosity, permitted them to express their creativity, and fostered positive relationships with others. It was also work at which they were *good*,” (Strong, Silver, & Robinson, 1995). I have collected lists of learners’ characteristics of good learning experiences since 1992, and these lists are surprisingly similar, regardless of the age-group involved. The characteristics of good learning experiences synthesize into the following list:

Characteristics of Good Learning Experiences Synthesis

- the work was well connected to other ideas and to the real world
- the content of the learning experience was personally relevant, interesting, useful, or meaningful to the learner
- the learner had choices, shared authority, control, and responsibility
- the learning was hands-on and experiential
- the learner learned from and taught others
- the learner had the support of a patient, supportive, and nurturing mentor
- the learning was individualized and although there were standards for the work, the learner could meet them in his or her own way
- there was a positive aesthetic component to the experience: it was fun or left the learner feeling good
- the experience helped the learner understand him or herself
- the learner had success and accomplishment with challenging work

Who better to inform teachers of what motivates underachieving students than underachieving students themselves.

### The Study

This section will begin with a discussion of a pilot study for this project before moving into the descriptions of the organization of this study and its report.

#### The Pilot Study

I conducted a pilot study (Muir, 1998a. See Appendix A) relevant to this project. The study involved two students and some of their teachers at a regional middle school, serving six towns in rural New England. Both primary subjects for this study were boys on the same academic team. One was in seventh grade, the other in eighth. Students were interviewed separately, at school, away from other people and distractions. To improve my confidence in their responses, I encouraged them to expand on and clarify their answers,

conducted about 10 hours of classroom observations, and interviewed one of their teachers. Six strong key issues emerged: learning styles; active, hands-on lessons; trusting, respectful relationships; the gap between what schools do and what could be done; student co-processing and multitasking; and a focus on compliance instead of learning.

The pilot study generated implications for this study. Foremost, it showed that middle school students have plenty to say about how they think they learn well. The pilot study also raised several questions: What would students on a different team have to say? At a different school? What would girls say? Further, these two boys' answers were very similar; would interviewing other students also produce similar results? The pilot study provided the author the opportunity to test and revise interview questions and the interview protocol.

### Description of the Study

This study attempted to gain insight into what underachieving middle school students believe motivates them to learn through four case studies. These four case studies were conducted on two teams in two different schools. One seventh grade boy and one seventh grade girl on each team were the subjects of the case studies. This design offered multiple perspectives: two perspectives per class, two genders, and two schools. Seventh graders were chosen over eighth graders since eighth graders are too close to being high school students (especially in late spring, when this study was conducted). Further, seventh grade is the first grade in both of these middle schools.

In addition to being convenient, the two middle schools were selected for a variety of reasons. First, the two schools are organizationally very similar. Both schools are approximately the same size, serving about 500 students in grades seven and eight. Both schools divide students into five academic teams of four teachers (math, science, social studies, and language arts) of about 100 students. The team selected at each school is made

up of teachers who have worked to implement middle level concepts for more than five years.

Both schools serve similar populations. They are consolidated schools located in their respective county seats. They bring in students from a wide surrounding area, creating a diverse student demographic. For example, there are students who live in town and students who live in the woods; there are students of lawyers and doctors and students of farmers, woodsmen, and factory workers. Both schools have similar numbers of students receiving free and reduced lunch. As consolidated schools, each school offers a population representative of students living in rural, central New England.

Further, both schools are in a state experiencing success with meeting the nation's education goals. According to the National Education Goals Panel's 1999 Goals Report this state ranks as a high performer on more education indicators than any other state.

This study is a “theory building” study (this issue is discussed at some length in Chapter III) designed to explore what students think. While the cases are presented to help the reader build his or her own theories about what motivates underachieving students to learn, it will not “prove” that any particular motivator will help students. Further, the sample is small and narrow: it selects middle school students over those in elementary or high school, and students from rural, central New England, rather from other possible demographic regions.

Data collection involved a series of formal and informal interviews (Seidman, 1991) conducted during the last six weeks of school. To help support and validate the findings, two teachers on each team were interviewed and at least 10 hours of classroom observations were conducted. These data helped me to better understand the context of the students' responses and added confidence to my interpretations. These qualitative data were also compared to quantitative data taken from the State of Maine Aspirations Benchmarks Project. This project represents data from the students in 214 schools (94% of schools given the opportunity to participate). This study used the parallel data for middle schools.

### Organization of the Study

The chapters that follow present an overview of this research study. Chapter Two synthesizes the current literature on underachieving students and on motivation. The section on underachievement explores the characteristics of underachieving students, some of the causes of underachieving behavior, and some of the factors which can reverse underachievement patterns. Issues of motivation reviewed are interests and goals, autonomy, belonging, self-efficacy, and learning styles.

Chapter Three presents the research method. A detailed description of the subject selection process is provided. In addition, this chapter presents a detailed description of data collection through interviews and observations. Lastly, the procedures for data analysis are explained.

Chapter Four presents the findings from the four case studies. The chapter begins with a description of each subject and the themes emergent from the interviews about how each student believes he or she learns well. Then what the students and teachers have to say about the five motivation themes (interests and goals, autonomy, belonging, self-efficacy, and learning styles) is presented. The findings are presented in a rich and descriptive format.

Chapter Five includes a summary of the findings, and a discussion of the significance of those findings. In addition, implications for how motivating instruction may be practiced in classrooms are explored. Finally, suggestions for further research on motivating underachieving students are presented.



## Chapter II: A Review of the Literature

The psychological concepts of motivation and underachievement, and their relationship to each other within the context of middle level education, are the principal concerns of this study. The amount of theoretical and experimental literature on these concepts is overwhelming; this review will cover these areas only partially, concentrating on two domains pertinent to this study: an overview of underachieving students, and a synthesis of factors that positively impact motivation and achievement. Where appropriate, findings from the pilot study have been integrated into this literature review.

### Underachievement: Characteristics, Causes, and Reversal

Underachievement has been a topic of research for more than 40 years. It has become clear that underachieving students are not simply unmotivated. Much more complex dynamics are at play. This section will first explore the characteristics of underachieving students, then some of the causes of underachieving behavior, and lastly some of the factors that can reverse underachieving patterns.

#### Characteristics of Underachieving Students

Forty years of research has helped educators understand underachieving students. They can be characterized by attributes such as disorganization, lack of concentration, perfectionism, low self-esteem, unwillingness to conform, anxiety, vulnerability to peer pressure, and a sense of external locus of control (Coleman, et. al., 1966; Whitmore, 1980; Ford, 1992, 1996). Much of what has been written about underachievement has been written about underachieving gifted students. In fact, the gifted underachiever has been described as “one of the greatest social wastes of our culture” (Gowan, 1955, p. 247). Of course, any student who is unable to reach his academic potential in school deserves the kind of attention that gifted students receive.

Rimm (1986, 1988) is interested in all underachieving students and developed the Achievement Identification Measure (AIM) that describes five dimensions, or classes, of indicators for identifying underachieving students: competition, responsibility, self-control, achievement communication, and respect. These categories were borne out in factor analysis and the assessment is highly reliable (Rimm, 1986).

Comparing Rimm's list of indicators of underachievement to other lists of characteristics for underachieving gifted students (for example Ford, 1996, see Appendix B), it becomes evident that general underachievers share many of the same characteristics: the student doesn't participate in school activities, the need for acceptance outweighs his or her academic concerns about school and achievement, home life is stressful, the student's family is of low socio-economic status, the student feels alienated, the student has a negative attitude toward school, he or she cannot tolerate structured and/or passive activities, the student has low self-esteem or self-concept, the student exerts little effort on school tasks, which is reflected in standardized test scores or grades, and the student bores easily and is disruptive.

### Causes of Underachievement

Many factors are identified as contributing to students dropping out, underachieving, and being at-risk. Educators blame students' lack of motivation, engagement, and achievement on a long list of factors such as psychological problems, emotional problems, poor study habits, low self-esteem, withdrawal, aggression, social isolation, conflicts at home, over-expectations of parents, under-expectations of parents, physical or medical causes, social/class differences and expectations, conflicts with teachers, lack of academic readiness and preparation, learning disabilities, poor home life, unsupportive parents, previous traumatic experience, poverty, and low self-confidence.

The Carnegie Council on Adolescent Development (1996) recognized that "[m]any problem behaviors in adolescence have common antecedents in childhood experience. One

is academic difficulty: another is the absence of strong and sustained guidance from caring adults” (p. 5). Ford (1992) points to psychological, social, and cultural factors contributing to underachievement. Scales (1996) points to 40 “Developmental Assets” that help students develop socially, intellectually, and academically (see Appendix B). They are organized into eight categories: support, empowerment, boundaries and expectations, constructive use of time, educational commitment, values, social competencies, and positive identity. Without access to a critical mass of these assets, students are more likely to have social, intellectual, and academic difficulties.

#### Do outside factors predispose students to failure?

Some of the thinking on underachievement lays the blame on factors outside the school influence, such as poverty, home life, and students’ academic motivation. The implication is that since schools have little control over these factors, then schools have little control over improving achievement.

There is evidence, however, that underachieving students can be positively impacted by school practice. Although the National Educational Research Policy and Priorities Board (1997) recognizes that “[l]earning does not take place in isolation. Students bring to the learning setting what they have experienced and the values they have been taught at home and in their neighborhoods,” they also note that the research says that “[s]tudents who take more courses and at higher levels learn more. All students, regardless of race, gender, or ethnic background, can learn to higher levels.” The *Turning Points* report (Carnegie Council on Adolescent Development, 1996) also concluded that studies of adolescent development had no persuasive evidence that young adolescents were unable to engage in critical thinking or meaningful learning.

Nieto (1994) points to several studies that reinforce that school can have an impact on challenged students:

Thus, poverty, single-parent households, and even homelessness, while they may be tremendous hardships, do not in and of themselves doom children to academic failure (see, among others, Clark, 1983; Lucas, Henze, & Donato, 1990; Mehan & Villanueva, 1993; Moll, 1992; Taylor & Dorsey-Gaines, 1988). These and similar studies point out that schools that have made up their minds that their students deserve the chance to learn do find the ways to educate them successfully in spite of what may seem to be overwhelming odds. (Nieto, 1994, p 2)

There is no doubt that there are factors beyond educators' control that contribute to the challenges of educating underachievers, but it is important to note that school itself may also contribute to the problem of underachieving and disengaged students. Emerick (1992) reports, for example, that the level of achievement occurring outside the classroom indicated that school was frequently the only place academic and creative achievement were not taking place. If this is so, then educators must closely examine the role played by schools and teachers in developing underachievement patterns.

#### An overview of school related causes of underachievement

Even during the first half of the 20<sup>th</sup> Century, there was concern that some school practices interfered with students' learning to their potential. In 1930, the Commission on the Relation of School and College examined secondary school performance (Aikin, 1942). Although the Commission was fully aware of the achievements of America's (then fairly new) high schools, their study revealed numerous areas needing improvement. Among other things, the study noted how there was little connection between teaching and what was then known about learning:

*Schools failed to create conditions necessary for effective learning.*

In spite of greater understanding of the ways in which human beings

learn, teachers persisted in the discredited practice of assigning tasks meaningless to most pupils and of listening to recitations. The work was all laid out to be done. The teacher's job was to see that the pupil learned what he was supposed to learn. The student's purposes were not enlisted and his concerns were not taken into account. All this was in violation of what had been discovered about the learning process. The classroom was formal and completely dominated by the teacher. Rarely did students and teacher work together upon problems of genuine significance. Seldom did students strive ahead under their own power at tasks which really meant something to them. (Aikin, 1942, pp. 5-6)

Dewey also warned about the important role school plays in whether a student achieves or not:

If the pupil left it [the class, instruction] instead of taking it, if he engaged in physical truancy, or in the mental truancy of mind-wandering and finally built up an emotional revulsion against the subject, he was held to be at fault. No question was raised as to whether the trouble might not lie in the subject-matter or in the way in which it was offered. The principle of interaction makes it clear that failure of adaptation of material to needs and capacities of individuals may cause an experience to be non-educative quite as much as failure of an individual to adapt himself to the material. (Dewey, 1938, p. 46-47)

Today, there continues to be evidence that school practices (or the lack of effective school practice) interfere with some students' learning. For example, in a study of gifted African American achievers and underachievers (Ford, 1995), those underachievers reported (a) less positive teacher-student relations, (b) having too little time to understand the

material, (c) a less supportive classroom climate, and (d) being unmotivated and disinterested in school. Testimony provided before the Carnegie Corporation Quality Education for Minorities Project National Resource Group indicated that the following factors contributed to minorities dropping out of school (McKenzie, 1993): differential tracking, lack of identification with counselors and teachers, poor attitudes and low expectations from teachers, feelings of failure, and curriculum that does not include minority perspectives.

Rimm (1986) identifies structure, competition, labeling, negative attention, boredom, and conformity (versus individualization) as school causes of underachievement. Wheelock & Dorman (1988) report that reasons for dropping out may grow from alienating practices in middle schools. Their factors include retention in grade, tracking and ability grouping, discrimination based upon standardized tests, boredom with standardized curriculum and instruction, punitive practices, suspension and expulsion practices, school climate and rules, and fragmented school organization. Davis (1972) reports that junior high students feel that they are “made” to do things that “don’t make sense.”

If, as often claimed, American teachers underestimate the learning potential of low track students and expect more negative attitudes and greater trouble from them, it may well be that they partially cause the very failure, alienation, lack of involvement, dropping out and rebellion they are seeking to prevent. (Schafer, Olexa, & Polk, 1970, p. 8)

This section will go on to explore two specific ways schools contribute to underachievement: practices that produce downshifting in students, and a focus on extrinsic motivation.

### Downshifting

Instructional methods can lead to unmotivated students. Conditions within the classroom can produce sufficient stress to cause students to shut down learning. “When we feel threatened, we downshift our thinking. Downshifted people feel helpless; they don’t look at possibilities; they don’t feel safe to take risks or challenge old ideas. They have limited choices for behavior” (Pool, 1997). Downshifting means that students slip almost into a survival mode, going mechanically through actions, activities, and routines, but with very little cognitive energy. Downshifted students might appear to participate in classroom activities, but optimal learning is effectively shut down. According to Caine and Caine (1994), although threats producing downshifting can come from outside of school (abuse, poverty, malnourishment, and violence, for example), the following classroom conditions produce downshifting for the vast majority of students (Caine & Caine, 1994, p. 84):

1. *Pre-specified “correct” outcomes have been established by an external agent in the classroom.* This translates into the student having to learn the answers the teacher has determined to be correct. That significantly closes the options available to students.
2. *Personal meaning is limited.* In other words, what is to be learned does not have to connect with what students already know. Their innovative or chosen ways of dealing with problems and situations are treated as irrelevant.
3. *Rewards and punishments are externally controlled and relatively immediate.* The result is that the consequences of action, including testing and grades, are not under the control of the students.
4. *Restrictive time lines are given.* While deadlines are important in their place, a constant barrage of time limitations drives people to do what has to be done to meet the deadline, rather than to reflect on options.

5. *Work to be done is relatively unfamiliar with little support available.*

Isolation exacerbates uncertainty without the reassurance that success is likely.

Impact of extrinsic motivators

A second school practice that contributes to underachievement patterns is a focus on extrinsic motivation. A student who performs "in order to obtain some reward or avoid some punishment external to the activity itself," (Lepper, 1988) such as grades, stickers, or teacher approval is extrinsically motivated. Teachers may rely on extrinsic motivators with underachieving students (either as a carrot or a stick) precisely because they are challenged to find a way to help these students learn. Extrinsic motivation, however, has received a lot of bad press in both the popular educational literature and research journals. The concern is that although extrinsic motivators may get a student to participate in classroom activities, they can interfere with optimal learning. When students perform for grades or other rewards, they no longer perceive that their learning has intrinsic value.

At least two dozen studies have shown that people expecting to receive a reward for completing a task (or for doing it successfully) simply do not perform as well as those who expect nothing (Kohn, 1993). According to Kohn, this effect is evident for young children, older children, and adults; for males and females; for rewards of all kinds; and for tasks ranging from memorizing facts to designing collages to solving problems. In general, the more cognitive sophistication and open-ended thinking that is required for a task, the worse people tend to do when they have been led to perform that task for a reward (Kohn, 1994).

Further, Kohn (1993) indicates that at least ten studies have shown that people offered a reward generally choose the easiest possible task. In the absence of rewards, by contrast, children are inclined to pick tasks that are just beyond their current levels of ability. Grades in particular have been found to have a detrimental effect on creative thinking, long-term retention, interest in learning, and preference for challenging tasks (Butler & Nisan,



1986; Grolnick & Ryan, 1987). Emerick (1992) found that students she interviewed agreed that grades and similar indicators of academic achievement held little or no meaning and importance for them. Lepper, Greene, and Nisbett (1973) found that an over-reliance on extrinsic rewards can damage the quality of work, impede the ability to be creative or to accomplish non-routine tasks, squelch any pre-existing intrinsic interest, and diminish interest in doing the activity once the rewards are removed.

In one representative study (Birch et al., 1984), young children were introduced to an unfamiliar beverage called “kefir.” Some were just asked to drink it; others were praised lavishly for doing so; a third group was promised treats if they drank enough. Those children who received either verbal or tangible rewards consumed more of the beverage than other children, as one might predict. But a week later these children found it significantly less appealing than they did before, whereas children who were offered no rewards liked it just as much as, if not more than, they had earlier.

#### Reversal of Underachievement Patterns

More recent research on underachieving students focuses on the identification of effective techniques for enhancing instructional design, improving classroom management, and meeting the needs of diverse student populations (Wlodkowski, 1981). Although Dowdall & Colangelo (1982) report that interventions reported by researchers have failed or had limited success, more is being written about successful classrooms. These stories describe what curriculum and instruction can look like when it includes reflection, content from student questions and concerns, student choices and decision-making, real-life connections, and problem-based learning (Wigginton, 1985; Brodhagen, Weilbacher, and Beane, 1992; Beane, 1993; Pate, et. al., 1997; Alexander, 1995; Muir, 1994b; Muir, 1998b; Delisle, 1997; and Nagel, 1996).

Reversal of underachievement patterns is complex and unique to each child (Rimm, 1986; Whitmore, 1980; Emerick, 1992). Ford (1992) points out that underachievement is

“complex and perplexing” and requires moving away from traditional theories, including those where underachievement results only from a lack of student motivation to achieve. Her work also suggests that underachievement, as perceived by the African American students sampled, is influenced most by psychological variables rather than by social and cultural variables. Ford also says that this is consistent with some studies and inconsistent with others that show an impact of social forces. Whitmore (1980) recommends the use of three kinds of strategies: Supportive Strategies (students feel like part of a family, not a factory), Intrinsic Strategies (positive attitude, encourage attempts, student input, self evaluation), and Remedial Strategies (recognize student strengths, weaknesses and needs, a chance to excel, a chance to learn new strategies, safe environment).

According to Emerick (1992) gifted underachievers who became achievers, without direct parental or teacher intervention, reported the following six factors in their recovery: out-of-school interests/activities, parents, the class, goals associated with grades, the teacher, or self. Most importantly, “...a significant change in the individual’s concept of self was viewed as necessary for the reversal of the underachievement pattern. In particular, each student believed he or she had undergone such a change and that without this change, the other factors would have had little or no personal impact” (Emerick, 1992, p. 144). The change included the following: the student developed more self confidence and a positive attitude toward the achievement situation, began to perceive academic success in school as a source of personal satisfaction and a matter of personal responsibility, and believed they had gained the ability to reflect on and understand factors that may have contributed to the underachievement patterns.

### Factors That Promote Motivation and Achievement

One of the most persistent questions facing individual teachers is, “How do I motivate all children to learn?” The key idea of motivation is getting people to do something. Within an educational setting, the desired outcome is learning. The key

components of optimal learning are conceptual understanding and the ability to use knowledge flexibly; so the goal of motivating students does not stop with simply getting students to participate in class activities, but with developing conceptual understanding and the flexible use of knowledge. Ideally, this learning would become self-directed and self-regulated.

Because the studies included under the umbrella of “motivation” are so broad and varied, and have evolved over time, it is impossible to provide a review of the literature that would satisfy all the theories and traditions. Therefore, this section will focus on five areas: experience and context, interest and goals, autonomy and choice, learning styles, and the student/teacher relationship.

### Experience and Context

Understanding what motivates learning must start with an understanding of the function of memory. This study comes from a constructivist context. That is, it is based on the assumption that learning is an active endeavor, and that learning builds on what the learner already knows.

The notion that knowledge is the result of a learner’s activity rather than that of the passive reception of information or instruction, goes back to Socrates.... this means that the results of our cognitive efforts have the purpose of helping us cope in the world of experience, rather than the traditional goal of furnishing an “objective” representation of a world as it might “exist” apart from us and our experience. (von Glasersfeld, 1991, pp. xiv-xv)

The main function of long term memory is to process these experiences, looking for patterns, making connections, and creating generalizations. These generalizations have many different names, including “schemata,” “scripts,” and “frames,” and the concept goes

back to Immanuel Kant (1781). The idea is a simple one: rather than store all the individual details of a memory, the mind uses a generalized framework with slots or hooks for details from the specific instance.

For example, if a person eats in a nice restaurant, instead of remembering every little detail of the experience, her mind calls up the “nice restaurant script.” Based on lots of experiences of eating in restaurants, her mind knows many things:

- She sat at a table already set with silverware
- A waiter or a waitress brought a menu, took her drink order, then returned with the drink and took her dinner order
- The server brought the food a while later (perhaps bringing it in courses)
- She ate her food
- The server checked back about dessert, then brought it
- The server brought the bill
- She paid the bill and left, leaving a tip.

All a person’s mind has to do now is add a few details to this framework: the name of the restaurant, what she ate, if the service was good, and if anything special happened. From a functional and structural point of view, it is a brilliantly efficient way to store memories, requiring much less “storage space” than keeping a running account of each individual experience.

#### Connections or context required for acquisition

Most learning is not the construction of new schema, but rather connecting with existing schema. Long term memory functions as a connection machine, needing to tie new experiences and learning to experiences and schema the student already possesses. Those connections and contexts are vital to being able to effectively acquire new information. They shape how individuals perceive everything from language to experience.

That the significance of whole sentences is context-sensitive is nicely illustrated in an example based on Austin, one of the pioneers in natural language philosophy. Imagine the statement “the bull is in the field” in each of the following circumstances: (1) You are driving past the field in your car. (2) You are sitting in the field having a picnic. (3) You have brought your pure-bred cow to be inseminated. (4) The sentence comes up on a screen in a memory experiment in which you are participating. In case (2), for instance, the statement may signify that you are in danger and had better run, whereas in (4) it doesn’t matter whether there is really a bull in the field. (Anderson, et. al., 1977, p. 369)

Readers often have very different feelings and emotions about the passage as they think about each of the different contexts. When instruction doesn’t provide for contexts, such as with rote learning, then the learning is sterile, much like reactions and feelings to the memory experiment context (#4). On the other hand, long term memory works better with contexts like the picnic example (#2), since it provides a rich set of connections to emotions and experiences. Rumelhart reminds us that “the primary activity of a schema is the evaluation of its goodness of fit” (1980, p. 39). Context and connections help individuals evaluate where to put the information, how important that information might be, and in what ways it might be important. In the classroom, rich experiences, contexts, and schema help make that happen easily for the student.

From an educator’s point of view, it is important to remember that students do not simply collect new knowledge, they build on what they already know. New learning can’t simply be “poured” into a student’s head, and rote learning may interfere with many students’ abilities to recall and apply knowledge. The lack of adequate schema, experiences, and contexts for learning actually complicate learning, since students’ minds are quick to forget information for which they cannot find a connection. The mind needs a connection to

learn or perceive, and discards information that doesn't fit. Only new thoughts, observations, ideas, facts, and skills that relate directly to an individual's collected learnings are retained by that individual. If no connection is made, the new information is cast aside.

A schema will contain slots into which some of the specific information described in a message will fit. The information that matches slots in the schema would be said to be significant, whereas information that does not would be called unimportant, irrelevant, or—in the limiting case—incongruous. Information that fits the superordinate schema is more likely to be learned and remembered, perhaps precisely because there is a niche for it. (Anderson, et al. 1978, p.434)

Richness in experience allows students to make multiple connections to new information, maximizing their ability to make meaning to integrate into their knowledge base. “Imagine a section from a geography text about an unfamiliar nation. An adult would bring to bear an elaborate nation schema, that would point to subschemata representing generic knowledge about political systems, economics, geography, and climate” (Anderson, et. al. 1978, p. 439). This would certainly frame the information about the new nation in a way qualitatively different from how someone without the depth of knowledge about political systems, economics, geography, and climate would understand it.

#### Context also needed for recall

Rich contexts and connections are vital for recall, as well. “[T]hese same schemata guide our *information seeking*. Not only do schemata tell us *what to see*, but they also tell us *where to see it*.” (Rumelhart 1980, p. 51). For example, many people find it easier to remember the words to a song when the music for it is playing.

Students' memories do not function like tape recorders or videotape machines; they cannot simply replay events at their choosing.

Instead, retrieval depends on the cues they have available to call forth memory. Further, the context of a remembering event determines what will be remembered. A rich context providing multiple cues for retrieval will lead to good memory performance. A poor context with few or no retrieval cues is apt to give us a poor indication of what students really do have in memory. (Bruning, et al. 1995, p. 113)

Rote learning rarely helps to provide those additional cues for children. When students memorize facts out of context, they limit how the information can be retrieved. Because rote memory is used to store unrelated facts, it is not designed to transfer learning to other contexts. If something is learned out of context, it can generally only be recalled out of context. This is why students can do well on a test, but then not be able to use the information later.

The reason why schoolbook knowledge fails to come to mind when it's needed is that it is not well indexed in memory. When students learn, they are often not encouraged to try out the new knowledge on problems they face or relate that knowledge to what they already know. So the schoolbook learning forms isolated islands of structures in their memories. They know how to apply these islands to the schoolbook problems they face because that is the context in which they learned it. But the knowledge does not come to mind when they are faced with a problem in a different context. (Schank & Cleary 1995, p. 59-60)

Even when teachers think they have provided students with the necessary connections and contexts, students may not have connected with the material. In *You Gotta BE the Book*, Wilhelm (1997) describes working with middle school students. He uses interviews to get into the minds of his able and less able seventh grade readers and was

spurred on by the contradictory feelings between those two groups. The able students saw themselves as participants in the stories, related them to their own worlds, and reflected on what they had read. Other students simply thought the story had nothing to do with them and was dumb and confusing. He found that less able readers were unable to visualize the story or connect it to knowledge they already possessed. During an Alaska unit, some students could vividly describe the Alaskan landscape, but were then unable to describe the setting of an Alaskan legend, saying that the story did not tell them.

The problem Wilhelm's students had didn't come from the reading being too hard, or too long, or the students not having appropriate background knowledge. It came from students not being able to connect with parts of the story and their existing knowledge base. Rote learning is inadequate for helping students deal with this problem, since it doesn't recognize the importance of those connections. Take for instance this passage which people often have difficulty understanding:

The procedure is actually quite simple. First, you arrange things into different groups. Of course one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities, that is the next step, otherwise you are pretty well set. It is important not to overdo things. That is, it is better to do too few things at once than too many. In the short run this may not seem important, but complications can easily arise. A mistake can be expensive as well. At first the whole procedure will seem complicated. Soon, however, it will become just another facet of life. After the procedure is completed, one arranges the materials into different groups again. Then they can be put into their appropriate places. Eventually they will be used once more and the whole cycle will then have to be repeated. However, that is part of life. (Bransford & Johnson 1973, p. 400)



What inhibits understanding this passage? Educators are often quick to think that when students have difficulty learning, they have given the students too much to learn, or that the material was too hard, or that students do not possess the background knowledge to understand the passage. The reaction is often to make the content simpler; to break it down into smaller pieces. If that were the real problem, then breaking this difficult passage into small pieces would make it easier to understand. Try reading this version of the passage:

- The procedure is actually quite simple. First, you arrange things into different groups. Of course one pile may be sufficient depending on how much there is to do.
- If you have to go somewhere else due to lack of facilities, that is the next step, otherwise you are pretty well set.
- After the procedure is completed, one arranges the materials into different groups again. Then they can be put into their appropriate places.

It is unlikely that it was any easier to understand. Rumelhart explains the reason readers have such a hard time understanding the story: “The difficulty with this passage is, thus, not that readers do not have the appropriate schemata; rather, it stems from the fact that the clues in the story never seem to *suggest* the appropriate schemata in the first place,” (Rumelhart 1980, p. 48). The problem isn’t that the pieces are too large or that the learner doesn’t have the requisite background knowledge. The problem is that the learner is trying to connect to schema in long term memory and there aren’t enough cues available in the text (or at least evident to the reader) to tell him which schema or script to use to interpret the information.

Failure to connect was the problem with Wilhelm’s (1997) students, as well. He was successful at helping his seventh grade students connect with their reading by using art and drama to help them visualize the stories and become engaged readers. The use of exemplars,

analogies, and metaphors might also help students connect new learning to existing generalizations and schema. Helping students connect with lessons or reading does not have to be complicated or time consuming. Sometimes it simply takes a quick tip from the instructor. For example, reread the previous passage as you think about doing laundry. Most readers understand the passage with this simple tip.

When students have a hard time learning, often they don't need smaller pieces, but rather a way to connect with the material; clues that will help the learner select schema and assimilate the new information. Rich learning experiences help provide multiple cues to better connect to existing schema and to help build and expand new, complex schema. Learning requires a combination of fertile, complex experiences, connections to previous knowledge, and rich contexts for learning. In the absence of these, optimal learning is unlikely to happen. In other words, it doesn't matter how well organized, well intentioned, friendly, or expert a teacher is, if that teacher tries to present information to a student who cannot find personal meaning for it, it will not be learned.

On the other hand, learning can be made context rich by doing either authentic or simulated real-world work or by having a real audience beyond the teacher for student work. Learning is clearly a personal and internal process. Ellis and Fouts (1993, p. 153) point out, "experience is the key to meaningful learning, not someone else's experience abstracted and condensed into textbook form, but one's own direct experience." The key to learning is personal meaning and connectedness: to individual interests, to previous knowledge, to the real world, to other disciplines.

### Interest and Goals

Experience and context alone may not be sufficient for optimal learning to take place. People subconsciously sift through a huge volume of information each day. Which bits of information are paid attention to and which are ignored? What drives our learning? What motivates students to learn some material and not other material? Many motivation

theories distinguish between internal and external motivating factors. Lepper (1988) states that a student who is intrinsically motivated undertakes an activity "for its own sake, for the enjoyment it provides, the learning it permits, or the feelings of accomplishment it evokes." As stated earlier in this chapter, Lepper (1988) also states that a student who performs "in order to obtain some reward or avoid some punishment external to the activity itself," such as grades, stickers, or teacher approval is extrinsically motivated.

Many motivational researchers have concluded that people learn best when intrinsically motivated (Alkin, 1992; Lepper, Greene, & Nisbett, 1973; 1988; Kohn, 1994). "Perception is goal directed. We do not passively wait for some stimuli to arrive and then at the late date attempt an interpretation. Instead, we actively seek information relevant to our current needs and goals," (Rumelhart 1980, p. 51). Further, "human beings innately organize their thinking and perception around what they regard to be important" (Caine & Caine, 1997, p. 112). Wurman (1989) simply refers to learning as remembering what you are interested in. Schank and Cleary (1995) describe learning as pursuing answers to questions which grow from our goals and interests. "It is important to recognize that it is internally generated questions that drive memory and hence drive learning" (Schank & Cleary, 1995, p. 42). They go on to explain: "memory is obsessive enough to fail to pay attention to information provided that is not an answer to any question it may have, thus making learning of information it is not seeking fairly difficult" (Schank & Cleary, 1995, p. 42).

The mind searches for answers to questions that arise from the individual's interests or goals, and tends to ignore things that don't relate to those questions and curiosities. It is easy to see that students who perceive that school is interesting or matches their personal goals are more likely to achieve than students who do not. Many other students, however, see school as being much less relevant to their lives and are not so interested in what teachers want them to learn. "When we disregard student purposes and values, we are tossing out the essential glue that acts as the key to the depth of understanding we wish

students to acquire. We then obstruct meaningful learning” (Caine & Caine, 1997, p. 112). It became clear, for example, that for the participants in the pilot study, potentially powerful motivational factors, such as aligning curriculum with the students’ own goals or interests, or connecting content with the world around students, were largely missing.

In regard to preparing students for their goals, for instance, both boys could readily identify what they want to do professionally when they are done with school: Andy wants to draw, and Mike wants to be a pilot or work with computers. Both could identify only peripheral ways that schools helped them with their goals. Mike said that the schools had computers, although they didn’t work right much of the time. Andy could only see that school was helping because it was getting him ready to go to college, not that it was helping him directly with his goal to become a professional artist. Mrs. Carpenter (one of their teachers) says that she is aware of many of her students’ goals and interests, but doesn’t try to relate content to them.

When asked about how school learning relates to the real world, Andy said it teaches you not to sass back to adults. Mike saw no connections to the real world. When I asked him, “How do you see a connection between the work that you do here and [the town you live in]?” he replied, “Basically, I don’t.” When I asked Mrs. Carpenter, “How do you try to show students that course content is useful and important to them?” she chuckled and replied, “I don’t even go there.” (Muir, 1998a, p. 26-27)

Changes in how teachers deliver the curriculum can help mediate this problem (Deci, Vallerand, Pelletier, & Ryan, 1991). Educators can better match content and instruction to students’ interests and goals. Teachers can work either to build on student curiosity and

interests or to capture their imaginations by making content interesting through conundrums, contradictions, or any other strategy that gets students asking questions. Davis (1972) reported, for example, that junior high students won't act up in a class that is interesting. Lepper and Hodell (1989) recommend trying to enhance children's intrinsic motivation through challenge, curiosity, control, and fantasy. Teachers can also better connect content and classroom experiences and activities with students' personal goals. Keller (1987) recommends presenting the objectives and useful purpose of the instruction and specific methods for successful achievement (e.g.: the teacher explains the objectives of the lesson) and matching objectives to student needs and motives.

### Autonomy and Choice

Teachers can do many things to try to make learning more intrinsically motivating for students, but it is not possible to do this for every child all the time. How can educators motivate students to learn when they are not intrinsically interested in learning? The work people do in the real world is often regulated by both intrinsic and extrinsic factors. People need to learn and do things which they may not find interesting or aligned with their goals. Under what conditions will students learn when they are not intrinsically motivated? How can this be achieved, especially in light of the negative impact extrinsic motivation can have on students?

Self-determination theory (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991) supports the idea that people can learn optimally not just when motivated intrinsically, but also when motivated extrinsically. Self-determination theory is an important theory of motivation when talking about underachieving students because they are, by definition, students who are capable of learning, but do not achieve to their potential. Recognizing that learning is a learner-controlled activity, the question becomes how can educators get these students to become self-regulated learners, or more specifically, how can educators help

them choose to learn content that caring adults value, but students may not be intrinsically motivated to learn?

Self-determination theory adds to the discussion of extrinsic motivation the distinction between self-determined and controlled types of extrinsic motivation, and the impact that distinction has on the quality of learning experiences. Recent theory and research has suggested that there are different kinds of extrinsic motivation, these differing by the extent to which students perceive they have autonomy. Deci and Ryan (1985) identified four levels: external (the least self-determined), introjected, identified, and integrated (the most self-determined). Integrated extrinsic motivation can be achieved through the use of autonomy-supportive teaching strategies. External regulation interferes with learning since it is perceived by the learner as controlling. This is the kind of extrinsic motivation that promotes the negative results discussed earlier in this chapter. From the point of view of self-determination theory, autonomy-supportive environments become, therefore, a key element to promoting motivation in students.

In their review of self-determination literature, Deci, Vallerand, Pelletier, and Ryan (1991) examine studies that compare self-determined learners with controlled learners. These researchers link students who had more self-determined forms of motivation for doing schoolwork with remaining in school, positive academic performance, greater conceptual understanding, better memory, more positive emotions in the classroom, more enjoyment of academic work, more satisfaction with school, less anxiety, and better coping with failure. Further, students in classrooms with autonomy-supportive teachers displayed more intrinsic motivation, and more perceived competence and self-esteem than did students in classrooms with controlling teachers.

Whether teachers are controlling or autonomy-supportive is influenced by several factors. In at least one study, deCharms (1976) found that teachers could be taught to be more autonomy-supportive with the result that students increased their levels of self-determination and achievement. When teachers are pressured or controlled by

administrators, or the system in general, they are more likely to control their students (Deci, Spiegel, Ryan, Koester, & Kauffman, 1982; Fink, Boggiano, & Barret, 1990). Teachers' beliefs about students' levels of motivation also impact whether they support autonomy or attempt to control students, and can lead to a self-fulfilling prophesy with regard to motivation (Deci, et. al., 1991).

Proponents of self-determination theory maintain that integrated regulation is as effective for achieving optimum learning as intrinsic motivation. It can be achieved through a variety of strategies including allowing students to share in the decision making and authority within the classroom. They may negotiate the curriculum with the teacher, or help the teacher decide how they will learn the curriculum. Project-based learning, for example, allows students numerous choices around what form their finished product will take, while learning valuable content determined by the teacher, district, or state. The key is to make sure students have choices about their learning.

### Learning Styles

A long held assumption about learning is that some children learn well, and others do not; some students are bright and others are slow. This assumption is based, in part, on the idea that there is one general intelligence (often measured by IQ tests, and referred to as *g*), that people possess in varying degrees, and that we cannot essentially change through educational interventions. There is growing evidence that there is no single way to be smart. Gould (1996) shows how IQ testing grew from invalid assumptions and research procedures, and how data supporting *g* can be interpreted differently (both interpretations being statistically proper) to show multiple intelligences. The results of Sternberg's (1997) Yale Summer Psychology Program Study, that explored various ways students worked and learned, also seems to contradict the notion of *g*.

When we did a statistical analysis of the ability factors underlying performance on our ability test, we found no single general factor

(sometimes called a *g* factor or an IQ). This suggests that the general ability factor that has been found to underlie many conventional ability tests may not be truly general, but general only in the narrow range of abilities that conventional tests assess. (Sternberg, 1997)

As Gardner says (ABC, 1993), it is no longer "How smart are you?" but "How are you smart?" Different theorists classify these abilities differently. Some learning style inventories break abilities into verbal, auditory, and tactile. Jungian personality types are classified around our preferences within four scales: Extroversion/Introversion (Source of Energy), Sensing/Feeling (What is Observed), Thinking/Feeling (Evaluation Style), and Judging/Perceiving (Energy Direction and Flow) (Fairhurst & Fairhurst, 1995). Gardner (1983, 1998, 1999) proposes eight different kinds of intelligence: logical/mathematical, verbal/linguistic, bodily kinesthetic, musical, visual/spatial, interpersonal, intrapersonal, and natural/environmental. Each person has all eight but they are each of various strengths. Sternberg's categories include the analytical, practical, and creative aspects of intelligence. He points out that there are four things educators can ask students to do with information (1997):

- Recall who did something, what was done, when it was done, where it was done, or how it was done;
- Analyze, compare, evaluate, judge, or assess;
- Create, invent, imagine, suppose, or design; or
- Use, put into practice, implement, or show use.

Some researchers have noted how minority students' learning styles may contribute to underachievement. Specifically, research indicates that African American students tend to be field-dependent, visual, and concrete learners (Hale-Benson, 1986), whereas schools teach more often in verbal, abstract, and decontextualized ways. Thus, mismatch between



learning styles and teaching styles can result in confusion, frustration, and underachievement for gifted minority students (Ford, 1996). In the pilot for this study, Muir (1998a) asked each of his interviewees to respond to the following quote:

I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them. (Papert, 1996)

I was interested that, although students and teachers believed that many of the learning problems in school were because students weren't being taught in their learning style, students and teachers couldn't really tell me what being taught in their learning style would look like. Perhaps this reflects the idea that teachers don't have mental models of what teaching might look like; educators' own experiences and expectations may shape what teaching strategies they see as acceptable.

The pilot study also revealed that "doing things" vs. "book work" was a critical motivator, (Muir, 1998a) and Davis (1972) reported that junior high students won't act up in a class where they are too busy. It's not surprising given the critical role experience plays in optimal learning. Not only does it help students build well indexed knowledge and generalizations (schema, scripts), but experiential learning is often rich enough to allow learners to learn within their own style or modality.

So the problem isn't so much that some students can learn and some can't, as it is that different students learn differently. Meeting high academic standards may only mean that students master generally the same content, not that they have to achieve mastery in the same way. Achieving our national education goals requires varying instruction so everyone can learn.

### The Student/Teacher Relationship

Students need to feel safe and respected before they will learn. “Significant adult relationships have been found to be a major contributor to the resiliency of at-risk youth” (Dowty, 1997). Emerick’s study (1992), for example found that underachieving students “expressed a need for personal involvement with and respect for the abilities of those directing their education” (p. 145). In the pilot study, this was one of the participants’ strongest motivators:

I had expected students to focus on intrinsic motivators closely related to content, including pace, choice, curiosity, and alignment with personal goals. Those were validated by the boys, but not as strongly as the importance of relationship, trust, and respect in the classroom. One of the most important factors for successful learning, to my two underachievers, was the student/teacher relationship. (Muir, 1998a, p. 24)

Whitmore (1980) advocates for supportive strategies that help a student feel more like they are in a “family” than a “factory.” All the subjects in Emerick’s (1992) study of underachieving gifted students who reversed their underachieving behaviors agreed that it was “the actions of and respect for a particular teacher that had the greatest positive impact” (p. 144). The influencing teacher displayed five characteristics: he/she cared for and sincerely liked the student as an individual, was willing to communicate with the student as a peer, was perceived to be enthusiastic and knowledgeable about the topic taught, and demonstrated a personal desire to learn more, was perceived as not being “mechanical” in methods of instruction, and was perceived as having high but realistic expectations for the student.

How teachers make students feel about themselves and their abilities will also impact achievement. Students’ beliefs about their abilities determine how they feel, think, and

behave (Bandura, 1993; Schunk, 1989; Weiner, 1984, 1985). Students who have experienced trauma often lack confidence in their abilities and generally have a low degree of self-efficacy (Katz, 1997). Self-efficacy is often a better predictor of achievement than actual ability (Bandura, 1993; Schunk, 1989), and is often affected by how the student attributes the success or failure. “People who regard themselves as highly efficacious ascribe their failures to insufficient effort: those who regard themselves as inefficacious attribute their failures to low ability” (Bandura, 1993, p. 128). Whether students attribute their successes or failures to their effort (changeable) or ability (unchangeable) will impact their achievement (Weiner, 1984, 1985).

What can teachers do? Teachers’ instructional practices and daily interactions with students can communicate their expectations for students, as well as whether student ability is fixed or modifiable (Graham, 1990). Bandura (1993) reports, for example, that “[p]erformance feedback that focuses on achieved progress underscores personal capabilities. Feedback that focuses on shortfalls highlights personal deficiencies” (p. 125). Bandura goes on to point out that setting high standards for children is not sufficient for success. Unless parents and educators build students’ sense of efficacy, they are likely to view those standards as beyond their reach and disregard them. Teachers can retrain student perception by helping students attribute failure to insufficient effort instead of low ability. Also, modeling can lead to higher levels of student success than didactic instruction (Schunk, 1989). Further, Schunk (1989) points out that efficacy cues from teachers about how well students are learning can be used by students to appraise their own self-efficacy for continued learning. “Being told that one can achieve better results through harder work can motivate one to do so and convey that one possesses the necessary capability to succeed” (Schunk, 1989, p. 31).

### Summary

In summary, underachieving students share a set of common characteristics. Although underachievement patterns can be caused by factors beyond the school's control, some classroom practices (such as ability grouping and a focus on rewards) can also cause underachievement. Underachievement patterns are not fixed and can be reversed, but doing so is complex and unique to the individual student. Further, what specifically motivates a student is also dependent on the individual. There are, however, broad categories of motivation that have been shown to positively impact most students. These are experience and context, interest and goals, autonomy and choice, learning styles, and the student/teacher relationship.

## Chapter III: Methods

### Overview

As described in Chapter 1, through four case studies, this study tries to gain insight into what underachieving middle school students believe motivates them to learn. These four case studies were conducted on two teams in two different schools. One seventh grade boy and one seventh grade girl on each team were the subjects of the case studies. This design offered multiple perspectives: two perspectives per class, two genders, and two schools. To help support and validate the findings, two teachers on each team were interviewed, at least 10 hours of classroom observation were conducted, and quantitative data taken from the State of Maine Aspirations Benchmarking Initiative was examined.

This chapter will present the research methods selected for this study. It opens with a description of how the participants were selected. Next is an overview of the data collection methods used. The chapter ends by describing how the data was analyzed.

### Selection of Participants

This section will outline the participant selection process, starting by describing how the sites were chosen, then discussing the challenge to operationalize underachievement and ending with an overview of how this study defined underachievement and selected the participants.

Ethical considerations were attended to throughout the study. Typically, they involved topics of informed consent, right to privacy, and protection from harm (Fontana & Frey, 1994; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998). All participants were informed about the study through the Informed Consent Agreement (See Appendix C for Informed Consent Agreement forms). Only those volunteering to participate were involved in the study. Volunteers knew they could withdraw from the study at any time. There was no risk to participants and the study went through appropriate processes for Human

Subjects Review. Names of the sites and subjects have been changed to ensure anonymity, and taped interviews will be kept in a closed box in a locked office. After five years, the tapes will be destroyed.

### Site Selection

To manage and analyze the data, I conducted four case studies, two each from a different middle school in rural New England. The two schools, Maple Middle School and Smith Middle School, were selected for their similarities. They are located in the same region of New England. They are both regional middle schools, serving similar diverse populations. At both sites, there are approximately 100 to 110 students on a team, half seventh graders and half eighth graders. Each team is made up of a math teacher, a social studies teacher, a science teacher, and a language arts teacher. Students also attend allied arts/exploratory courses (Art, Computers, Language, Shop, etc.) and Physical Education throughout the week. Both sites have four other similar teams and a total of 500 to 550 students. They have similar percentages of free and reduced lunch recipients (approximately 33%). Both schools have been working on implementing Middle Level Education practices for more than five years and their faculty represent a variety of instructional approaches from the traditional to the progressive. The similarity and variability between the participating schools will help to strengthen the explanatory power of the case study data gathered.

Approval was sought from both the principal and superintendent in each district. Only then was a single team selected at each school. Teams were selected by a combination principal recommendation and teachers on the team volunteering. As part of the process, all concerned were made aware of the focus of the study, understanding that I would interview two of their students, conduct classroom observations, and interview two of the teachers. The teams agreed to help me select student participants and allow me to observe in their classes. Additionally, two teachers on each team volunteered to be interviewed for the study:

Mrs. Jacques (Math) and Mrs. Libby (Language Arts) at Maple Middle School and Miss Edwards (Social Studies) and Mr. Mack (Science) at Smith Middle School. The Math teacher at Smith Middle School declined to participate in the study and no observations were conducted in his class. Also, once the Smith Middle School student participants were selected, it became evident that it was appropriate to work with the Gifted and Talented Language Arts teacher as well as the regular Language Arts teacher on the team. The Gifted and Talented teacher agreed to participate.

### The Challenge To Operationalize Underachievement

The next step in the process was to select student participants. On the surface, identifying underachieving students seems straight forward. By definition, an underachieving student is one whose performance does not live up to his or her potential. Traditionally, evidence of potential performance has included standardized achievement test scores, scores on tests of general aptitude, or other objective and subjective indicators of potential academic performance, including observations by education professionals. Evidence of actual performance has included test scores, grades, portfolios, exhibitions, demonstrations, and observations by education professionals.

Unfortunately, this definition is much less clear than it seems. Few people can agree on exactly what “underachieving” means, and underachievement often seems to be in the eye of the beholder (Delisle & Berger, 1990; Ford & Thomas, 1997). Ford (1996) noted that underachievement can be measured using any number of criteria and instruments, and few studies have used the same definition of underachievement. Rimm (1985) describes the confusion that grows from trying to operationalize underachievement.

What is your child’s ability level? If he has been underachieving in class, and an IQ test indicates he is gifted, the teacher undoubtedly will be surprised. “He doesn’t act like a gifted child,” she will exclaim. If the underachievement pattern continues through middle school or high

school, even an individual IQ test is less likely to show previously registered ability. You may be told that his gifted abilities are gone or that your goals are unrealistic and that you are pressuring your child. Abilities do not disappear, but we have no real way to test those. The measures we do use are confounded by school achievement. Although, on the average, IQs remain relatively constant, for any one child, an underachievement pattern is likely to have a depressing effect on his or her IQ test score. So how do you determine your child's ability?

What about school performance? Are gifted children who are getting As working up to their abilities? Sometimes, but not always. Schools rarely challenge these children. If very bright children attend a school with a high-IQ population, work hard and responsibly, but receive Bs and Cs, are they underachieving? What about the capable child whose school performance varies dramatically with his or her teacher? Is it a teacher problem or a student-underachievement pattern? Is the child who was an A student in elementary school but who becomes a C student in junior high beginning an underachievement pattern? (Rimm, 1985, p. 50)

And there are epistemological problems with using testing for ability and standardized achievement. Both ability and standardized achievement instruments measure performance since both types of tests are shown to test the same construct (not related but different constructs). Gould (1996) shows how IQ testing grew from invalid assumptions and procedures. Further, that single construct is limited in areas of intelligence it measures. These tests don't measure, for example, how well students can apply the information they have acquired to a novel situation. The tests tend to focus on verbal and mathematical processes, rather than other types of communication, general problem solving, or creativity and design. Implicit in the measures of ability and achievement is the assumption that the



overarching (and most appropriate) goal of public education is to accumulate facts and to have certain verbal and mathematical prowess. These are not bad aims, unless they are exclusionary, as they are in ability/achievement testing.

Much of the work around underachieving students has focused on identifying gifted students, but underachievement can impact the interests, attitudes, and academic self concept (Bloom, 1977) of any child. This can lead to abilities in students going unrecognized or being ignored, resulting in denial of opportunities or, worse, a negative impact on the student's natural curiosity or love of learning (Emerick, 1992). In other words, students who underachieve may never be identified if only traditional measures are used.

There is an alternative path to identifying underachieving students: use teacher recommendations (Rimm, 1984) and then see if the recommended student demonstrates characteristics common to underachieving students (Ford, 1996); this is the strategy of "theoretical sampling" (Glaser & Strauss, 1967), or sampling "based on the basis of the evolving theoretical relevance" (Strauss & Corbin, 1990, p. 179). Stake (1995) points out the "first criteria" for case study researchers is selecting cases to maximize what he calls the "opportunity to learn" (p. 6).

### Participant Selection

The plan for selecting individual participants in the study was to select one male and one female seventh grader from each school. The process was a two tiered process of theoretical sampling. At first, teachers were asked to "nominate" students who "seem fairly bright, but don't do well in school, or for whom school doesn't seem to work." In the pilot study (Muir, 1998a) for this research project, students and teachers readily recognize and accept this definition.

The four teachers on the team all agreed that Andy and Mike fit that group. Further, Andy and Mike both readily recognized themselves as part of that group. In fact, when I first talked with Andy, I said, "I'm

studying students who are fairly bright, but...” and he quickly interrupted me and finished with, “...but don’t like school much.” Mike did the same thing, but finished my sentence with, “...but don’t do well in school” (Muir, 1998a, p. 28).

Rimm (1984, 1986, 1988) also argues that a “hunch” by parents or teachers (someone who knows the child well) that the student should be doing better in school is a valid first step in identifying underachieving students.

The second tier of the selection process involved seeing if the nominated students demonstrated characteristics common to underachieving students. The original plan was to synthesize a list of characteristics from Ford & Thomas’s (1997) list of characteristics of African American underachieving gifted students, Rimm’s (1986, 1988) Achievement Identification Measure, and Scales’s (1996) 40 Developmental Assets, each discussed in Chapter 2. When I tried to compile them, however, Rimm’s list was really geared toward parents and had many items that teachers would have no way of knowing. Scales’s list was similar to Ford & Thomas’s, but Ford & Thomas’s seemed the most comprehensive, so it was selected. It was based on research conducted on underachieving gifted African American students. I created the rating chart for this study by starting with all the characteristics on Ford & Thomas’s list, then removing those that were specific to minority students. The completed characteristic chart contained 32 items (see Appendix D) on which I asked teachers to rank the students nominated in the first tier of the process. They used a Likert scale (1 - strongly disagree to 5 - strongly agree) to rate the degree to which they believed the student displayed that characteristic. They gave a rating of zero when they weren’t sure or didn’t know.

At Smith Middle School, the team leader was unavailable, so another teacher took the characteristic rating chart and worked with the remaining teacher during their planning period when I was not present. They nominated and rated two boys and two girls. At Maple

Middle School, I joined the team during a team meeting (students were at their allied arts classes). Teachers came quickly to consensus on nominating five students and then added a sixth since there were only two girls and three boys. Then we rated each student for each characteristic. The four teachers came to consensus on a rating before I entered it on the chart.

The number of 5s, 4s, 3s, 2s, 1s, and 0s received were counted for each student. I focused on the number of 4s and 5s (agree and strongly agree) each student received. It wasn't necessary for a student to get mostly 4s and 5s on the 32 items, since that would imply that they demonstrated most of the characteristics of underachieving students. The number of 4s and 5s was simply an indication of the degree to which students demonstrated some of the characteristics of underachieving students. Many of the low scores, in fact, came from home life items. Either they received zeros (the teachers didn't know about the student's home life) or they received 1s (teachers perceived the student's home life was "normal" or had few risk factors). There were sufficient 4s & 5s in the four students nominated at Smith Middle School (mean = 10.25) and the six nominated at Maple Middle School (mean = 10.5) to add confidence to the teachers' nominations that these were underachieving students.

One boy and one girl were then randomly selected from each school's list. The students were approached to see if they were interested in participating and to get contact information so I could reach their parents about informed consent. The first boy at Smith Middle School declined to participate, but the second boy agreed. Parents were informed about the purpose of the study and that I wished to interview their child. It was made clear to both the parents and the students that participation was strictly voluntary and that students could withdraw from the study at any time or choose not to answer any of the interview questions. They were also assured anonymity and that names would be changed. In the end, parents granted consent and students assented: Cathy and Eric at Maple Middle School, and Doris and Ben at Smith Middle School.

### Data Collection

This study is a “theory building” study designed to explore what students think. Erikson (1986) noted that interpretive designs are used when research takes place in natural settings and researchers want to know more about meaning-making and the points of view of particular people in particular settings. Therefore, it makes sense to work from the perspective of grounded theory and other inductive approaches (Spradley, 1980).

[Grounded theory is] inductively derived from the study of the phenomenon it represents.... [I]t is discovered, developed, and provisionally verified through systematic data collection and analysis... Therefore, data collection, analysis, and theory stand in reciprocal relationship with each other. One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that study is allowed to emerge. (Strauss and Corbin, 1990, p. 23)

This kind of research, specifically grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990), requires qualitative methods of data gathering and analysis. The core data for this study comes from student interviews. Confidence in that data comes from careful attention to the accuracy of the data collected and from triangulating data to other methods, sources, and investigators (Stake, 1994; Janesick, 1994; Lincoln & Guba, 1986; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998). “Without subjects’ quotes to enrich and confirm researchers’ analyses, or interobserver cross-checking to lend greater credence to their representations, some observers have had difficulty legitimating their work to a scholarly audience” (Adler & Adler, 1994, p. 381). The credibility of the participants’ expressed views will be validated by triangulating interview data with classroom observations, teacher interviews, and quantitative data from the Maine Aspirations Benchmarking Initiative.

### Student Interviews

Data collection involved a series of formal and informal interviews (Seidman, 1991). Consistent with the use of qualitative methods, interviews are intended to provide an inside view (Erikson, 1986; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998), in this case, into the participants' beliefs about what motivates them to learn. Interviews were selected over surveys because surveys often limit the response from participants. "The question must be asked person-to-person if we want it to be answered fully" (Fontana & Frey, 1994, p. 374). Further, surveys give the participants little or no power in the construction of accounts about them, and no avenues into the corridors of knowledge-production power.

A combination of structured and unstructured interviewing was used.

[Structured interviewing] aims at capturing precise data of a codable nature in order to explain behavior within preestablished categories, whereas [unstructured interviewing] is used in an attempt to understand the complex behavior of members of society without imposing any a priori categorization that may limit the field of inquiry... the desire to *understand* rather than to *explain*. (Fontana & Frey, 1994, p. 366).

The prepared questions for the interview were both unstructured and structured. The unstructured questions did not suggest any particular motivator, and the structured set was based on what the literature suggests motivates students. I asked the unstructured questions first to avoid the possibility of the questions suggesting motivators biasing participants' answers to the unstructured questions. Below are some sample questions (see Table 3.1).

The interview guide approach (Patten, 1990; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998) was used in conducting interviews with each subject. Students were interviewed separately, at school, away from other people and distractions. Originally two

interview sessions were planned, but time allowed both interviews to be completed at one sitting.

Interviews were audiotaped to preserve the exactness of the participants' words in describing their experiences and the meanings they attributed to them (Erikson, 1986). Transcripts were typed from the tape (see Appendix E for a sample transcript), and were double-checked by reviewing a draft of the transcript while listening to the tape. Transcripts were also given to participants to check the accuracy of their views, to delete portions they were uncomfortable with, and to give them the opportunity to add anything they didn't think of during the interview.

To improve my confidence in their responses, I used follow-up and probing questions to expand on and clarify their answers until I was sure I knew what the participants meant (Taylor & Bogdan, 1984). Below is a piece of the transcript from the interview with Doris. It illustrates how follow up questions were used to clarify the participants' meaning:

R: Describe a good class or teacher that you have now or have had in the past. What made them good? You don't have to use names if you don't want to.

S: I had a teacher before. And she wasn't like the other teachers. She told me exactly what I had to do and she didn't... she didn't.... She expected more than I would usually do for the other teachers. And she... she just expected more from me and she made me learn more from doing more than others.

Table 3.1: Student Interview Questions

Question Type	Question
Unstructured	<ul style="list-style-type: none"> <li>• Think of a good learning experience. What made that a good learning experience?</li> <li>• Describe a good class or teacher that you have now or have had in the past. What made them good?</li> <li>• Help me out. Imagine that the State of Maine came</li> </ul>

	<p>to you and asked you how to design courses and units so that you could really learn well. What would you tell them?</p> <ul style="list-style-type: none"> <li>• What's the one thing you would change about how your classes are taught or how your teachers teach that would help you to learn better?</li> <li>• What's the best part of school?</li> </ul>
Structured: Interests	<ul style="list-style-type: none"> <li>• How do your teachers try to tie into your interests?</li> <li>• How do your teachers try to make school interesting to you?</li> <li>• What's your favorite subject? Why? What makes it interesting to you?</li> </ul>
Structured: Autonomy, Choices	<ul style="list-style-type: none"> <li>• How do your teachers give you choices and let you help in class decision-making?</li> </ul>
Structured: Context, Useful, Important	<ul style="list-style-type: none"> <li>• How do your teachers try to help you see how course content is useful or important?</li> <li>• How do your teachers show you the connections between the classroom work, the surrounding communities, and the world beyond the community?</li> </ul>
Structured: Goals, Preparation For Future	<ul style="list-style-type: none"> <li>• How is school preparing you for what you want to do when you get out of high school?</li> <li>• How is school preparing you for your future?</li> </ul>
Structured: Learning Styles	<ul style="list-style-type: none"> <li>• What is your reaction to the following statement? How does it match your experiences as a learner?</li> </ul> <p>I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them. (Papert, 1996)</p>
Structured: Efficacy	<ul style="list-style-type: none"> <li>• How do your teachers help you to successfully learn new material? How do they help you feel like you are capable of doing the work?</li> </ul>

R: You said she told you exactly what to do...

S: She told me exactly what to do and she told me... and she knew what my expectations were and so she...

R: So when you say she told you exactly what to do, you mean....

S: She told me...

R: ...what the expectations were...

S: Yes. She told me what *I* had to do. Because that's what I...

R: But she didn't necessarily tell you step by step....

S: She didn't tell me step by step, but she would... she would know what I was capable of doing and so she didn't let me get away with just slacking off.

Here is a part of the interview with Ben. In addition to providing another example of how I used follow up questions to clarify meaning, it illustrates how I attempted to be thorough in pursuing the participant's perspectives by repeatedly asking if there were other ways he would want to answer the question.

R: Are there other ways they try and make school interesting to you?

S: I think... They try to do things that we'd like to do. But they never... they just assume that we're going to like something is the problem. It's like, "Well, I liked this when I was a kid, so they have to."

R: So the problem is that they make some assumptions, and they may be good ideas, but they never bothered to ask you guys.

S: It's be better, maybe to have a survey, or something.

R: Or if they involved you somehow in deciding.

S: Or they asked.

R: Any other ways that they try and make things interesting?

S: I can't really think of any.

### Observations

Classroom observations helped to contextualize and validate what was learned from the student interviews. This data assisted in making sense of the self-reported information provided through interviews. "Observation alone does not reveal to us what people are trying to accomplish or why they act as they do. Furthermore, interviewing may not lead us to the underlying dynamics in cases unless we are armed with advance knowledge..." (Whyte, 1984, p. 94). Observation helps enhance transferability and contrastability (Guba



& Lincoln, 1982; LeCompte & Preissle, 1993). There was one whole day classroom observation during the participant selection process. This focussed on getting acquainted with the teachers' classrooms and having the students start to become accustomed to my presence. Once primary participants were selected, I conducted a second whole day observations of the participants as they went through their regular class schedule on a typical school day. Observation days were arranged with teachers in advance, but the student participants were not informed prior to my being there. Teachers understood that they could request that I not observe any particular period on a day I was conducting observations.

Detailed field notes were recorded during observations (see Appendix F for sample field notes). Following a shadow study format (Lounsbury & Clark, 1990; Lounsbury & Johnston, 1985, 1988; Lounsbury, Marani, & Compton, 1980; Lounsbury & Marani, 1964; Stevenson, 1992 ), and using a preformatted table on a laptop computer, I recorded observations at five minute intervals. Typographical and spelling errors in field notes were corrected shortly after the observations . As soon as possible after observations, notes were reviewed and theoretical memos written as a means of capturing holistic impressions of the student and his or her relationship to the learning environment (Glaser & Strauss, 1967; Sanjeck, 1990; Strauss, 1987; Strauss & Corbin, 1990). Observation notes and theoretical memos can be used to gain deeper insights into what motivates these students to learn.

### Teacher Interviews

To gain further confidence in what I learned from my young participants, I interviewed two of their teachers at each school. These interviews were taped for data analysis. They were loosely structured, allowing the interviewer the flexibility to be thorough in uncovering the teacher's issues and perspectives. Questions for each teacher's initial interview paralleled the student interview questions. Unstructured questions did not suggest any specific motivator. Most structured questions were suggestive of the literature on motivation. Two questions dealt with teacher efficacy. (See Table 3.2)

As with the interviews of the primary participants, I worked from an interview guide, but also asked clarifying or probing questions, or developed new questions as participants' responses suggested new directions for inquiry. As with the student interviews, transcripts were made shortly after the interview and a copy given to the teacher for review. The teacher was free to remove or add anything to the transcript. This step added trustworthiness to the data collected.

#### Maine Aspirations Benchmarking Initiative Data

The Maine Aspirations Benchmarking Initiative is a project directed by the UMaine/Maine Principals' Association Research Partnership, in collaboration with the National Center for Student Aspirations, the University of Maine College of Education and Human Development, and the Maine Department of Education. It will, among other things, survey the entire population of grade 6-12 students—more than 105,000—in every Maine public school, and produce a database portraying the status of student aspirations in Maine and the factors that foster or impede their development. (National Center for Student Aspirations, 1998).

Table 3.2: Teacher Interview Questions

Question Type	Question
Unstructured	<ul style="list-style-type: none"> <li>• You know I've been observing some of your students. What motivates those students? When do they learn well? What are their interests and goals?</li> <li>• Dealing with students who don't seem interested in learning can be a real challenge. What are some of the things you try to do to reach these students?</li> <li>• What makes it hard to reach those students?</li> <li>• How do you tap into student interests?</li> </ul>
Structured: Motivation	<ul style="list-style-type: none"> <li>• How do you tap into student interests?</li> <li>• What kinds of choices do you give students and what kinds of decisions do you let them make?</li> <li>• How do you help students prepare for their goals for the future?</li> <li>• How do you try to show students that course content is useful and important to them?</li> <li>• How do you help underachieving students feel they can be successful in your classroom?</li> <li>• How do you help build the confidence of underachieving and unmotivated students?</li> <li>• What is your reaction to the following statement? How does it match your experiences as a learner?</li> </ul> <p>I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them. (Papert, 1996)</p>
Structured: Teacher Efficacy	<ul style="list-style-type: none"> <li>• To what extent do you agree with the statement "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment"?</li> <li>• To what extent do you agree with the statement , "If I really try hard, I can get through to even the most difficult or unmotivated students"?</li> </ul>

With the help of the National Center for Student Aspirations, this study pulled the survey results from the Aspirations Benchmarking Initiative for Maine's seventh grade students. According to the National Center for Student Aspirations (personal correspondence, Feb. 7, 2000), a total of 208 schools (representing students in grades 6 through 12) had completed the survey. As of 1998, there were 241 schools in Maine with seventh grade students and 113 of those had completed the survey. I was supplied with descriptive and frequency data for all seventh graders ( $N=7132$ ) who completed the survey. The data reflect the perceptions of all seventh graders who completed the survey, not just underachieving students.

Of special interest to this study were the school/education belief statements which students were asked to rank on a Likert scale. For the Aspirations Benchmarking Initiative survey items, lower scores indicate greater agreement as the scale used ranged from 1 (strongly agree) to 5 (strongly disagree). Only the belief statements that relate to the five categories of motivation discussed in Chapter 2 were used in this study (e.g. "What I learn in school will benefit my future," "Teachers help me to succeed," and "I have opportunities to decide for myself what I want to learn in school"). Most survey items fit in the motivation categories of Interest & Goals and Student/Teacher Relationship. Very few questions fit in the categories of Experience and Context, Autonomy and Choice, and Learning Styles.

### Data Analysis

The goal of analysis was to discover common themes in what seems to motivate these underachieving students, to organize this information, and to build a richer theory about what motivates this population. The data from the interviews and observations was printed with large margins, then read multiple times, coding openly (Strauss & Corbin, 1990; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998). Based on their interest in the research question, eight undergraduate Education majors, all juniors and seniors taking one

of their last Education courses before student teaching, volunteered to be research assistants for this study. They were trained in issues of confidentiality and in coding transcripts and field observations. Data from interviews and observations was analyzed independently by several research assistants and myself, providing another layer of confidence in the findings (Lincoln & Guba, 1985; Glesne & Peshkin, 1992). In addition to adding to the trustworthiness of the conclusions, these added measures helped to produce a fuller understanding of the motivational phenomena being studied (Bogdan and Biklen, 1998).

We used the constant comparative method (Glaser & Strauss, 1967; Strauss, 1987) to independently analyze the data from the interviews and observations. Special attention was given to the participants' personal perceptions of what motivates students to learn. Lines and paragraphs received as many codes as were suggested by their content. New codes were developed as themes emerged from the data. Throughout analysis, each researcher was alert to their own biases, repeatedly asking him or herself, "Is this what they meant? Can I back it up from the interview transcript or from my observational field notes?" In addition to myself, between five and eight research assistants coded each student interview, and three research assistants coded the teacher interviews and classroom observations. Final coding of each transcript or observation was arrived at by consensus with myself, as the lead researcher, and all the research assistants who had also coded that particular document (Glesne & Peshkin, 1992; Bogdan & Biklen, 1998).

To synthesize the results, two charts were made summarizing the interviews by question asked. One chart was for the student interviews, the other for teacher interviews. Next, passages from interviews and classroom observation field notes were organized by their codes (Strauss & Corbin, 1990; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998) and appropriate aspirations survey data was added to categories. Frequency tables were used from the Aspirations Benchmarks Initiative survey results. Ones and 2s (strongly agree and agree) and 4s and 5s (disagree and strongly disagree) were each collapsed into a single frequency category. Conclusions were drawn by reflectively examining patterns in

the synthesized data (Strauss & Corbin, 1990; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998). Chapter 4 presents these results.

## Chapter IV: The Results

This study explores what underachieving middle school students believe motivates them to learn. The insights of these students will add to the discussion of how to help all students learn well and achieve to higher standards. This chapter presents the results of the study, beginning with a discussion the transferability and generalizability of the results, then a description of the schools, teachers, and students who participated in the study, including a discussion of what each student believes motivates him or her to learn. The chapter ends with a synthesis of the data centered around eight key motivational themes.

### A Note About Transferability and Generalizability

There are two key questions that often interest users of research when they review a study: “Are the data reliable and valid?” and “Are the results generalizable?” The first questions the trustworthiness and credibility of the data. The second ascertains if the conclusions of an educational study pertain to other students. Reliability, validity, and generalizability are central assumptions of quantitative research. Reliability and validity are guaranteed by proven statistical analyses of the data collection tools and the data themselves, as well as a strict adherence to the experimental model. Generalizability is guaranteed by the use of random sampling of participants and random assignment to treatment or control groups.

Qualitative studies often raise questions of transferability and generalizability of results. In this study, for example, the sample is small, numbering far fewer than the minimum of 30 desired in experimental samples or the 100 minimum for descriptive studies (Fraenkel & Wallen, 1996), and participants were not selected randomly. The sample is also narrow: it selects middle school students over those in elementary or high school, and students from rural, central New England, rather from other possible demographic regions. Further, the use of case studies, interviews, and observations are subjective data collection and analysis methods falling far from the experimental model.

On what basis can the results of this study be transferred or generalized? One response is to explore relativism and the tenuous relationship between individuals and the population as a whole. How much do individual stories tell us about people in general? To what degree are the individuality of their stories a distraction from identifying generalities of the human condition? Are generalizations a distraction from finding complexities in human nature? To what degree are the individuality of their stories doorways into significant properties and principles? Are these stories descriptions of random events or are they windows to other patterns? Generalizability is a tenuous condition, but case studies are more than interesting stories in isolation. They help build a richer theory by raising nuances and illuminating ways the theory needs to be expanded.

Another more powerful response is to explore the variety of sources that contribute legitimate transferability and generalizability to the conclusions of qualitative studies. One of those sources is complexity theory (formerly referred to as chaos theory). Complexity theory describes how there is order within complex (and often seemingly chaotic and random) systems (Gleick, 1987). Complexity theory searches for the underlying patterns hidden within “random” or “unpredictable” events.

LeCompte (1993) argues that two fields of complexity theory are important to the social sciences. The first is “stable, aperiodic order, which describes phenomena, like cycles of weather, which are locally unpredictable but globally stable” (p. 23). That is to say that we cannot predict what will happen on any one day in any one location, and that day’s weather will be unique from any previous day. However, weather operates within some tightly bounded and well-defined parameters, and each individual day, despite its unpredictability, tells us something about those patterns. Learning and motivation theory may fall within this category since, although we may not be able to predict what exactly will motivate any particular student at any particular moment, clear patterns emerge when the ongoing phenomena are studied.



The second area of complexity theory is fractal order. Best known for its snowflake-type images and Mandelbrot art, these complex shapes are created by repetitions of simple designs. The simple mathematical rules on which they are based are hidden within the complexity of their forms. Case studies, such as this one, provide an opportunity to search for those underlying patterns by changing the researcher's perspective from breadth to depth (LeCompte, 1993).

Perhaps even more basic than exploring complexity theory is understanding the role of case studies in theory-building studies. Theories grow from the patterns we see between various cases, so at one level, the case studies of theory-building studies are presented to the reader, not as the theory, but as another case to be compared to the reader's own wealth of personal experience. The reader is to decide whether the results from each case (as well as my conclusions in the next chapter) match their own interpretations and personal theories. In the end, it is up to the reader to judge the generalizability of this study.

The author can help the reader, however, by providing a thick narrative of the data collected (Janesick, 1994; Lincoln & Guba, 1986; Glesne & Peshkin, 1992; and Bogdan & Biklen, 1998). That data was collected from multiple methods: informal conversations with students and teachers, student and teacher interviews, classroom observations, and a state-wide survey. The data from those sources were blended into the rich description of the schools, teachers, and participants presented in the next section. The data from multiple sources were categorized into seven motivational topics, and the final section in this chapter presents what was learned about each category. Within each topic, the thick narrative comes from sharing the participants' ideas and words, and examples from the interview transcripts and observation field notes, and statistics from the Aspirations data. These multiple sources either confirmed findings or revealed differences of perspective, adding to the strength of the study.

### A Note About Transcript Quotes

Interviewees and I discovered, when we read their transcripts, that spoken language does not follow the same patterns as written language, and that spoken language often seems much less clear when it is reviewed in print than when it was originally stated in conversation. Participants often misspeak in ways that meaning is clear during conversation, but confusing when reading the printed transcript. Several participants were even concerned about “sounding stupid” when they reviewed the transcript. Exact quotes from the interview transcripts, however, are vital to the rich descriptions of case studies, since they preserve the participant’s exact words for the reader. Reading those transcript quotes aloud can sometimes help make their meaning clearer.

For this document, I did occasionally edit quotes from interview transcripts for clarity. Those edits were limited to omitting irrelevant opening phrases, false starts to sentences, or the researcher’s side comments, and changing verb tense when it didn’t match the rest of the sentence. Edits were made only when not doing so would interfere with the meaning of the passage, and were never made when they would change the content, context, or meaning of the participant’s words.

When a quote includes an interaction between the participant and me, my words are indicated by a leading “R:” (researcher) and the participant’s words are indicated either by a leading “S:” (student) or “T:” (teacher). No leading indication is used if the quote reflects the words of the participant only. Unlike quotes from journal articles and books, ellipses are used in these transcript quotes to indicate that the speaker paused briefly instead of part of the quote being omitted.

### The Schools, Teams, and Student Participants

As stated in the last chapter, Smith Middle School and Maple Middle School share many similarities. They are regional middle schools serving 500-550 seventh and eighth grade students. Those students are divided into five interdisciplinary teams, each with a math

teacher, social studies teacher, language arts teacher, and science teacher. The four classrooms of each team are located in the same general proximity and, other than for lunch, physical education, and allied arts classes, students remain in that one general part of the school building for the entire day. What follows is a description of each school and the teachers and students who participated in this study. Descriptions of the school, individual classrooms, and anecdotes come primarily from informal site visits, classroom observations, and the field notes. Participants' words, thoughts, and perceptions come mostly from informal conversations, and interviews. Although this section does not share everything each student said about motivation, special attention is given to the motivational themes that emerged for each student. To aid the reader, below is a chart summarizing what each student participant believes motivates him or her to learn.

Table 4.1: Summary of What Motivates the Participants

<p><u>Ben</u></p> <ul style="list-style-type: none"> <li>• Teachers with a positive personality</li> <li>• Fun</li> <li>• Teaching activities which simulate real world activities.</li> </ul>	<p><u>Doris</u></p> <ul style="list-style-type: none"> <li>• Teachers who push her a little</li> <li>• Clear expectations</li> <li>• Repetition</li> <li>• Lockstep teaching is too slow and too boring</li> </ul>
<p><u>Eric</u></p> <ul style="list-style-type: none"> <li>• Teachers who are positive and nice (grumpy teachers are a downer)</li> <li>• Learning subject matter he perceives is useful</li> <li>• Active, hands-on learning</li> <li>• He likes teachers who review, clarify, and model</li> </ul>	<p><u>Cathy</u></p> <ul style="list-style-type: none"> <li>• Fun</li> <li>• Having a good relationship with the teacher</li> <li>• Doing things (bookwork is boring)</li> <li>• Thinks she learns best auditorily</li> </ul>

### Smith Middle School

Smith Middle School serves six towns in rural New England. The turn-of-the-century building sits atop a hill, and used to be the town high school. The 550 seventh and eighth grade students are divided between five interdisciplinary teams and remain on the same team for two years. I have worked closely with the teachers at Smith Middle School for many years: I previously taught at the school and, more recently, have worked with college students placed there for field experiences. The middle school students were accustomed to seeing me both visiting teachers and conducting observations. Smith Middle School is where the pilot study was conducted, although it was done with a different team.

Each team has four teachers who, in addition to his or her core subject, also teach reading, and activities. On each team, the students are divided into two seventh and two eighth-grade classes. There is a five day rotating schedule, generated by the team. Daily, students go to exploratory (art, music, foreign cultures, health, careers, or shop) and twice a week to physical education. The teachers on each team use those times for individual and common planning, and meeting about students. Classes are heterogeneously grouped. Most special needs students remain in the regular classroom with pull-in assistance, but a few leave certain classes for special services in the resource room. There is also a pullout Behavior Program and a Severe and Profound Program. In both those programs, students are mainstreamed on a limited basis.

At Smith Middle School, I worked with Ben and Doris on the Wolf Team.

### Mrs. Dennis, Language Arts

Mrs. Dennis is the Team Leader of the Wolf Team and teaches language arts. In her large classroom, her desk sits at the back of the room near the door. Student papers and bulletin board displays line the walls. Student desks face each other in two rows, making two large islands of desks. Near the front of the room is the overhead and a blackboard. Mrs. Dennis works at finding ways to interest students, and uses adolescent literature,

projects, and student choice to engage them. Mrs. Dennis is motherly to her students in a serious, no-nonsense sort of way. One of her colleagues described her as the one who would know what is going on with each child, both at school and at home. Mrs. Dennis constantly works to ensure that her team is attentive to the needs of their students. Early in the participant selection process, during an informal conversation, Mrs. Dennis told me that she believed I might have a hard time finding underachieving students on the team, because much of the teaching on the team is project-based and seems to meet the learning needs of most students.

#### Mrs. Edwards, Social Studies

Mrs. Edwards teaches social studies and was one of the two teachers interviewed from the Wolf team. The seventh graders study world geography and the eighth graders study United States history. The teacher's desk, the blackboard, and class computers are in the front of the room. Student desks are arranged in a large, inverted U, with two shorter rows in the middle, allowing most students to see each other, as well as Mrs. Edwards. Mrs. Edwards was very reflective about trying to motivate students and trying to find ways to reach specific students, "It's the hardest thing, you know, that's the thing that every night, what am [I] going to do with so-and-so, or how am I going to get so-and-so to do this or [that]?"

She uses a variety of teaching strategies to keep students engaged: projects, lectures, review sheets, reading, research, and presentations. Ben says he likes how Mrs. Edwards uses a variety of activities and teaching strategies within a single period, "She keeps on varying [sic] the class. Like one minute, we'll be doing one thing and the next minute we'll be doing something totally different. That's always fun, because it's spontaneous, and it's not always the same thing, always the same thing over and over and over."

To look on the walls in her room and out in the hall, it is clear that Mrs. Edwards does a lot of project-based teaching. Student posters, timelines, and maps on a variety of

topics cover the walls: Irish Americans, Mexican Americans, African Americans, Japanese Americans, Jewish Americans, Native Americans, the Presidents, the amendments, Chinese Americans. Projects show evidence of technology use, including word processed text, and pictures from the Internet. Mrs. Edwards uses questioning as a way to help students connect to information and better understand the material.

### Mr. Mack, Science

The other Smith Middle School teacher interviewed for this study was Mr. Mack. He teaches science, and, like Mrs. Edwards, does much project-based teaching. Rather than research, his class projects focus on design and analysis. For example, while I was observing, I saw students test their egg carton bowlers, "Roller Bowlers." Mr. Mack had given students constraints on which materials to use (an egg carton, 3.5 feet of masking tape, a balloon, two straws, two Styrofoam cups with plastic lids) and on performance (traveling 5 feet). Students had spent several days planning and building their Bowlers and were ready to test them. They took them to the Gym and tried to knock down small bowling pins using their balloon-powered cars. After each trial, small teams of students were encouraged to compare the designs and performance among their cars, and to problem solve and troubleshoot any difficulties. How could they improve their cars?

At the end of that class, Mr. Mack talked with students about making the last modifications to their Roller Bowlers before the next day's final competition. The focus of his pep talk was persistence:

If you don't make changes, then you are giving up and taking the easy way out. You will not grow. If you keep making changes and try to make it work, even if it doesn't, then you will learn far more than others. The student who makes it work the first time is successful. The student who keeps making changes and keeps making it work better and better learns far more about the car and himself. Only the quitter loses. You

only fail if you give up. You don't fail if it never goes well, but you kept trying to make it work.

Mr. Mack believes that it is his job to teach students more than content. In the interview, he said, "I believe the academics is important, but it's 40-50% of the game. The other 40-50% is organizational skills, behavior skills, how to become a citizen. All of that along with education, is the education."

The room is filled with evidence of Mr. Mack's work with students. There are propeller driven straw cars and catapults hanging on the walls. The boxes containing each student's bug collection sit on a table against the wall. The room appears smaller than the other two, but it may only seem that way since it is packed full of materials, shelves, boxes, and cabinets. There are sports (mostly soccer) posters on the walls, and a few science posters. An overhead and screen sit in the front of the room. Seats are organized around five tables. There are one or two computers in the back of the room near his desk.

#### Mr. Wood, Enrichment

Mr. Wood is the Enrichment teacher for all the teams. Rather than going to Mrs. Dennis, Doris comes to Mr. Wood for Language Arts. All the Smith seventh graders who have Mr. Wood for language arts come during the first period of the day, regardless of what class may be scheduled on their team. They then often come back to his room when their team regularly has scheduled language arts. There is often another group of students in the room during that time, and the returning students simply work independently, and quietly, out of the way. Despite all the traffic, Mr. Wood has a very small classroom. The teacher's desk is in the middle of room and student desks surround it on three sides. His tiny room is richly cluttered with the tools of his teaching: shelves of books, posters and banners, video equipment and tapes sprawled everywhere, play props, lots of filing cabinets, computers along two walls, and white boards filled with notes. There are piles of books, papers,

manuals, and equipment on most surfaces throughout the room. His room is in a different part of the building than the Wolf Team.

Mr. Wood reaches students through his dry humor, by being pleasant and approachable, and by treating students like adults. Mr. Wood also uses different kinds of projects in class. When I observed, seventh grade students were working on public speaking performances. Students had selected a variety of passages to recite: the witch scene from *MacBeth*, a passage from *Black Like Me*, and “An Analysis of Scooby-Doo.” Doris’s group was performing “The True Story of Humpty Dumpty.” The eighth graders worked on projects of their own choosing. Mr. Wood said the one constraint was that the project should stretch their abilities. One group, focused on music, practiced the *Star Wars* theme on their guitars. Another group created a parody of soap operas by taking video and dubbing in their own dialog. Another group explored a proposed state bill on toxic pollution. They checked on the validity of the article and why the bill was controversial.

Mr. Wood holds high standards for his students and pushes them to do their best work. While students practiced public speaking presentations, they were given very critical comments, but done in a way that sounded very supportive. The students accepted his critiques as simply helping them to succeed and do their best, not as put-downs.

### Ben

Mrs. Edwards describes Ben as very smart and very motivated, “I have to tell you, he is motivated. His problem is organizational. He’s very motivated.... His hand is up all the time. Very motivated that way, involved, very smart, has a lot of knowledge.” She goes on to describe how Ben’s strengths and challenges can be in conflict:

T: He has a lot to offer the class, and when we do projects, he wants to get everything, you know everything that’s... all the books that are on his topic or everything, but then he closes down, because he gets way overwhelmed with what he has. I don’t think it’s a motivational thing



in his case.... And more motivational, as far as, “Okay, now you have the stuff, what are you going to do with it?” And that’s when he kind of just bogs down the written stuff that goes with it, to finish something like that.

R: ...[but] he has a lot of energy and enthusiasm?

T: He does. He likes to learn. And he’s willing to do it. But like I said, organizational, he might have his homework the next day, or might forget it. He has good days and bad days. I can tell, the minute he walks through the door, if he’s going to have a good day or a bad day. His hair’s messy, he’s just has that look.

Other teachers report that Ben doesn’t remember to bring papers or homework back to class and that he can’t hold on to things. I learned of his organizational challenges first hand. Despite his enthusiasm to be part of the study and his mother’s prompt signature, it took two copies, a week and a half, several face-to-face reminders, and two extra phone calls to actually get back the signed informed consent form.

Although built like a compact football player, this pleasant young man prefers soccer. For years, soccer has been one of his favorite things to do with his friends (in addition to playing video games, bowling, or going to the movies) and this year he is finally on the school soccer team. He brought up soccer when I asked him to think of a good learning experience. Now that he is on the team, he is putting more energy into learning all the game’s official rules and working on his skill development. He also says that making mistakes is okay there. “It was good, because every time that I did something wrong, no one really pointed out like in a rude way or something.”

He did say that his coach and teammates would still joke about his mistakes, but that was okay. One of Ben’s motivational themes is having fun and working with adults who have a positive personality. “The classes I really like are math and science, because both the

teachers will joke around, instead of always being serious and uptight.” It is important to Ben to learn from teachers with friendly personalities, who used humor in their teaching. Those personal, positive relationships were key throughout his responses to interview questions. He described classes that the teacher didn’t make fun or where the teacher was serious most of the time as “boring,” and complained that one teacher who was funny and positive wasn’t when he was teaching:

S: Well in math class, I... my teacher has a personality, but he doesn’t use it enough toward the activities, which I think that....

R: So he kind of keeps his personality separate from his teaching?

S: Yeah.

When asked what he would tell the Department of Education about how to improve learning, he said, “I would tell them to have a class that would be fun and interesting, not just to one kind of person, but to everyone.” He goes on to say:

I think I’d tell them that people in classes aren’t having as much fun as they should. I think people should... people don’t like school, they look forward to getting out and I think they should more look forward into getting into it.

Later he said:

Like I said, I like doing stuff in an environment where I can joke around and not always be up-tight... I think being with friends and ‘cause if you... you’re stuck with someone who’s just the worst person you could possibly work with in the whole world you yourself are not going to succeed, because they’ll be pulling you down. I mean I know you’re going [to] run into these people in real life, but they won’t be able to drag you down like they will if you’re in class.

His view of having fun is exemplified by his description of his favorite teacher, whom he had in fourth grade:

He would always have some sort of joke going around. Like when we had book reports, he would make it sound like he's not the one assigning it. Like it was someone from a fairy tale, if we had to one on fair tale [sic]. He'd had his own little fictional character from a fairy tale and he'd come in dressed up as that person. He once came in in drag, dressed up as a woman. With ... and he had like big red cheeks and put a blond wig on and came in and read off the paper what we were supposed to do.

Ben's favorite teacher also used a money simulation to help motivate the students. Students were paid for work they did and had to pay fines for infraction of rules. Students used the money throughout the year. They had to pay rent for their desks. "And you could buy other people's desks and they had to pay rent to you, however high you see fit. And I liked that. That was fun." They also had a class store and an auction at the end of the year. Ben liked the money simulation as a motivator and referred to another one when he described his favorite class, an allied arts course in computer applications and career education:

I think it's interesting because she lets us do role playing up there, where... and she gives us these jobs, and... we get paid. We use our check-book balancing. And whenever you do something wrong, you get charged, instead of "Oh, you have to stay and..."

Ben responded to our conversations and interviews with confidence and self-assuredness. His answers to my questions were thoughtful and quick, as if he had thought

about these issues before. One of his favorite pastimes is writing about his thoughts and making people think:

S: ... I like writing and stuff.

R: What kind of writing do you like to do?

S: Just... a lot of stuff.

R: Stories? Or letters or what?

S: I like to do more like meaningful things, that make people think.

R: So like "thought essays"?

S: Yes!

Ben wants to go to college, and although he isn't sure what he wants to study, enjoys writing enough to think that he might like to study journalism or creative writing.

### Doris

Throughout the interview, Doris was an amicable girl who was at times very confident in her answers, and other times seemed unsure of herself. When I was in any of her classes, formally observing or just stopping in, she was always friendly and quick to share information with me about the class. She is a soccer player and most of her interests revolve around sports. Her teachers attribute her lack of achievement to frequent absences. When asked what motivates Doris, Mrs. Edwards replied:

The girl. I haven't figured that out yet. She's not here a lot. She's out a lot. And we haven't really been on top of that. I have a feeling, she doesn't like coming to school. And we haven't really haven't done a lot about that and we should have.

Mr. Mack felt the same way, "She misses a lot of school, so attendance is an issue. Absences. Getting the required work. To me, she doesn't like school. School's not top

priority.” In fact, Doris was absent one of the days that I had arranged to shadow her. Her teachers also report that they don’t feel very successful in finding ways to motivate her. According to Mr. Mack, “It takes a lot to get Doris motivated. She’s very quiet.” Mrs. Edwards was especially frustrated since she is careful to use a mix of teaching strategies in order to engage as many students as she can. Mrs. Edwards:

Boy, the girl, I don’t know, because I do a variety of, I mean, today we did a work sheet, that’s pretty rare. I do lots of projects, lots of hands-on, and just very minimal work for her on no matter what we’re doing. And just can’t seem to get any excitement at all out of her.

Doris herself could not think of a good learning experience when asked. Despite this, she seemed pretty clear about what motivates her to learn. The same issues came up over and over again. She finds that the lockstep of traditional teaching doesn’t match well how she learns.

R: And what do [teachers] do that doesn’t match how you think you learn well?

S: Well, they do it so if there’s some classes they have the more people that don’t learn as well, and stuff, they do it mostly to match their needs and they only do it slow and explaining and they do it all easy. And it’s just, they give it to everybody else, and zip through and you don’t learn anything, you just know it all already and...

R: So when it’s all set up so it just works for the people who are going to have a hard time with it, then you’re left being kind of bored, nothing to do, and it goes way too slow for you...

S: Yeah. Yeah.

Doris much prefers approaches like project-based learning where she can complete the task in an individual way. She likes the Roller Bowlers and air cars of science class because she can design and build her cars her own way.

We get to build them just the way *we* want them done. We don't just copy, like, everybody else's, everything's the same. We do things differently.... Like individually you do different thing from the other person. So you don't just copy. You don't just go by a sheet and do exactly what it says. You go by yourself.

Asked how she would make more classes like science, she responded:

S: I would not hand out worksheets all the time. And we'd do more individual work than the class that does all the same work.

R: So you mean... Now when you say more individual work, you're not talking about like the Roller Bowlers where everybody was doing the same thing, they were all making Roller Bowlers, but it was individual because, everyone could make their own design.

S: Yeah.

R: And when you say everybody doing the same thing, you mean like a worksheet where everybody's answering question one and everybody's answering question two....

S: Yeah. Yeah.

R: .... and there's only one right answer... and...

S: Um um (confirmation).

At the same time that Doris likes school work which allows for multiple solutions or answers, and likes to work on things her own way, she wants teachers to be very clear about expectations. Doris's interest in clear expectations includes a desire that teachers use

repetition to make sure students understand those expectations. When asked what she would recommend to the State Department of Education, she said that she would tell teachers they should repeat a lot. “Yeah, repeat what they are saying a lot, and make it clear. And do it... tell you exactly what you have to do, step by step.”

But telling students “exactly what you have to do, step by step” doesn’t mean laying out all the work to be done, but rather making all the expectations clear. Here’s what Doris said about why her favorite teacher was such a good teacher for her:

R: So when you say she told you exactly what to do, you mean....

S: She told me...

R: ...what the expectations were...

S: Yes. She told me what *I* had to do. Because that’s what I...

R: But she didn’t necessarily tell you step by step....

S: She didn’t tell me step by step, but she would... she would know what I was capable of doing and so she didn’t let me get away with just slacking off.

Doris likes having her teachers know what she is capable of, and tailoring their expectations to her abilities. Her favorite teacher “expected more than I would usually do for the other teachers. And she... she just expected more from me and she made me learn more from doing more than others.” She sees work geared to an individual’s abilities, regardless of whether they are high or low, as fairness. She recommends that teachers design school work at different levels:

Different levels like people who work slower than others. Give them just the bare amount, as much as they can do. But still make it a little bit hard. And then making the ones that can do a lot, give them a lot of work to do. Give what they’re capable of doing. Not just everybody gets the same thing. That wouldn’t be fair.

She also likes being pushed a little:

If you get a bad grade on something, they'll push you to get it up.  
They won't just let it there.. sit there and that's all it is.. they'll push you  
and they'll tell you that you have to get it done, and sometimes, like they  
tell the whole class why it's important...

Like Ben, Doris knows she wants to go to college, but she doesn't know for sure what she would like to do for a career, although she thinks she might like to be a high school language arts teacher.

### Maple Middle School

Maple Middle School is much like Smith Middle School. It serves approximately 500 students from nine rural towns in central New England. As in Smith, students are divided into five interdisciplinary teams, each with a math teacher, social studies teacher, language arts teacher, and a science teacher. Half the students on each team are seventh graders and the other half are eighth graders. Students remain on the same team for two years. The building is newer than Smith Middle School; the main part of the school was built in 1955 and a large wing was added in 1959.

The school schedules lunch, allied arts classes, and physical education classes for all five teams, then the individual teams establish their own schedule around the remaining times. The students on the team involved in this study have the same schedule every day (except for physical education which is every other day). In addition to their core subjects, students attend an allied arts class. These include computer keyboarding, family and consumer skills, art, foreign language, and health. Students change allied arts courses every six weeks.



Although teachers report that there is lots of modification and some inclusion with pull-in assistance, most special education needs are handled through pullout programs. Some students receive resource room assistance for math or language arts. Other special needs students get the bulk of their instruction either in the Composite Room or the Behavioral Room.

I worked with Eric and Cathy on the Badger Team.

### Mrs. Jacques, Math

Mrs. Jacques is the team leader of the Badger Team and teaches mathematics. She was one of the two teachers at Maple Middle School interviewed for this study. The small space in her room is taken up with a mix of long tables with chairs and individual desks. Her desk sits in one corner. An overhead and screen are on one end of the room. The long wall perpendicular to them is filled with blackboards. The opposite wall is covered with sports posters and newsprint posters of student solutions to class problems. Calculators hang in pouches on the wall and student-created tetrahedrons hang from the ceiling. Numerous large, plastic pickle jars sit on the shelf. Each is filled with soda can pull tabs; they are trying to collect a million.

When asked what she believes makes it hard for underachieving students to learn, Mrs. Jacques says,

I just don't think that they see any value in education, in what we do. I don't think that they think it has anything to do with what's important to them. That makes it hard to convince them that it does. Because, you know how kids this age, they don't see beyond tomorrow.

She also sees lack of support from home as an issue, but in spite of these factors, Mrs. Jacques believes that she can impact student learning and motivation:

Well, I think you can just... First of all, get a personal relationship with the kids, you know. That's key. And then just do things that are interesting to them. I mean, instead of standing up front lecturing to them every single day when they're all sleeping in the classroom (chuckles)... You know, just make it exciting, so they want to participate.

The Connected Math Project is how she makes learning exciting.

T: Well, I'll tell you one thing that I try to do is use this Connected Math, because I really think that it... as long as... the more that you try to connect what they're doing to their real life and to make sense out of it, I think that really makes a difference. And all the stuff that in these books it's all about middle school kids it's all about kids that are their age that have kinds of interests and they seem to really like it, so.

R: What else does the Connected Math Program have in its favor besides kind of real life problem solving?

T: The math itself. I mean it's real high level math. I mean it's... and it's new too for seventh grade, a lot, you know a lot of times seventh grade and eighth grade are just review of everything that they've learned up to this point. But this isn't.

R: I noticed for instance that they're making data tables, and equations, and charts and graphs, Which is largely a... it's a lot of algebra stuff. Typical algebra I stuff.

T: Yup.

Mrs. Jacques had been trying for years to find materials that set math content in a meaningful context, involved problem solving and multiple representations of data, and

provided connections to the students' world and to their previous learning. Finally she found all that in the Connected Mathematics Project.

I've only used Connected Math for two years. But it's like, all of a sudden, here it is, everything that I'd been trying to do. I finally found in one thing. You know, I've always just pulling things from all over the place, to put together to.... You know... try to...

### Mrs. Libby, Language Arts

Mrs. Libby teaches language arts and was the second teacher on the Badger Team to be interviewed. Mrs. Libby's room seems larger than Mrs. Jacques's, and storage cupboards line the wall just below the windows. In the front of the room are the teacher's desk, a table, a computer, TV/VCR, and other AV equipment. Every flat surface is filled with stacks of papers, books, and other materials. Behind the desk is a white board with papers posted on it and miscellaneous notes and messages written in dry-erase marker. Throughout the rest of the room are six large lab tables. Five or six students sit at each table. The remaining two walls are covered with student papers and projects.

Mrs. Libby also plans and implements interdisciplinary units with the other teachers on the team. For the River Project, students are reading *Huck Finn* in language arts, and learning about buoyancy and boat design in science. Mrs. Libby and Mrs. Jacques are working together with students who will work in small groups to build and test real rafts on a near-by lake. The teachers will supply plywood and 2x4s, and the students have to decide on flotation, power, and how to hook it all together.

Mrs. Libby uses a variety of teaching strategies to motive and engage students. In the River Project, she sometimes reads to students from the Cliff Notes for *Huck Finn*, to help students who have a hard time with the dialect in the book. She also tries to include some sort of art, or craft, or other kind of hands-on project in each unit. In the River Project,

students make paper quilt squares which were posted on the wall to form a whole quilt. She hopes giving students a variety of activities will help keep them engaged:

Well, for example, with the Animal Farm, I have the writer's workshop, the artist's workshop, you know, if they want to do something with drama and do a voice, or something like that, and I try to give them, this is kind of the final project, about five different areas that they can choose from. If it's.... Well, I try to do that with a lot of different things. So that it isn't always just writing answers or doing true and false kind of thing.

She also makes sure that high expectations are clearly communicated:

And I try and always make sure they have a rubric so they know what the expectations are for what to be successful and to what level they choose to be successful. We're also doing a lot in language arts this year with the [state content standards], and with the [state] Assessment Portfolios, so the kids are really learning what the content standards are and the performance indicators.

Mrs. Libby believes she can impact her students' learning. She thinks she can make students forget about their home lives while in school. She says she just needs to find the "right buttons to push." She believes her relationship with students is key: "Guidance. To keep the lines of communication open, I think. I'm always here. They feel real comfortable with me, as [one student] would say, I'm not a threat (we chuckle). And to be here to offer assistance."

Mrs. Spevak, Science

Mrs. Spevak teaches science. Her room also is large. Two teacher's desks, with several filing cabinets, and a few individual chairs, and student desks at one end of the room. The rest of the room is filled with science lab tables surrounded by chairs. At the head of the room, the wall is covered with green chalkboards, a screen, and an overhead projector.

Mrs. Spevak wears a white lab coat and does many hands-on experiments with her students. One day I observed students mixing baking soda and vinegar in bottles covered with balloons; students observed what happens to the balloon and made hypotheses about what caused the balloons to expand. Mrs. Spevak constantly models what students could write in their lab reports. Another day, as part of the River Project, students were making boats out of clay and floating them in a water tank. "Your goal today," Mrs. Spevak explained, "is to build a clay boat that will float and will carry something." Students could work in small groups if they wanted to combine their clay. Once their boat was ready, they placed it in the water tank and counted how many pennies it would carry. Students were enthusiastic, celebrated other students' successes, and some students made modifications to their boats after testing them the first time.

Mrs. Spevak has an interesting way of connecting with her students. She works with students by sounding gruff and teasing playfully. Students, however, react well to her. She often speaks to them in a strict, gruff way that sounds as if she is grumpy. But students respond to her as if she had just said something very friendly or nurturing. They know she likes them and respects them. Mrs. Spevak banters with the students a little. She gives play threats to keep them in line (kids respond by smiling and doing what she asks). When students complained about an early release the next day, Mrs. Spevak responded with, "So sue me!" She is playful and flip with her students. The students appreciate her humor and are engaged in her activities and labs.

Mr. Toneman, Social Studies

Mr. Toneman teaches social studies. Blackboards line the front of his room. In front of them, are his desk, an overhead projector, a TV/VCR, and a podium. Student desks are in neat rows. A ping-pong table sits at the back of the room with student displays on it. Mr. Toneman often gives presentations and class notes, but balances it with a Jigsaw Activity, a movie, or a Jeopardy-style review game. He always adds a little information to student answers to make the review a little richer, and during a movie often offers a little background information to make sure that students fully understood what was going on. Mr. Toneman uses a strong, powerful, no-nonsense voice, like a coach, but is always respectful to the students, and never harsh. He projects an image that learning in his classroom is serious business, and students respond to the environment.

### Eric

Eric comes from a family of teachers. The family is very musical and the rest of his family each plays the clarinet, but he plays percussion. Eric is also very involved in track. His teachers recognize that he is both quite agreeable and quite bright, but aren't sure how to motivate him. Mrs. Libby reports,

He's a little charmer, you know, but he just has absolutely no interest in doing anything outside of school, no matter what it is. So I'm not sure what motivates him. We've tried everything from hands-on to reading to writing to art, it doesn't matter.

Mrs. Jacques also struggled with finding ways to motivate Eric.

You know, throughout the whole rest of the year, we just tried everything we could think of to motivate him, but.... Grades, he didn't care. I mean, it didn't matter to him what he was getting. That certainly wasn't it. Staying after school, he thought was great. He liked staying after school with us (we laugh). So that didn't work. So I think mainly

whatever worked came from home. Either loss of privileges or more privileges, or whatever.

Eric's involvement with track has been good leverage at home. According to Mrs. Jacques:

We've tried so many things with his mom and different things like that it seems like this past month or so during track season he's improved. Because she's been saying, "You want to do track, you've got to do this. You've got to do this." And I think that's one thing that's really helped him.

Mrs. Jacques also reports that one of his goals is to improve his race walking speed, and she has tried to tie her math instruction into the kinds of statistics Eric keeps on his track performance.

Well, like with Eric and the track, you know, he's.... he was telling me all about it, so I asked to see his goals and see how.... And then he was telling me about all these numbers and how all these numbers fit together with his running and his time and all that kind of stuff, so I try to incorporate all that kind of stuff. And not necessarily as a whole class lesson or if I might just be working with him, I would pull that in, you know, and relate it to the work we're doing.

Eric thinks that his teachers are nice. He likes that they all joke around quite a bit and are "easy going." In fact, positive, nice, and friendly teachers seems to be one of the most important factors to him for learning. His recommendations to the Department of Education revolve around positive teachers:

I'd tell them, have very nice teachers, 'cause I think when teachers are nice and kids gets nice parents and nice friends throughout their whole life, they are less likely to be bad so you wouldn't need to punish them as much. And I think that would help. And 'cause a lot of kids learn a lot better.

Eric also reports that school learning does not match how he learns well when the teacher is "grumpy."

Like, the teacher could be very, very grumpy. And you do not really want to be near them and you don't want to listen to them, so you just like tone them out. And then you, on other days they can be really, really nice, and you want to listen to them a lot, and you're just very attentive listening to them. Just better that way, 'cause grumpy teachers are mean, they aren't nice.

Eric believes he learns best when the instruction allows him to be active. Most of his interests entail being active and I asked him if his teachers try to tie in to his interests:

Well, yeah and... yes and no, 'cause most of the time we'll be in school, sitting down in chairs like writing, and that's kind of boring, but sometimes, like when we were doing the height of the school buildings and we were doing the height of flag poles and stuff, we were using the shadow method, and I mean, the mirror method, and using yard sticks to figure out and we went, we actually went outside to do them. And it was really fun time and the time went by pretty fast.



Eric likes, for instance, that Mrs. Spevak does lots of science labs. He says that Science and Math are his favorite subjects because they do more hands-on activities. Eric believes he remembers things better when he's active and having fun.

R: And what is it that you think is helping you to remember them better?

And helped you have a better understanding?

S: Just remember, I mean, like having a fun time and then when I remember having a fun time I try to think of what we were doing to have the fun time.

R: Are you saying that that's tied in with the being active...

S: Yes.

R: ...with the hands-on stuff.

S: (confirmation)

Eric believes he learns better when he sees a use for what they are learning in school. The good learning experience he described to me involved outdoor survival training at Boy Scout Camp. He felt he learned a lot because he knew that it could help him some day. Eric wants to go to college and become a veterinarian. Generally, he sees how school content might be useful.

Well, math you have to use a lot if you become a veterinarian, which is what I want to do, or a carpenter or just about any job, and language arts you need to know how to speak because sometimes if you're speaking improper language and you're a spokesman for something, you won't be able to get the job, because you can't speak what they wanted to say.

Eric says that his teachers try to show students how content is useful mostly by pointing out how people in different professions might use it. Even when they don't try to

show how content might connect to his community and the real world, Eric believes that it does. Even so, he doesn't think that most of what he learns about in school he will have to use in the future: "Well, we've had some work that like we had to do and we've had some work that we wouldn't have to do. Most of it is like work we wouldn't have to do in the real world." Despite this, he believes that school is preparing him for his future.

But they're still trying to teach everybody everything, so that way if we want to become a history teacher we have social studies, that will make us learn about history, mountains, geography, everything. And science, if we want to become a scientist, we have all the science stuff. Language arts, we learn, if we want to become a businessman, we know how to do the proper English. In math, just basically prepares you for everything. Because math is everything.

Eric maintains that, generally, school work matches how he learns well. He also believes school work comes easily to him, perhaps, he says, because he is used to it.

### Cathy

Cathy is very pleasant, likable, and friendly. She made a point of waving and speaking to me whenever I was in the building, even when it was inappropriate, such as during a lesson. She moved from Virginia to this area during the previous summer. Even though most of the year has gone by, her teachers don't feel they know her well. Part of the problem, according to Mrs. Jacques, is how quiet Cathy is, "she's very, very quiet and sometimes, you know, she's one of those kids that's so quiet, you almost forget that she's in the room." Also, Cathy is the oldest of seven siblings and often has the responsibility to care for them, sometimes missing school to do so. According to Mrs. Libby:

With Cathy, I think that she wants to do well with school. I think a lot of it has to do with not always being here. And with what she has to

do with home. I think she's the oldest siblings and has a lot of responsibility at home. She seems interested in anything and everything we do, but to get the follow through from what might be started in class and become homework and then has to be turned in in a day or two doesn't often come back.

Cathy isn't sure what she would like to do after high school. Cathy may not have thought much about her aspirations, but her responsibilities at home have clearly impacted her.

I really don't know. Like for the job shadowing day that we did, I picked going to interview a preschool teacher. And I found that most joyful, because I liked talking to little children and helping them and baby-sitting, 'cause that's what I do, and I mean I like teaching preschoolers. It's fun. It's challenging in a way, to try to get them.... I guess that's all.

Cathy's interests are typical of many teens: she likes to listen to music (mostly "boy bands") and to read teen magazines. She doesn't see teachers tying content or instruction in much with her interests.

They... I don't think they really try tying into our interests. They just teach what has to be taught. Even... I have heard some people comment, like, from the teachers comment that they hate teaching what they have to teach because it is so boring, and it's just like a lot of work, but you know...

She does feel, however, that her teachers are doing a good job and trying their hardest. She feels, for instance, that what they are teaching will help prepare her for her future.

Just... You're going to need to know a lot of stuff when you grow up, especially with like the bills and the... buying a house or something... just, the politics and government and stuff, you're going to need to know your history to... in your... and what you're learning now to be successful when you grow up.

Although she sees what she's learning as preparing her for the future, she doesn't really see how it relates to the world she lives in.

I... really don't see any connections, except the government, of course, and.... I don't know. Maybe like writing maybe one day you'll decide to be a writer. And you're going to need to know how to write correctly, and not write some junk or something.

She doesn't like a lot of reading and writing assignments and would enthusiastically recommend to the State Department of Education, "Less book work!" Cathy also indicates that she feels overloaded with work and feels that the workload is "outrageous."

R: What makes it outrageous, just the amount?

S: Yeah. I think the amount, because we did, like every couple days we would do a different essay, and that's just like, "we're not finished!" (can't make out next phrase). And then the reading is just like, I guess it 'cause it's because of the class I'm in, but she'll assign maybe 19 through 23 or something and it's like 60 some pages or 30 some pages and it's like what? One or two nights, it's like a lot of reading for me. I think, one day last week, before I left, Tuesday, we did... we

made little quilt patterns for the book and it was.. neat, I like to draw some and a lot of hands-on things.

Cathy seems to think that the relationship with her teacher is important to her learning. Her favorite learning experience was her grandfather teaching her how to fish, and what she valued was the one-on-one attention and assistance she got from him. Similarly, she describes the relationship with her favorite teachers as the key to her success in that class. Cathy says her favorite teacher leveled with her, was personable, helped her succeed, and gave one-on-one help.

Cathy also said that her favorite teacher made learning interesting and fun. She would ask the Department of Education to tell teachers to use “more fun activities” and she likes doing hands-on assignments and finds them easier to complete. Cathy did describe some of the essays that her favorite teacher assigned as being fun, but not the essays she was writing in seventh grade. I asked her about that:

R: When you said, “making it fun,” you talked about your other teacher who also gave essays, but she made them fun. What was different about the two?

S: Well, it was more like one or the other you’d have to give subjects you have to write about, but when we got to draw pictures or something to go with the essay and we took time to correct them, like I say, like one-on-one with the teacher just correcting *your* essay and not someone else’s. And you actually learned from those mistakes, ‘cause I think I improved some over the school year by correcting with her. And...

R: That was because of the one-on-one time?

S: Yes. Yes.

So a “book work” style assignment like writing an essay was more palatable to Cathy when some choice was involved, there was an opportunity to do some hands-on work, such as art, and when she got some individual attention and assistance from the teacher. She also feels she learns well when doing projects, partly because of the activity nature of the assignment, but also because of choice:

R: How do you think you learn well?

S: I learn well from listening and projects and stuff, I guess.

R: Projects, you said?

S: Yes. But I like to pick my own subject for projects, like my own, like for language, or whatever, like a bio for my own person, I like to pick, and sort of (instead) of the teacher giving me someone. ‘Cause I have to do something... to like it, I have to do something fun.

R: So you like some choice.

S: Yes!

R: So you don’t mind parameters, you just don’t like being told *exactly* what to do?

S: Yes.

R: Okay. Do your teachers do that for you?

S: In most things, yes. Like Science Fair, Ancient Greek Project, some of the biographies, I guess. So, you get to have some say in what you’re doing, except for like the outline, your report, and...

R: So they’ll tell you how they want the outline done?

S: Yes. They’ll tell you how they want the outline, but you get to pick your own subject.

Cathy says, however, that most of the work is prescribed strictly by the teachers, and that there is little choice.

### What Motivates Underachieving Students?

Once student interviews, teacher interviews, field observations, and Aspirations Benchmarks Initiative data were coded, coded passages were synthesized. Codes fell within eight themes: student-teacher relationship; hands-on activities; choice and student autonomy; making learning interesting and tying into student interests; contexts and connections; student goals and preparing for the future; learning styles; and high expectations and helping students to succeed. This section addresses what was learned from the participants and data about each of these themes and is organized in the order of significance to the students (most to least) as suggested by the data collected.

#### The Student-Teacher Relationship

The student-teacher relationship was important to all four student participants, especially to Eric, Cathy, and Ben who all discussed it as one of their most meaningful motivators. Eric and Ben both feel they learn better from teachers who joke around and create an environment where it is safe to ask questions and make mistakes. Eric says he doesn't learn well from teachers who are grumpy and Ben equates boring classes with teachers who are too serious and not having much fun. Recall that Ben would tell the Department of Education that students aren't having enough fun in school and that they should have more. Cathy likes caring teachers who give her one-on-one assistance and attention. Doris likes teachers who know her capabilities and push and challenge her, but aren't authoritarian.

Many of the teachers involved in this study also valued positive relationships with students as a first step to improving academic achievement. Mr. Wolf used dry humor and treated students as equals. He was pleasant and approachable. Mrs. Spevak spoke gruffly to students but students clearly took it as hyperbole. She bantered with students and was playful and flip with them. According to Mrs. Jacques, "I think you really have to have that personal relationship with the kids first. And then, hopefully, the rest of it falls into place."

The other three teachers interviewed agree. Mrs. Jacques and Mrs. Edwards point out that having students for two years really helps. Mrs. Libby agrees that connecting with students is the important first step to helping them achieve.

First, I need to make some kind of connection—whether it be in Wrap Room [advisory], cafeteria, outside away from school... Once I've been able to find something nonacademic related that we can talk or joke about then I begin to try to work on the academic piece to make them want to try with the idea that "some is better than none"... Then comes the big time positives (verbal and written) to make them feel good about themselves. I also use the board behind my desk, and my closet door to put up pictures of special papers or "stuff" of theirs to give them recognition of a job well done. I also ask for "samples" to use next year....

Mr. Mack helps students achieve by being flexible and allowing students to modify assignments so they can better learn a concept, but recognizes that a positive rapport with students is necessary before they will approach him with a proposal:

The way you present yourself to them through the course of a year or two years. If they feel like you're very stand-offish, you put up a front, they're not going to approach you. You're not approachable. And if you allow them to come see you, take the time when they come in to sit and talk to them, listen to what they have to say, they'll respect you [and] come to you more often.

Mr. Mack believes that, as a science teacher, some of his most important lessons are not related to science, but to life. This was exemplified by the pep talk he gave students after testing their Roller Browsers. The point of the talk was that students who keep working and



trying to make their cars work will not only learn more about mechanics and design than their classmates whose cars worked on the first shot, but also about themselves and their capabilities.

Mr. Mack is clear about how he can build that rapport with students.

Spending time with them. Sitting [with] them. Letting them know you care. Simple things, like some of the kids say I can't do this project because at home we don't have any of this or that, bringing stuff in. I know of (a teacher's aide) says okay we did the edible cell, she made a cake for one boy whose family couldn't afford it. Boy was happy as a clam. Made his day. He's looked at her differently since then. And I'm just treating kids like they should be, and not losing fact... not losing sight that they are kids. We're expecting them to be adult at times, but they're kids.

... Just letting the kid know that he or she is important. It's a... When they come in, "Hey, glad to see you here. Glad you're here today." You know, "Have a nice day." Smile at them. I mean, the worse thing you want to do is jump down their throat because they get it 20 hours or 18 hours a day the rest of the time that they're at home.

...Every kid has something that you can bring out in them. That's a good point. If you can find those qualities in that kid, it might be anything as terms of standing up, bringing the attendance down to the office. For that, that kid is now going to do something for you today. You have acknowledged that kid, you have shown that that kid means something to you to do a favor for you, you respect the kid for doing that. I think you can reach every kid if you try. And that was what our philosophy was today (testing Roller Bowlers): try, try, try, try.

More can be learned about how seventh graders perceive the relationships they have with their teachers by examining the Aspirations Benchmarks Initiative data. A clear majority of the seventy-one hundred seventh grade students ( $N=7132$ ) surveyed felt that they had a strong caring relationship with at least one adult at school (83%), that teachers showed respect to students (65%), and had at least one teacher who was a positive role model (58%). About half the seventh graders believed that teachers respected their thoughts (57%), valued their opinions (49%), or cared about their problems or feelings (49%).

### Hands-On Activities

The second most important motivator to these students was being active in school and doing hands-on activities. All four students thought they learned best from projects or hands-on activities, especially when they had input into project design or in selecting a topic. According to Ben:

I think I learn best when we're doing hands-on activities that we have more control of as the students. Like... people should have different due dates that they can set for themselves. Say you have a book report. You say how long you think it will take you to get it done, but there be a maximum limit. It can't take you three months to get this done, but you can say, this will take me two weeks to do.

Doris thought that hands-on activities were the best part of school. Eric's favorite classes were the ones that were taught in an active way. Cathy equated "fun" with doing group projects that allowed for individual student input. Ben sees hands-on activities and projects as a way to make school interesting and fun for all students. Eric recommends that more teachers be active and fun, and Cathy recommends less book work in exchange for more activities. Doris says that fun school work is doing something, not just reading or

studying, and Cathy doesn't mind reading and writing assignments, as long as the teacher combines it with hands-on activities.

In fact, the students thought that too much book work was boring. Cathy said this when I probed about what kinds of work she finds boring:

I guess, probably the open book work and test stuff and everything. But like questions, answering questions after sections and doing a little bit of that and the homework. I don't like the homework, actually.

Eric and Doris described boring work as work that required too much sitting. Eric wanted to be more active, and according to Doris,

Well, they give you just like a worksheets and you have to do them, exactly like they tell you. If you get it all wrong, and they don't even explain hardly. Well, what makes them boring is they just... they don't do anything fun, they just... sit in your desk then you do your work. That's all you're supposed to do in class.

Ben likes classes where, not only is the teacher friendly and positive, but he or she varies the activities:

Okay.... Mrs. Edwards... She teaches her classes and... when she does, she always... she keeps on variating (sic) the class. Like one minute, we'll be doing one thing and the next minute we'll be doing something totally different. That's always fun, because it's spontaneous, and it's not always the same thing always the same thing over and over and over. And that's the same thing with my math teacher, my science teacher. Mrs. Dennis, my language arts teacher, usually doesn't do a

bunch of different things. All of her things are usually based on the same exact thing.

Ben doesn't like it, however, when the varied activities don't relate to each other or when they relate to different topics. For example, he says the changes in social studies can be somewhat "off the wall." He says, "I wish it would have a little bit something to do with each other, because one minute we'll be doing some... we'll be making maps for South America, the next thing we know we're doing something on Canada."

The teachers interviewed agreed with the students about boring activities. Both Mrs. Jacques and Mrs. Edwards said they thought lecture was boring for students. Mrs. Edwards says, "I can always feel when I'm lecturing that I've got half the kids with me and half of them like (makes a face with a far off look)." She believes she hooks more students with projects than with lecturing. Mr. Mack thinks that projects and flexibility in assignments (giving students choices about how to learn about a concept) are his best strategies to reach reluctant learners. Mrs. Libby makes sure that each unit she plans has some creative or artistic types of assignments, and some project work as well as the typical reading and writing of a language arts class. Mrs. Jacques has selected the Connected Math Project as her mathematics program because of its activities and projects. Recall that she had been searching for several years for such activities because she believed them to be a better way to help all students learn her mathematics content.

Throughout the interviews and observations, there were numerous examples of projects and hands-on activities: quilt squares, rafts for the lake, Louvee Air cars, Roller Bowlers, posters presenting the solutions to math problems or the results of researching different cultures or events, public speaking and musical performances, science experiments, and clay boats carrying pennies. Eric described math labs to measure the height of a flag pole and a science fair project over Bernoulli's principle. Ben made a web page for his

careers and computers class, a *HyperStudio* project for his social studies class, and, for his math class, designed and built a bridge made from toothpicks.

### Choice and Student Autonomy

All four students felt they learned better when they had choices about how they learned. The teachers interviewed agreed. Mrs. Libby and Mrs. Edwards both believe that choice is a way to spark student interest or to engage students. Students sometimes had free choice about what book to read or who could select from several books. Occasionally students could select between two class activities, such as when Mrs. Libby allowed her language arts class to decide to either watch a video or work on creating a paper quilt. The students also said they could sometimes choose who to work with or were involved in setting due dates and scheduling tests, and sometime even in deciding how to assess a unit or project. Mrs. Jacques summed student choice up this way:

Choices? A lot of times I let them choose where they can sit, where they... who they want to work with, you know, what kinds of situations... what kind of learning environment they want to use in here. You see some of the stuff around the room, the different ways that they can report out... I have them do that a lot with, um.... Sometimes they use overheads, sometimes they use charts, sometimes they use different things. I let them choose that kind of thing. Projects that they do. You know, they can have choice of different kinds of projects.

In our interview, Mrs. Edwards and I described these kinds of choices as “the teacher making a skeleton and the students putting the skin on it.”

Mr. Mack believes that getting student input is the key to reaching reluctant learners:

Ask them if we are doing a certain unit, why they don't like it?

What type of things do they like? If it's notes and discussions and a

paper and pencil test at the end, they might not like that unit. Is there another way we can take the same information for them, that might be that they still take the notes but they do a model or a demonstration at the end. If they need to do the hands-on piece. Looking at those kids, you can see from time to time and it's not always the kids who don't like to learn, depends on the subject and topic that you have up. They have.... They'll be out of the loop. I think that if you make it fun, exciting, they get into it without realizing that they are getting into it. And they're starting to learn and they're with you. And then at the end you ask them, "What did we do?" and they say, "We did this, this, and this," and they were with you all the way along.

Mr. Mack sees the need to find out how students want to learn content and to be flexible in allowing them to change how they do their assignments. This is even true when doing project work:

We have a couple kids on the team that if they are in a traditional setting.. sitting by rows, giving a lecture, having them read certain pages in the book, they would be maxin' out with the A's. You do project-based, where you not really forcing them, but you're asking them to work with someone else they don't like that, they don't like the hands-on stuff, they want the more concrete.

Class projects provided the most evidence of student choice. Design projects, by definition, involve students in deciding how to solve a problem. In other projects, students were given choices about how to represent their work. Project topics were often student choice. Mrs. Edwards describes how she would let students select an issue of the themed magazine *Cobblestone* and then say,

tell me what you can do with that? You need to come up with some sort of display, and some written work... I give them the book or the materials and then say, what are you going to do with this.

Choices and input were important components of project work for Ben, Doris, and Cathy. Doris said she wanted to do class projects and assignments her own way. Cathy wanted input into the kinds of work she does; she doesn't mind parameters, but doesn't want to be told exactly what to do. Ben thinks he learns best when he is doing hands-on activities that students have more control over. Cathy notes, however, that most of the time, teachers lay out all the work to be done by students and students aren't given many choices. Ben and Doris agree. Doris finds it boring when all the work is laid out to be done. Ben doesn't see how he is given many choices in school and points out that he would like to have at least one course where he could learn what he wanted to:

Okay. I'd like to have like a class where you get to learn what you want to learn. And it would be pretty much divided up [by interest group]... We have something like that only it's an activity at the end of the day, called [activity period], we have on some days. I think there should be a class that is just, you choose what you're going to learn. You have a little list of choices and you just choose.

Mrs. Jacques was explicit that students don't get to choose what to learn, "As far as choosing the curriculum, you know, what they want to learn, that's kind of set. So, they don't really have much choice in that." Seventh graders who participated in the Aspirations survey agree. The data show that only about half the students felt that they got the chance to explore topics that they found interesting (51%) or had opportunities to decide what they wanted to learn (44%).

### Making Learning Interesting and Connecting With Student Interests

Most of the seventh graders surveyed for the Aspirations Benchmarks Initiative felt that they are usually bored in school (57.7%). That data reflects the opinions of both underachievers and achievers. Only 24% of those students felt that they never had fun in school, but well less than half believed that teachers make learning exciting (43%).

Of the four interviewed students, Ben was the most critical about teachers not trying to make school interesting (recall that Ben is the one who would tell the Department of Education that they should tell teachers to make learning more fun). He says teachers sometimes try to make learning interesting by making it a game, but the teacher then makes it kind of “corny.” About a baseball-style vocabulary game he said, “It will be like, ‘oh, oh, oh! Can you get them out at first? Oooo, ooo, ooo.’” According to him, it just gets too silly.

Ben also says that teachers sometimes have a hard time trying to make activities that students will like doing.

S: I think... They try to do things that we'd like to do. But they never...  
they just assume that we're going to like something is the problem.

It's like, “Well I liked this when I was a kid, so they have to.”

R: So the problem is that they make some assumptions, and they may be  
good ideas, but they never bothered to ask you guys.

S: It's be better, maybe to have a survey, or something.

R: Or if they involved you somehow in deciding.

S: Or they asked.

Cathy doesn't think that teachers try to tie into their interests.

I don't think they really try tying into our interests. They just teach what has to be taught. Even.. I have heard some people comment, like, from the teachers comment that they hate teaching what they have to teach because it is so boring, and it's just like a lot of work, but you know...



All four students had typical adolescent interests: playing sports, socializing with friends, toying with computers and video games, and listening to music. So, it may not be surprising that teachers struggle to tie their academics into these fairly non-academic interests and hobbies. Mrs. Jacques did, however, try to connect the math they were studying to the statistics Eric was keeping on his track performance. It is also true, however, that some of the teachers admitted that they did not know what the interests were of the participating students.

Even though much of the work did not tie in with their interests, the students did find some of the work interesting. Much of it was dependent on the individual. Doris like teachers sharing stories from their past. Cathy liked lessons related to government and books such as *The Outsiders* and *Huck Finn* which related to the South. Ben thought his fourth grade teacher, who dressed up as story characters, was interesting. Mrs. Edwards reports that Ben also likes blood and guts and anything that's gory, "...books that have gory stuff things in them. Loved Edgar Allan Poe."

Of the work that students agreed is interesting, projects and hands-on work giving students choices and limited autonomy headed the list. As stated earlier, the students found too much book work boring.

### Usefulness and Connections

Seeing connections and believing content is useful is important to these four students. Both Eric's and Ben's good learning experiences involved learning something they perceived as being useful to them. Eric says he sees how language arts might be useful to him as a businessman and that he can see how math would be useful in everyday life. Cathy says she likes social studies, mostly because of the connections the teacher makes between ancient societies and today's.

Only a little more than half (54%) of the seventh graders participating in the Aspirations Benchmarks Initiative feel that courses will help them understand what is happening in their everyday life. The four student participants don't see much connection between what they are learning and the real world. Cathy doesn't see the real world connections for learning except in the case of government and writing. Doris says she doesn't see the usefulness of school learning and that teachers don't show much use. Eric agrees, but has faith that content will be useful.

Well, they don't make the connection, but most of the time I know that it will. Like in lang [sic] arts, sometimes we'll be writing a report and she'll be saying stuff about revising and editing and she won't tell us that depending on, if we want to be like a business man, that it will help us a lot and we should really, really work on it if we want to [be a] businessman.

According to the students, the teachers do make some attempts to show how learning is connected to the real world. Ben says his math teacher shows how content and skills are useful through application projects, like building bridges and boats. Eric says that his teachers tell him how it might be useful: "Well, sometimes they're just like joking around and they'll say, 'Well, if you want to become a veterinarian....'" Even so, Eric doesn't believe that the work they have to do in school is like the work he would have to do in the real world.

Teachers say they use a variety of strategies to help students connect to content and understand its usefulness. Mrs. Jacques uses math problems and projects related to real world problems. Mrs. Libby says she tries to connect her teaching to the student's lives and tries to teach writing skills as the need arises from the students' own writing. Mr. Mack mostly tries to make interdisciplinary connections or connections to lessons the students

have had previously. Mrs. Edwards shared a variety of ways she tries to connect her teaching to students' lives:

I guess it's really easy with the geography to connect in their own lives. 'Cause you can always compare people and customs and what they're doing, and that type of thing. As far as U.S. History connecting to their lives, I guess I would do that more with, okay, this is what's going on now in the world. Maybe not to your personal life, but you know, like gun control, and laws, and amendments, and stuff like that, you can bring it right to their personal life, the death penalty. I'm saying that because we just did the Constitution and all the Amendments. But I guess I can't really come up with anything right off hand here. It just depends on whatever the topic is we're talking about. To try to tie it in.

Mrs. Edward also used questioning strategies to help students connect to content. While going over a review sheet about South America, she helped students understand the answers on their papers by asking questions that led students to compare the content about South America to content they understood better. She compared Simon Bolivar to George Washington, connected creating a constitution to living on your own and needing to set rules to live by, and connected residential architecture to the climate the people were living in. From the field notes:

Lots and lots of questions to connect and to extend understanding. What's the advantage of a stone house in cold weather? How many of you have felt an asphalt drive after the sun has shined on it all day? It not only traps the heat inside, but it absorbs the heat. What do you need on a farm if you want it to be successful? Good soil. How many of you have tried to plant something in bad soil? What happens? Workers. Livestock. In order to grow something what do you need (acknowledges, but ignores

answers that are off track)? Water. Irrigation. The right tools. Is it easier to do it by machine or by hand? Good seeds. What's a bad seed? Jokes with a student about dropping a whole tomato on the ground and hoping it will grow.

### Student Goals and Preparing for the Future

The Aspirations Benchmarks Initiative data show that 86% of the seventh graders who completed the survey believe that what they learn in school will benefit their future, and that 81% of students have high goals and expectations for themselves. Only 16% believed that they could get a good job without going to college. Of the four student participants in this study, Eric had the clearest goals: he wants to go to college to become a veterinarian. Ben and Doris also want to go to college, but aren't sure what they want to study. Ben thinks he might want to study writing, and Doris thinks she might like to be a high school language arts teacher.

The teachers have a different view of the students' goals. Although she knows Eric wants to become a vet, Mrs. Jacques doesn't know Cathy's goals. She says that all her students want to go to college. Neither Mr. Mack nor Mrs. Edwards know either Ben's or Doris's goals. Mr. Mack believes that most seventh graders don't have realistic career goals, such as wanting to be a pro baseball player, or a pro basketball player.

Teachers said they do try different strategies to help students achieve their goals and prepare for their futures. Mrs. Jacques has her advisory students write academic goals and steps to achieve those goals. They revisit them later in the year. Mrs. Libby says she gives students guidance and assistance to help them succeed. Mrs. Edwards believes giving students choices is an important way to prepare students for their futures.

Students didn't mention any of these ways that school was preparing them for their futures, but they did talk about other ways. Both Ben and Doris like their allied arts class on careers and computers and thought that it was preparing them for their futures. Ben believed

that the money simulation some of his teachers used also is helping him get ready for life after high school. Doris and Eric say that teachers remind them that school is important for their future or that specific content that they are learning will be important to them. Ben and Cathy believe that school is preparing them for their futures by teaching them patience, “especially with things you don’t want to learn,” adds Cathy.

Several of the students provided very superficial ways that they thought content was preparing them for their future. This, from Cathy, is typical of the responses:

Math? Well, a lot of the math kinda you’re going to need later on to do like like grocery store sales or whatever. And I guess really really isn’t too much useful in social studies but some more countries, but... I don’t know, but.... science... I guess it depends on what like... this goes back to college. Depends on like if you’re really into science and different science and chemistry and everything, you’re going to need to know what you’re doing. Language, I guess.... language, better writer, and I guess better at content of what you’re saying, and stuff, and math I think you’re going to need it and social studies, I guess you’re going to need to know a little bit about, about what you’re talking about in social studies, so...

Recall that Eric believes teachers teach students as much as they can, just in case students will need it in the future.

### Learning Styles

Both the students and the teachers were asked to respond to the following quote from Seymour Papert, the learning theorist and inventor of the children’s programming language *Logo*:

I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them. (Papert, 1996)

Everyone agreed with this statement. During their interviews, both Doris and Ben commented on how different students learn differently and that students might sometimes be broken into groups according to how they learn well. Doris saw differentiated assignments as a form of fairness. Ben recommended that teachers help students discover how they learn well. Only Eric thought he learned well with traditional school work, although Mrs. Jacques reports that he is doing best in math with the nontraditional activities. The others pointed to relationships they have with their teachers and active hands-on learning as matching their learning styles.

The teachers pointed to using a variety of activities as one way to appeal to multiple learning styles. Both Mrs. Edwards and Mrs. Libby try to include art and music activities in their lessons. Mr. Mack simply remains open to students approaching him and requesting to learn the concept through some other kinds of activity. This flexibility helps students with different learning styles, and he views inflexibility as getting in the way of student learning. Mrs. Edwards sees the choices imbedded in project-based learning as an avenue to meeting different learning styles. She believes that when given choices, students will gravitate toward the activities which match how they think they learn well.

### High Expectations and Helping Students To Succeed

The Aspirations data show that most participating seventh graders believe their teachers expect them to succeed (78%) and care about their success (68%). The data also

show that students believe their teachers help them succeed (74%) and have confidence in their ability to do well (81%). Throughout the interview and observation data there were examples of the numerous ways teachers maintain high expectations and help students to succeed.

Having clear expectations was especially important to Doris. She wanted teachers to use a lot of repetition so that she would be sure to know what they wanted from her. Mrs. Libby and Mrs. Edwards both said that they give students grading rubrics near the beginning of a project so students will know what is expected of them. Mr. Mack's design projects always began with telling students the design constraints. Several teachers commented on the use of behavioral expectations and Cathy told how teachers on her team would say things to imply more was expected from her because she was on the Badger Team.

The data suggested numerous strategies that teachers used to help students succeed: giving students personal attention, using a variety of teaching strategies, making sure students start with success before moving on to more challenging work, working from student strengths rather than focusing on their weaknesses, having peers explain the concept, giving students a second chance, creating an environment where mistakes are viewed as a learning opportunity, and using questions to guide students.

## Chapter V: Discussion

The results presented in the last chapter suggest some clear conclusions, at least as far as they apply to the four students who participated in this study. Further, one of the purposes of this study was to replicate the pilot study and to compare the results. The pilot focused on two boys on a single team (Mike and Andy). The current study used two students, one male, the other female, at each of two schools (Eric, Cathy, Ben, and Doris). One school had been the site of the pilot study (but a different team) and the other was a similar school in a neighboring district. The current study was more thorough, including a longer student interview, more teacher interviews, and more classroom observations. Student participants in the pilot were selected based on the recommendation of a single teacher; more rigorous theoretical sampling was used to select participants for the current study. Throughout this chapter, the results from the pilot study (see Appendix A) have been blended into the discussion. Despite the differences between the two studies, the findings were remarkably similar. Students were motivated by the same practices, and they felt that the same motivators were missing from their educational experiences.

This chapter begins by introducing an emerging theory of how to motivate underachieving middle school students. Next, the ways school did not provide for motivation are described. Finally, the chapter considers what might get in the way of teachers trying to motivate their students.

### An Emerging Theory

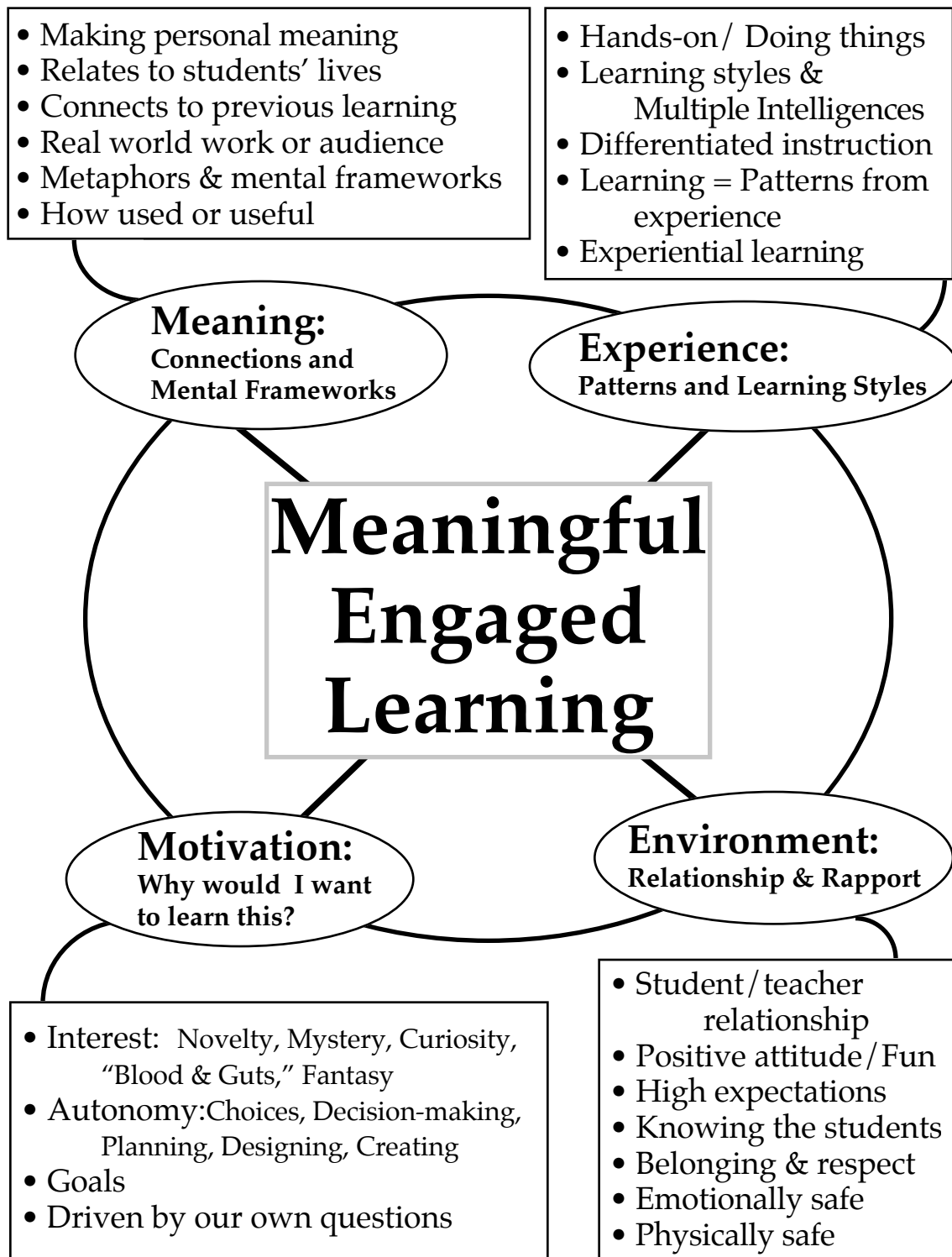
The real problem facing educators is helping all students achieve optimal learning (conceptual understanding and the ability to apply knowledge to new problems, learning, and creations) with high quality content (from the students own interests, from state and local curricula, and national standards). If we are serious about educating every child, we must include every child in meaningful, engaged learning. That means using teaching techniques that match what we know about how kids learn.



All four students in the current study had clear ideas of how they learned well, what they liked and disliked about how their teachers teach, and what recommendations they would make about changing schools in ways that would help them learn better. This is also true of the two students in the pilot study. This suggests that much can be learned by continuing to add students' voices to the discussion of how to motivate underachieving middle school students. The two studies share similar conclusions about what motivates underachieving middle school students. The four key motivators that these students value are a positive relationship with the teacher, hands-on work and doing things, choices, and attention to learning styles and individual differences.

Synthesizing these findings with the literature on learning and motivation (see Chapter II), a theory for meaningful, engaged learning begins to emerge. There are four key components: experience, meaning making, motivation, and the learning environment.

Figure 5.1: A Model for Meaningful, Engaged Learning



## Experience

Experience is the first component. Educators should remember that most learning is finding patterns in experiences (Schank & Cleary, 1995). These patterns become schema and help define how a person perceives and understands her world. Experience provides students with rich sensory data, furnishing multiple cues for memory and recall (Rumelhart, 1980; Bruning, et.al., 1995). Teachers should use active teaching strategies, especially those providing hands-on work or involving experiential learning.

All six students preferred being active, doing things, and having hands-on activities. Many of the students went on to complain that they didn't learn well from too much book work. Eric and Cathy said it was because there was too much sitting. Mike was more vehement about an over reliance on book work: "[Y]ou never learn anything sitting over a book 24 hours a day, you're just staring at it." Andy and Doris say that part of what they liked about hands-on activities was that there was often more than one solution and not everyone had to do the work the same way or at the same pace; they disliked lockstep teaching. The recommendations that several of the students would make to the Department of Education focused on reducing the amount of book work and increasing the amount of hands-on work. Nearly all the students liked project-based teaching and thought they learned well from it.

Despite their interest in doing things and hands-on work, none of the students wanted to forego all book work. Their descriptions of hands-on activities and project work were full of references to researching, reading, and writing. Cathy was specific about not minding book work as long as there were some more active components to the work, as well. In my field notes from the pilot study I noted, "'Activity-based' teachers don't always do activities. They still deliver content, and review, and [give] tests."

Further, people perceive and process experiences differently (Sternberg, 1997; Gardner, 1983, 1998, 1999; Fairhurst & Fairhurst, 1995; Papert, 1996). Teachers can meet students' diverse needs by using a variety of teaching strategies from learning style or

Multiple Intelligence theories. Teachers can also provide assignments, such as projects, that are flexible enough that different students can complete the task in different ways.

Teachers' responsiveness to students' individual differences in how they learn well was very important to the six participants. All the students and all the teachers interviewed in the two studies agreed with Papert (1996) that most failure to learn is a result of instruction not matching the individual's learning style. Further, despite the common motivators (teacher relationship, hands-on work, and choices), there were individual differences between how the students felt they learned well. Cathy wanted feedback and considered herself an auditory learner. Eric wanted to see how content was useful and for teachers to review, clarify, and model what was expected. Doris, too, wanted clear expectations and repetition, but also wanted to be pushed a little. Ben wanted to have fun and to be involved in real world simulations, such as the money simulation several of his teachers used.

### Meaning

Meaning is the next component. Students do not compile knowledge in some objective data retrieval system. Memory works primarily to make meaning of experience and functions as a connection machine, making associations between different memories, facts, skills, and attitudes (Anderson, et al., 1977; Anderson, et al., 1978; Schank & Cleary, 1995; Rumelhart, 1980; Bruning, et.al., 1995). By providing contexts for learning and mental frameworks for new knowledge, teachers can help students learn material better by helping them develop associations, connections, and contexts for understanding and meaning making. Teachers need to find ways to relate learning to student's lives, whether that is showing how new knowledge and skills are useful to them or by connecting it to their own lives. Involving students in work for an audience beyond the teacher and other students, giving them real world work to complete, or using metaphors while presenting new information are strategies that help students make meaning of what they are learning.

### Motivation

Motivation is the next key factor. This does not refer to why teachers might want students to learn material, but why students might want to learn it. Subconsciously, students decide every day what they will learn and what they will not. Teachers can increase the likelihood that students will learn when they try to motivate the students intrinsically or extrinsically. Intrinsic motivation is very powerful. Teachers can invoke it by relating learning to student interests and goals, or finding ways to make learning interesting, perhaps by using novelty, mystery, curiosity, “blood and guts,” or fantasy.

Extrinsic motivation can either improve learning or shut it down. A focus on punishments and rewards can be counterproductive to learning (Kohn, 1993, 1994). Autonomous supportive strategies, on the other hand, can make extrinsically required learning as powerful as intrinsically motivated learning (Deci & Ryan, 1985; Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982; Deci, Vallerand, Pelletier, & Ryan, 1991). The student participants liked having choices and input into their learning. Choice was one of the key attractions of hands-on and project work. Students also described being given choices among class assignments and required readings, setting schedules, and being flexible in how they meet content requirements. Choice was also one of the teachers’ key strategies for meeting students’ different learning styles. Teachers should provide students choices and give them opportunities for decision making, planning, designing, and creating.

### Environment

Environment is the fourth critical factor for meaningful, engaged learning. Students won’t learn from teachers they think don’t like them. The student/teacher relationship is key to learning (Dowty, 1997; Emerick, 1992). Students want their teachers to know them well and have a positive attitude, including being fun and humorous. Further, an environment which is not emotionally or physically safe can shut down higher cognitive processes, including learning (Caine & Caine, 1991, 1997).

Relationships, trust, and respect, especially with their teachers, were important to each of the six students. The four in this study wanted positive, humorous teachers that knew them well and challenged them. Several of the students said that they had a hard time learning from teachers who were grumpy or who nagged, and Andy and Mike from the pilot study said they wouldn't learn from teachers who didn't like them. Field observations were filled with examples of teachers trying to help students succeed in their work, and teachers spoke of getting to know students as a vital first step in helping them achieve.

Teachers should create a respectful environment within their classrooms. They should get to know their students well, including their interests and aspirations, and personal histories and contexts. This might be facilitated by long term relationships with students, achieved through looping, multiage classrooms, or multiyear classrooms. Teachers should treat students as if they like and respect them, even when disciplining.

### A Complex System

It is not enough for an educator to implement only one piece of the model. The four components work in conjunction with each other and are not independent. For example, the patterns people “uncover” from their experiences usually are guided by questions they have based on their interests and goals. People cannot uncover those patterns unless they feel safe and respected. Those patterns will be shaped by the meaning each person can find in the experience. Students seem to need multiple elements from the four components in order to learn well. For example, Mrs. Edwards does lots of projects, but Ben finds her too serious, and Doris doesn't like projects and activities that are all laid out to be done and don't provide for some individual choice or design.

### Research Implications

This emerging model has several implications for researchers. First, although the similarities between the pilot and this study give some confidence to the results, it is important to remember that the two studies shared the perspectives of only six students. Many more case studies should be pursued. It would be interesting to see if there continues to be similarities in the results. Further, it would be interesting to look at differences between cases. Do students of different genders, races, or cultural backgrounds view motivation and learning differently? Do students with clear aspirations have different views than students who aren't sure what they want to do in the future? Do students from high implementation middle schools believe differently than students from low implementation middle schools (Felner, et. al., 1997)? Are there different perspectives between students of differing socio-economic status?

What is learned from continued solicitation of student voices will have implications for the evolution of the proposed model. As the data becomes richer, the model will be refined and expanded. At some point, it would be useful to gather widespread quantitative data about student perceptions, and the evolved model can provide a framework for what questions to ask. Perhaps the Aspirations Benchmarks Initiative could play a role in that work, since reversing underachievement patterns should positively impact student aspirations. Aspirations and meaningful, engaged learning are related, but different constructs, requiring questions to be added to the current survey. The Aspirations survey has few questions related to active, hands-on teaching, learning styles, meaning making, or choices and autonomous supportive strategies.

A way to distinguish between achieving and underachieving students in the Aspirations data would also be useful, giving a way to compare differences between those two subpopulations for both the Aspirations work and the motivation work. Data from the pilot study and the current study hint that underachieving middle school students readily recognize themselves as people who are fairly bright, but either don't do well in school or

don't like school much. Perhaps this information can be turned into a pair of statements to be used in the survey to identify underachieving students.

Eventually, researchers should test the model, and explore the effectiveness of the strategies suggested above. It would be interesting to replicate this study (perhaps with more participants) in a school that had implemented the model for several years. More broadly, it would be informative to find out what impact implementing the model has on a variety of indicators, including student achievement, attitudes toward school, attendance, behavior, higher order thinking skills, and aspirations. Will instruction infused with hands-on work, choices, varied activities providing for different learning styles, and positive relationships with teachers actually improve learning and achievement for underachieving students. It is clear that the participants in these studies believe it will. Inspiring teaching might help with learning, but it might only make school more enjoyable or memorable for students. This distinction may be splitting semantic hairs, but part of one student interview begged the question.

Eric was discussing how he thinks he learns better when doing more active work, such as experiments in science class:

S: In science class, she likes us to do a lot of labs, but we haven't really.

Like earlier we were doing... earlier this year we were doing bubble labs and I like doing that and we've been doing weighing labs, and...

R: What did you learn from the bubble lab?

S: Well, what we did with the bubble lab is we were measuring circumferences and everything and I don't really remember cause that was in September and....

R: But you remember doing it, and you remember liking it?

S: Right. Right.

R: Um....

S: No, wait! Now I remember!



R: Sure.

S: We were doing Bernoulli's Principle!

R: Bernoulli's Principle? Do you remember what Bernoulli's Principle is? 'Cause I've forgotten.

S: Well, something that has to do with the.... You'd think I'd remember since I did a science project that had to do with Bernoulli's Principle... Don't remember.

Eric remembered doing the bubble lab, and he remembered doing a science project on Bernoulli's Principle, but he didn't remember anything about the science concepts he was expected to learn.

It is hard to judge the meaning of such an interchange. This might have been an isolated incident and he remembers the lessons from other hands-on work he has done. Or perhaps given more time, when he wasn't in the middle of an interview, he might remember the relevant concepts. It might also be the case that in the future, when he returns to Bernoulli's Principle in high school or college, this middle school experience has laid the groundwork in his memory to develop a rich understanding of the concept. Even if Eric doesn't recall the specifics of Bernoulli's Principle, did those experiences help him develop better higher order thinking skills? It's also possible that having positive memories of projects and experiments is better than having no memories of science at all. We don't know how these experiences have impacted Eric's attitude toward science and toward school. Did such experiences increase his willingness to participate (mentally and physically) in other lessons? The point is simply that the following question bears investigation, "If we give students what they say they want, will they really learn better, and in what ways?"

### A Gap In Schools Providing for Motivation

Another thread running throughout the results of both the current and pilot studies was of schools not providing for motivation. This section explores how not enough teachers are using the motivators the students have described, how some teachers were not very effective with those motivators, how other motivators were largely missing, and the dangers of not providing motivating instruction for students.

#### Not Enough Teachers Trying To Motivate

It was clear from talking with the participants that some of their teachers had created respectful relationships, made sure that their teaching was activity based, and gave students choices. It was also clear that other teachers did not. The students in the pilot reported the same phenomenon. All the students requested more activity-based teaching. Students reported that, for the most part, they weren't given choices in their learning. According to the students, many of their teachers were too serious or grumpy, and the Aspirations data show that 35% of seventh graders didn't think teachers showed respect to students, 42% didn't have an adult role model, and 51% didn't think teachers valued their opinions or cared about their feelings.

#### Not Going Far Enough

Even the teachers who do use activities, relationships, learning styles, and choices to motivate their students, may not be using those motivators in the most effective ways they could. Mrs. Dennis, for example, who is recognized as best knowing the students on the team, is also considered too serious by Ben and Doris. Mrs. Edwards would vary activities to try to keep student interest, but Ben reports that sometimes the activities related to completely different units, and he didn't like the discontinuity. Also, although students reported enjoying science experiments, it was never made clear how each experiment tied into the curriculum or what learning outcomes were expected from the activity.

Choices were also limited for students. They were given small decisions, such as about the schedule for the unit, how to report out, who to work with, or what book to read or activity to do. Choice about what to learn was clearly never an option. Maybe students should be allowed to help decide what they will learn. Ben said he wished for such a course. Curriculum planning could describe the structures and procedures for allowing students to become learners, following their own curiosities and interests with teachers coaching them, helping to monitor progress, insuring academic integrity, and challenging the students. The Norwegian national curriculum, for example, calls for “project-centered, integrated activities planned with the students,” (Vars, 2000, p. 3).

Some educators and policy makers are concerned that we would end up with students who study a plethora of topics, and there would be no uniformity or consistency. Quinn reminds us “Diversity is a survival factor for the community itself” (quoted in Goodlad, 1997, p. 148). Besides, a fixed curriculum is fairly boring. One educator calls it the Spandex Curriculum—one size fits all. We all know what spandex has done for the fashion world! In practice, a pair of spandex shorts might fit anyone, but they are functional for few of us, and flattering on even fewer. Papert agrees we should allow students to explore what interests them:

Do we really expect children to sit still for the predigested curriculum of the elementary school when they have known the freedom to explore knowledge on the information highways of the world, and when they have been used to planning complex projects and finding for themselves the knowledge and advice they need to conduct them? (Papert, 1996, p. 170)

Further, there was limited evidence of teachers’ attention to learning styles, despite the clear indication of individual differences between the participants. Teachers reported giving students a learning style inventory early in the year, but it was not clear how (or if)

the information from the inventory was used to impact instruction. They did mention trying to include videos, hands-on activities, and artwork in their lessons, but how well were these activities integrated into the objectives of the unit or lesson? The quilt square art project related to *Huck Finn* and the river unit, for instance, was presented as an example of a creative activity. According to my observations, and interviews with students and the teacher, however, quilts, their history, and the meanings behind their designs were never incorporated into the unit. Students simply made a square and hung it on the wall. It did give students a (brief) creative outlet, but the educational opportunity to make the unit richer and fuller was missed; the activity seemed simply tagged on.

When teachers did talk about how they try to modify instruction to provide for different learning styles, besides projects, videos, and art activities, they spoke mostly of giving students choices and of being flexible in how students meet unit objectives. Despite the current popularity of learning styles and Multiple Intelligences in educational conferences, workshops, journals and magazines, little was mentioned along those lines by the teachers who participated in this study. It seems that much more could be accomplished with students when teachers incorporate instructional ideas from Sternberg's (1997) four uses for information (recall, analyze, create, use) or Multiple Intelligence Theory (Gardner, 1983, 1998, 1999). Campbell and Campbell (1999) found, for example, that the schools with long-term MI programs they studied showed impressive achievement gains on state assessments and standardized tests, and a reduction or elimination of score disparity between white and minority students.

In all fairness, I worked with terrific teachers on wonderful teams, and they clearly worked hard to motivate their students. It is possible that these are isolated events or that in my limited time in the school, I simply didn't witness the pieces I thought were missing. The questions "what makes for good activities, choices, and relationships?" and "how can educators get better at them?" are fair questions, however.

### Missing Motivators

“What motivating factors could teachers incorporate in their teaching, but don’t?” is another fair question. As mentioned above, students reported that they aren’t allowed to learn about what they were interested in. Further, students didn’t see how what they were learning was connected to their interests or was made interesting. Each of the six subjects in the two studies, and 58% of the seventh graders completing the aspirations survey, reported they are bored in school. Teachers admit to not knowing the participants’ interests. Many of the students have typical adolescent interests (socializing, sports, music, video games and computers). Teachers may struggle to find ways to connect those to academic content, but even remote connections, like using the names of bands or sports teams in classroom examples, were missing. There were few examples of teachers posing interesting problems or conundrums, or using mystery or fantasy to spark student interest.

It is understandable how teachers might have difficulty building on middle school students’ typical adolescent interests in their teaching. Middle school students, however, also have intellectual interests. When middle school students act like the young people they are, it is sometimes hard for teachers to see their intellectual side. Teachers, who plan curriculum with students, using a curriculum negotiation model (Brodhagen, Weilbacher, & Beane, 1992; Muir, 1998b; Alexander, 1995; Nesin & Lounsbury, 1999) based on students’ questions and concerns about themselves and the world they live in, do see students’ intellectual interests. The students have very mature, sophisticated, and complex questions, including the following (Brodhagen, Weilbacher, & Beane, 1992; Muir, 1998b; Alexander, 1995):

- What will my future be like?
- What mistakes will I make? How will I correct them?
- What will happen to the world (greenhouse effect, ozone, air pollution, rain forests, etc.)?

- Why are there rich and poor people? Why do we use money for wars and not for poor people?
- Why are famous people famous and we are not famous?
- Will there ever be complete peace?
- Why do people have to be mean to others to feel good about themselves?
- Will the economy improve?
- Will censorship get out of control?
- How did the world form?
- What goes through the minds of Hitler, Hussein, and other anti-peace demonstrators?
- Will we ever get a president that knows what he's (she's) doing?
- Will we have to live under water or on the moon or another planet?
- How will my education (or lack of it) affect my life?

Some educators have reflected on student intellectual interests and how elusive it can seem to uncover them. Alexander (1995, p. 20) wrote “Beane would never ask students, ‘What do you want to study?’ Themes are selected through a series of ‘back-door’ questions: ‘What things concern you personally?’ ‘What are your concerns with the world around you?’ ‘How does the world affect you?’” I had a similar response when I reflected on the curriculum negotiation process:

Perhaps, as a teacher, I had simply not asked my students the right questions. Students often separate what they are truly curious about from the more school-based idea of what they want to “learn.” Or maybe “What do you want to learn about?” is much too direct and ignores the subtle and ubiquitous nature of learning. The longer process of prodding for questions and searching out themes seems to have brought them

closer to their natural curiosities and therefore helped them pursue topics of greater natural interest to them. (Muir, 1998b, p. 16)

Aligning teaching with student interests is not the only missing motivator. For the student participants in this study and the pilot, how school content is useful or matches student goals is another missing motivator. Mrs. Jacques suggests that the students don't see any value in what they are learning, and the students largely agree. Most of the examples of how students thought teachers tried to show them knowledge was useful were fairly trivial, often simply making the comment that you would need to know this if you wanted to go into such and such a profession. Maybe teachers don't have other models of how to show students learning can be meaningful. Several of the students had faith that what they were studying would help them in the future, but they weren't sure how it would help them, and they didn't think it was work they would actually have to do in the real world. Cathy and Ben said school was preparing them for the future by teaching them patience, perhaps because of the time they spend waiting to learn something of interest to them.

### The Risks Of Not Providing Motivation

As long as teachers are teaching valuable content (perhaps as defined by state or national standards), why should educators be concerned about whether they tie into student interests or help them see the connections between what they are learning and their goals and futures?

If one of the most widely accepted purposes for a public education is to prepare students for their futures and the world outside of school, it seems a travesty that students would perceive that their education has so little to do with that goal. Helping students find meaning in their learning brings opportunities to help students become highly motivated and excited about school. It breeds curiosity and inquiry, and engages learners. Not being able to find meaning in learning, on the other hand, deadens the curriculum, disengages students,

and shuts down learning, undermining the goal to prepare students for their futures and the outside world.

Part of the problem is “incidental learning,” the attitudes, beliefs, and knowledge students develop through daily experience. Students do not learn only when teachers teach. Memory is working and processing all the time; students are learning all the time. But they aren’t just learning what is in the curriculum; they are observing what goes on around them and what activities are taking place in the classroom. They form enduring attitudes, likes and dislikes, which shape how they will approach learning and school in the future. Clearly the most desirable attitude to develop is the desire to go on learning.

We should measure the success of our educational system by whether or not we are producing graduates who have internalized the ability and desire to learn. The best sign of a successful education system would be that students want to go to school, that they remain excited about learning once they get there, and that in the end, they are prepared to creatively respond to the kinds of open-ended problems they will actually face in the world. (Schank & Cleary 1995, p. 23)

Many students, however, have been through too many courses where covering the content seemed to be more important than helping students become engaged by it. I am afraid that those students may have developed attitudes about school which act as barriers to future learning. For example, Mokros (1994) discusses how texts shape students’ perceptions of math into something that is noncreative, stuffy, formulaic, and filled with rules. “Their only search is a search for the right answer” (Mokros 1994).

Previously, I described the attitudes of my own eighth grade Algebra students (Muir, 1994a). Despite the fact that these were the top students in the eighth grade, they didn’t think that schools had much to do with learning. They were bored and disenfranchised. They saw learning as something others did to them. They felt school was irrelevant and



unimportant, and had somehow convinced themselves that they didn't know much and didn't have many strengths. These bright students' attitudes illustrate how large the gap can become between what schools want students to learn and what they actually learn, especially when schools focus on covering the curriculum to the exclusion of what might motivate students.

If natural learning grows from personal goals and interests, it is easy to see that some students may learn in spite of uninspiring teaching simply because either school itself matches their goals, or they happen to be interested in the subject taught. Many other students, however, see school as being much less relevant to their lives and are not so interested in what the teachers want them to learn. Jacobs (1989) comments that if educators are trying to devise a means of driving students out of school, they obviously are succeeding. Ellis and Fouts (1993) point out how Progressive educators worry about not making learning meaningful to more students:

Progressives were opposed to the factory-like efficiency model on which schools depended (and still do). They decried the artificial learning derived from textbooks and written exams. They said that school learning was so unlike the real world that it has little or no meaning to the average child. Robert Hutchins, not a progressive, said it best: "Students resort to the extracurriculum because the curriculum is so stupid." (p. 152)

Learning experiences are educative when and only when experience promotes continued growth and learning. Noneducative experiences can stop learning cold. The defining characteristic of any classroom activity becomes the question: does it set up conditions for further growth or does it shut off the person from occasions, stimuli, and opportunities for continued growth?

What avail is it to win prescribed amounts of information about geography and history, to win ability to read and write, if in the process

the individual loses his own soul: loses his appreciation of things worth while, of the values to which these things are relative; if he loses desire to apply what he has learned and, above all, loses the ability to extract meaning from his future experiences as they occur? (Dewey 1938, p. 49)

Every experience educators provide students helps to shape their perceptions, as well as their knowledge base. The good news is that this can be a powerful positive influence. According to Dewey (1938), if an experience arouses curiosity, strengthens initiative, and sets up purposes that are sufficiently intense, then it can carry a person over the dead places in the future. This is why educators must attend to motivating students.

### What's Getting in the Way?

The teachers in this study know the jargon of motivating students: make it interesting, relate it to their lives, give them choices, and don't always lecture. Why aren't they more thorough, then, in implementing motivating teaching? Nolen and Nicholls (1994) also report that teachers in their study had beliefs about motivating students that closely matched those advocated by researchers, but they weren't implementing those practices in their classrooms.

What gets in the way of teachers motivating students? Is it the pace teachers think they need to keep? The perception of a need to cover material? Do teachers not want to bother? Or do they simply not know how? Further research is needed to really understand the roadblocks facing teachers' motivating students. The results of these two studies suggest at least three factors which interfere: a difference of perceptions between teachers and students, teachers not having models for motivating teaching, and some effective models not being perceived as legitimate by teachers.

### Mismatched Perceptions

One of the goals of qualitative research is to understand phenomena by examining the different perspectives of those involved in an event. Often there are differing points of view, and this study is no exception. There were differences between the students' and the teachers' perceptions, and between their perceptions and what I observed. There were discontinuities between data throughout the study:

- Teacher interviews indicate that teachers believe they are doing what students would say motivates them, but student interviews indicate those factors are missing.
- Most of the students had clear and reasonable goals, but Mr. Mack believed that most middle school students wanted to be professional athletes and rock stars.
- Mrs. Jacques recognized that most of the students on her team wanted to go to college, but didn't know what careers most of them might like to pursue.
- Ben said that his teachers tried to make learning interesting, but sometimes those attempts were too silly, or teachers made assumptions about what would be interesting to the students without getting student input.
- Teachers didn't know what motivated the student participants, but the students knew what motivated them and how they thought they learned well.
- There were much observational data about how teachers help students be successful, but neither students nor teachers made much note of it as ways to help underachieving students learn better.

Perhaps Ben is right, teachers need to get more input from students. Or perhaps teachers need to be more explicit with students about what strategies they use in the

classroom, and why. Either way, there are implications for further phenomenological research around the perceptions of teachers and underachieving students. Making these differing viewpoints explicit, and trying to understand them and the dynamics that contribute to them may lead to a better understanding of underachievement and help find ways to re-engage underachieving students.

### A Need for Models

It could also be that, although teachers know that they should use interest, hands-on activities, relationship, choices, and context to motivate students, the teachers lack mental models of what those practices might look like in action. Some of my colleagues relate, for example, that all students can be engaged in meaningful learning, even underachieving students. They have seen first hand that unmotivated students can be re-engaged in learning when they are given meaningful contexts for learning, choices and shared authority in the classroom, lessons made interesting or building on student interests, and work and content that matches student goals. Perhaps other teachers haven't had similar experiences. If they haven't been taught using motivating strategies or trained to teach using motivating strategies, they may not have mental models to work from.

A critical step in the work around motivating and engaging all learners, then, is for educators and researchers to find examples of motivating, engaging learning in the classroom. Telling the stories of motivating teachers will help other teachers develop the appropriate schema to start reflecting on their own practice and to help staff developers design inservice to train teachers. Exploring diverse ways that teachers create and promote meaningful, engaged learning will give teachers choices about how they try to reverse underachievement patterns and re-engage unmotivated students.

At least four approaches to teaching appeal to me for motivating and engaging teaching. The first approach is Project-Based Learning. Students can demonstrate their learning by creating culminating projects using interesting media. This might include

posters and displays, plays or performances, books or magazines, or hypermedia, multimedia, or web pages (Muir, 1994b, 1997). Several of the teachers in this study use this approach, and students feel they learn well from it. A similar approach is Problem-Based Learning. Rather than placing a meaningful product at the center of learning, this approach focuses learning around a specific problem to solve. Through this approach, teachers can create the conditions necessary to get students to start asking questions about content (Delisle, 1997; Nagel, 1996).

A third model for motivating teaching is Curriculum Integration. This approach involves building curriculum around student's own questions and concerns (Pate, Holmstead, & McGinnis, 1997; Alexander 1995; Muir, 1998b; Beane, 1993; Nesin, & Lounsbury, 1999). Teachers using this approach report that it can be particularly effective for engaging middle school students in learning (Brodhagen, Weilbacher, & Beane, 1992; Alexander 1995; Muir, 1998b). Another approach which involves students in designing curriculum and instruction with the teacher is the Foxfire Approach (Wigginton 1972, 1985; Smith, Wigginton, Hocking, & Jones, 1991). Instead of building curriculum around students' questions and concerns, this approach involves students in deciding how to learn a given curriculum by soliciting their ideas about how people in the real world use that content and what they might do to learn it. This can be especially powerful if there is little flexibility in the content middle school students must learn.

### Legitimacy Issues

A third reason engaging instruction is not more widespread may be that educators, parents, and community members don't see some effective teaching models as being legitimate. A colleague's principal who came into her classroom to conduct the annual observation. Students were actively engaged in creating their research products for a unit, and the teacher was moving between groups of students, checking the academic and mechanical integrity of their work, making suggestions, answering questions, and helping students find additional resources. The principal said, "I'll come back to do the observation when you're actually teaching."

One of my undergraduate education students interviewed her grandmother about what her education was like. The grandmother described her classes and the student asked, "so it was mostly lecture?" Her grandmother became indignant and angry and barked back, "it isn't lecture, it's teaching!" When I do field service work with education majors, they are often concerned that I might observe them when they aren't actually presenting new information. The view that teaching is teachers presenting and students reading and doing book work seems very deep rooted. Teachers who use other strategies seem to raise the suspicion of their colleagues, administrators, and parents.

For example, several communities are battling over their math curriculum. There is controversy around the Connected Mathematics Program (the same program Mrs. Jacques uses). The Connected Mathematics Project (CMP) was developed at Michigan State University with support from the National Science Foundation (Connected Mathematics Project, & Michigan State University, 1996). The over-arching goal of CMP is to develop student and teacher knowledge of mathematics that is rich in connections and deep in understanding and skill. It attempts to achieve this goal by using interesting problems and contexts to develop understanding of concepts and skills.

But parent groups and school boards are trying to keep CMP out of schools. In one Louisiana district, the school board refused to adopt the materials. The excuse they used

was that the books were not hardcover, but teachers report the real issue was that the program didn't match what parents and community members had experienced when they took math. One Texas parent group has created a web site devoted to helping parents keep CMP out of their schools (Plano Parental Rights Council, 1999). One of their major arguments is that parents have a hard time helping their students with the homework. Perhaps their objections come from the fact that they don't see the work as familiar, and therefore not legitimate.

This is happening despite the fact that the curriculum is very well reviewed by educators. Recently the U.S. Department of Education announced that CMP is one of five curricula (from 61) to achieve exemplary status and that CMP is the only middle school program identified as exemplary (U.S. Department of Education Mathematics and Science Expert Panel, 1999). The American Association for the Advancement of Science (AAAS) rates CMP the highest of twelve middle school mathematics curricula, stating that it "contains both in-depth mathematics content and excellent instructional support" (American Association for the Advancement of Science, 1999).

### A Final Thought

I am certain that most parents and educators have nothing but the best intentions for students. I worry, however, that much of what schools do is driven by tradition, and not by reflecting on the ebb and flow of young minds. I am disturbed when I hear some teachers say that students need to adapt to school, when students are not in school by choice (they are there by law) and schools are supposed to provide a service to children (not the other way around). Keep in mind "the pragmatic premise on which this whole edifice is built says that we attend to what works, not necessarily what we have been doing" (Smith, Wigginton, Hocking, & Jones, 1991).

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## Appendix A: The Pilot Study

### Motivating Learning: The Underachieving Learner's Perspective

Teachers are challenged daily by students who don't seem interested in learning. Many are labeled as at-risk, learning disabled, underachieving, or simply trouble. Teachers struggle with discipline issues, and with meeting the needs of students at widely differing ability/achievement levels.

By learning the perspective of those students who are turned off by school, this study seeks to broaden and deepen the prevailing views surrounding the use of intrinsic motivators, helping both teachers and students.

### The Functionalist's Perspective

The purpose of school is helping students learn.

A major goal of formal education should be to equip students with the intellectual tools, self-beliefs, and self-regulatory capabilities to educate themselves throughout their lifetime. These personal resources enable individuals to gain new knowledge and to cultivate skills either for their own sake or to better their lives. The rapid pace of technological change and accelerated growth of knowledge are placing a premium on capability for self-directed learning. (Bandura 1993, p. 136)

The information explosion, however, has de-emphasized the importance of every student learning the same specific body of knowledge, and has increased emphasis on learning how to learn so that each student can develop her own knowledge base within a broadly defined body of knowledge. The national discipline based standards and state standards also place a greater emphasis on learning how to learn and on becoming a self-directed and life-long learner.

American public education has taken on the ambitious task of not only educating children, but educating *every* child. Children are not in school by choice, but by law. If natural learning grows from personal goals and interests, it is easy to see that some students may learn in spite of rote teaching techniques simply because either school itself matches their goals or they happen to be interested in the subject taught. Many other students, however, see school as being much less relevant to their lives and are not so interested in what the teachers want them to learn. Their school experiences usually produce poorly indexed knowledge and very shallow schema.

Unfortunately, preparation for tests that emphasize retention of facts often leads to the acquisition of “inert” knowledge, encapsulated information that is rarely accessed again unless a specific cue to activation is given, such as an expected examination question (Brown & Palincsar 1989).

Teachers haven’t taught until students have learned:

Teaching may be compared to selling commodities. No one can sell unless someone buys. We should ridicule a merchant who said that he had sold a great many goods although no one had bought any. But perhaps there are teachers who think they have done a good day’s teaching irrespective of what people have learned. There is the same exact equation between teaching and learning that there is between selling and buying. (Dewey 1933, p. 35-36)

If we are serious about educating every child, however, we must venture to absorb every child in meaningful, engaged learning. Regardless of whether we want children to learn to be learners, or whether there are content and skills we value and want students to learn (which they may not think of as being interesting or important to their lives) then we

must use teaching strategies which more closely match how students learn naturally. That means using teaching techniques which match what we know about how kids learn.

### The Learning Theorist's Perspective

Educators blame students's lack of motivation, engagement, and achievement on a long list of factors, such as the following: lack of academic readiness and preparation, learning disabilities, poor home life, unsupportive parents, previous traumatic experience, poverty, low self efficacy. But it is also true that instructional methods can lead to unmotivated students.

If the pupil left it [the class, instruction] instead of taking it, if he engaged in physical truancy, or in the mental truancy of mind-wandering and finally built up an emotional revulsion against the subject, he was held to be at fault. No question was raised as to whether the trouble might not lie in the subject-matter or in the way in which it was offered. The principle of interaction makes it clear that failure of adaptation of material to needs and capacities of individuals may cause an experience to be non-educative quite as much as failure of an individual to adapt himself to the material. (Dewey 1938, p. 46-47)

Of all the factors mentioned above, individual classroom teachers have control over only one: instructional strategies.

We have come to know what sorts of classroom activities get in the way of engaging students in meaningful learning. Conditions within the classroom can produce sufficient stress to cause students to shut down learning. "When we feel threatened, we downshift our thinking. Downshifted people feel helpless; they don't look at possibilities; they don't feel safe to take risks or challenge old ideas. They have limited choices for behavior." (Pool 1997) According to Renate Nummela Caine and Geoffrey Caine, although threats

producing downshifting can come from outside of school (abuse, poverty, malnourishment, and violence, for example), the following classroom conditions produce downshifting for the vast majority of students (Caine & Caine 1994, p. 84):

- *Pre specified “correct” outcomes have been established by an external agent in the classroom.* This translates into the student having to learn the answers the teacher has determined to be correct. That significantly closes the options available to students.
- *Personal meaning is limited.* In other words, what is to be learned does not have to connect with what students already know. Their innovative or chosen ways of dealing with problems and situations are treated as irrelevant.
- *Rewards and punishments are externally controlled and relatively immediate.* The result is that the consequences of action, including testing and grades, are not under the control of the students.
- *Restrictive time lines are given.* While deadlines are important in their place, a constant barrage of time limitations drives people to do what has to be done to meet the deadline, rather than to reflect on options.
- *Work to be done is relatively unfamiliar with little support available.* Isolation exacerbates uncertainty without the reassurance that success is likely.

Lepper’s and others’ (1973) over-justification hypothesis describes how the over reliance on extrinsic rewards (prizes, grades, etc.) interfere with learning. Over use of extrinsic rewards can do the following:

- damage the quality of work
- impede the ability to be creative or to accomplish non-routine tasks
- squelch any pre-existing intrinsic interest
- diminish the interest in doing the activity once the rewards are removed

What can educators do instead? What helps students learn? Richard Saul Wurman (1989) refers to learning as remembering what you are interested in. Lepper and Hodell (1989) recommend trying to enhance children's intrinsic motivation through challenge, curiosity, control, and fantasy. Cognitive scientist Roger Schank (1995) describes learning as pursuing answers to questions which grow from our goals and interests. These ideas aren't new to teachers. Nolen and Nicholls (1994) report that teachers' beliefs about what motivates students closely match those advocated by researchers:

The teachers in our sample seem well aware of the usefulness of the strategies researchers claim increase task involvement or intrinsic motivation: promoting cooperation and choice, stimulating student interest and attributing thoughtfulness and effort to students all had means well above those for other strategies, and clearly in the "useful" range.

Educators who talk with students about what motivates them, also become aware of similar motivational factors. Strong et. al. (1995) asked teachers and students what kind of work they found totally engaging. "Engaging work, respondents said, was work that stimulated their curiosity, permitted them to express their creativity, and fostered positive relationships with others. It was also work at which they were *good*," (Strong, Silver, & Robinson 1995). I have been collecting lists of learners' characteristics of good learning experiences since 1992. The lists are surprisingly similar, regardless of the age-group involved and synthesize into the following list:

*Characteristics of Good Learning Experiences Synthesis*

- the work was well connected to other ideas and to the real world
- the content of the learning experience was personally relevant, interesting, useful, or meaningful to the learner
- the learner had choices, shared authority, control, and responsibility
- the learning was hands-on and experiential
- the learner learned from and taught others
- the learner had the support of a patient, supportive, and nurturing mentor
- the learning was individualized and although there were standards for the work, the learner could meet them in his or her own way
- there was a positive aesthetic component to the experience: it was fun or left the learner feeling good
- the experience helped the learner understand him or herself
- the learner had success and accomplishment with challenging work

There are, then, at least five intrinsic motivational factors which draw students into meaningful, engaged learning:

- *Context* - Addresses the issue of “Why do we have to know this?” Places content within the context of how it is (or might be) used in the real world. Could be a simulation, doing real work, or having a real audience (beyond the teacher) for student work. Provides a goal for which learning the content is necessary.
- *Curiosity* - Teachers work either to build on student curiosity and interests or to capture their imaginations by making content interesting. Includes using conundrums, contradictions, or any other strategy which gets students asking questions.
- *Control* - Students share decision making and authority within the classroom. They may negotiate the curriculum with the teacher, or help

the teacher decide how they will learn the curriculum. Students have choices about their learning.

- *Community* - The classroom environment provides for positive relationships with adults and peers, and fosters a sense of belonging among its members, characterized by support, respect, and dignity.
- *Alignment with Student Goals* - Teachers connect content and classroom experiences and activities with students's personal goals.

But we've schools don't have a good track record of applying what they know about how kids learn. We've known principles of learning-centered teaching for a long time. But even in 1930, the Commission on the Relation of School and College criticized high schools for failing to apply those conditions.

*Schools failed to create conditions necessary for effective learning.*

In spite of greater understanding of the ways in which human beings learn, teachers persisted in the discredited practice of assigning tasks meaningless to most pupils and of listening to recitations. The work was all laid out to be done. The teacher's job was to see that the pupil learned what he was supposed to learn. The student's purposes were not enlisted and his concerns were not taken into account. All this was in violation of what had been discovered about the learning process. The classroom was formal and completely dominated by the teacher. Rarely did students and teacher work together upon problems of genuine significance. Seldom did students strive ahead under their own power at tasks which really meant something to them. (Aiken 1942, p. 5-6)

### The Critical Theorist's Perspective



Some worry, however, that the absence of intrinsic motivators, and a willingness to let some children not learn, may be part of how social class structure is reproduced.

The problem with functionalism, according to conflict theory, is that, consciously or not, it takes the interests and perspective of the dominant social groups in society and elevates them to the status of universal norms. Having done this it then uses these norms to measure the contributions of members of all other groups. In this way the interests of a particular class are misrepresented as belonging to the society as a whole, and this misrepresentation then serves to maintain the privileged position of the members of that class (Feinberg & Soltis 1992, p. 46).

Michael Apple reminds us that school may not be about developing young minds:

What counts as knowledge, the ways in which it is organized, who is empowered to teach it, what counts as an appropriate display of having learned it, and—just as critically—who is allowed to ask and answer all these questions, are part and parcel of how dominance and subordination are reproduced and altered in this society (Apple 1996, pp. 22-23).

Critical theorists point to the hidden curriculum, which actually works against the “lower” classes using the official curriculum as a cultural step ladder. “It is the ways things are taught, rather than what is taught, that enable such norms to be learned” (Feinberg & Soltis 1992, p. 18). In one study explored in Feinberg and Soltis (1992), Jean Anyon (1980) studied five fifth grade classrooms in five different schools. Each school was fairly homogeneous to social class. The style of teaching was very different in each school, but similar between subjects within the same school. Feinberg and Soltis explain:

In Anyon’s study the working-class students are being taught how to participate in the world of work at the lower end of the production

process. They are being taught to follow rules that are not understood, to engage in work that has little meaning for them, and to follow without question the orders issued by an external authority. Students in the upper-middle-class school are being taught how to engage in the world of work at a relatively high level. They are being taught to work independently, to judge for themselves whether a rule meets the larger purpose of the task at hand, to manipulate symbols to their own ends, to exercise internal discipline, and to negotiate with authority on an equal basis. In Anyon's study the middle-class schools and the executive-elite schools presented still different pictures of rules and authority. The first taught students the behaviors and attitudes required to follow accepted form and to find the "right answers," which were located in some authoritative text. In the executive-elite school the children were taught to manage situations in which they were expected to be in charge. (Feinberg & Soltis 1992)

Miller (1991, p. 30) points to the obstacles imposed on disadvantaged youth:

The data regarding the disproportionate placement of poor and minority students in compensatory and special education programs is clear. Placement in such specialized programs is predicated on the notion that these programs offer uniqueness in materials, instructional practices, and opportunities for accessing appropriately designed levels of tasks and knowledge. Not only have these programs failed to provide increased opportunity for learning, but there is not evidence to support the existence of uniquely trained teachers who use uniquely superior methods. In fact, these programs may be inferior to the general education system and serve to deny equal access to knowledge through curricular fragmentation and

lower expectations. The achievement effects of such ability grouping patterns has been found to be zero.

Miller (1991) warns that if we persist in allowing children who are born in poverty to fail to get the kind of education that will enable them to participate in the economy and society productively, sometime in the 21st century this nation will cease to be a peaceful and prosperous democracy.

The growing concern over the high social and economic cost of large numbers of disengaged and at-risk youth is also returning attention to involving students in meaningful, engaged learning (see North Central Regional Educational Laboratory 1997, or Williams 1996).

Education is still held out as the best escape from poverty, but only if the class structure is not reproduced, so that poor children get the best schools, teachers and equivalents for the preschool preparation more affluent parents can give their children (Herbert Gans quoted in Goodlad 1997, pp. 62-63).

### Why We Need To Hear The Voices of Unmotivated Learners

In order to help everyone, regardless of social standing, become engaged in meaningful learning, we need to hear from our disengaged learners. I believe that much of the problem of unmotivated, disengaged learners grows from the lack of voice these students have in the discussion of what schools should be like. We may be making false assumptions about our unmotivated learners, based on what we think we know about our motivated learners. They are undoubtedly two different kinds of students and how they learn well is also undoubtedly different.

This nostalgia for “cohesion” is interesting, but the great delusion is that all pupils—black and white, working class, poor, and middle-class,

boys and girls—will receive the curriculum in the same way. Actually, it will be read in different ways, according to how pupils are placed in social relationships and culture. A common curriculum, in a heterogeneous society, is not a recipe for “cohesion”, but for resistance and the renewal of divisions. Since it always rests on cultural foundations of its own, it will put pupils in their places, not according to “ability”, but according to how their cultural communities rank along the criteria taken as the “standard.” (Richard Johnson quoted in Apple 1996, p. 33).

Further, the voice of students in general, and unmotivated students specifically, is largely missing from the literature. For the last decade, I have been listening closely to what young people have to say about schools and learning. Students report frustration, and disillusionment. Their stories have taken on a disheartening pattern:

- Schools focus on teaching students to obey rules, many of which seem unimportant or different than those outside of school (not chewing gum or wearing hats, for example).
- Kids learn what they have to to get a good grade, but without connections to their world or interests, they quickly forget what they memorized for the test.
- Schools don’t teach what students are interested in learning or think is important.
- Schools teach what the teacher (or someone even more removed from the student) thinks is important.
- Schools don’t try to make these topics meaningful to students, or at least to show why and how these topics will be important to them.

In the conflict theorist's tradition, I hope to achieve three goals (Glesne & Peshkin 1992, p. 12):

- to develop critical consciousness
- to improve the lives of those involved, and
- to transform societal structures and relationships.

By giving voice to an often under-recognized population, this study seeks to broaden and deepen the prevailing views surrounding the use of intrinsic motivators and the engagement of learners. By finding out what motivates disengaged learners, we may discover the means for teachers to reengage them in meaningful learning, improving the conditions (and happiness) of teachers and students alike.

### Methods

#### Participants

The study involved students and teachers on the Ram Team at Smith Middle School. Since this was a practice exercise, I selected a site of convenience. I have worked closely with the teachers at Smith Middle School for many years, and am especially close, personally and professionally, to several of the teachers on the Ram Team. I work with college students placed at that school, and the middle school students are used to seeing me both visiting teachers and doing observations. I traded the disadvantages of a convenient site for the time gained by already having a rapport with the teachers and students.

Smith is a regional middle school, serving six towns in rural New England. The 550 seventh and eighth grade students are divided between five interdisciplinary teams and remain on the same team for two years. Each team has four teachers: Math, Science, Social Studies, and Language Arts. Each teacher on the Ram Team also teaches reading, current events, and activities. The students are divided into two seventh and two eighth grade classes. There is a five day rotating schedule, generated by the team. Daily, students go to

exploratory (Art, Music, Foreign Cultures, Health, Careers, or Shop) and twice a week to physical education. The teachers on the team use those times for common planning and meeting about students. Classes are heterogeniously grouped. There is a heavy concentration of special needs students. Most remain in the regular classroom with pull-in assistance; a few leave certain classes for special services.

All participants were informed about the study through the Informed Consent Agreement. Only those volunteering to participate were involved in the study. Volunteers were allowed withdraw from the study at any time. (See the sample informed consent form in Appendix A.) There was no risk to participants and the study went through appropriate processes for Human Subjects Review. Access was attained by meeting with the principal and the superintendent. They each signed informed consent forms. Next, I approached the team, who also signed forms. The teachers helped me identify a primary and secondary subject for the study. Each student signed informed consent forms, then had their parents sign, as well, before returning the forms to me.

### Procedure

There were two key parts to the study: operationalizing the population and examining the student's view of motivation.

Operationalizing the population. Chronologically, the first part was a secondary emphasis of the study, focusing on operationalizing my population. I knew generally who I wanted to study (what type of student), but I have had difficulty deciding how to define that group. I wondered if I could identify my population by observing classroom behavior. I spent five hours observing in two Ram Team classrooms.

Using a laptop computer, I watched the students, recording any behavior, or other observable characteristics, which might help me more rigorously define the population. I type fairly quickly, and was able to record my observations and comments almost as quickly

as I noted them. This process is more thorough and accurate than making a record after conducting the observation.

I may have been a minor distraction, but I didn't notice anything which would make me think that there was any significant change to student behavior. Occasionally a student would ask what I was doing, but was satisfied with the answer, "I'm practicing watching kids." Although students were briefly interested in my laptop, they were accustomed to having computers in the classroom and to having me in the classroom, and soon either ignored or accepted me. I remarked in my field notes, "In some ways, it [the laptop] gives me a way to connect with the students, because they think my computer is cool and they are surprised that I can type fast and without looking."

Student's view of motivation. The second, and major, focus of the study was exploring the underachieving student's perceptions of what motivates him to learn well. Through my work with college students and my association with the teachers, I have come to know some of the middle school students quite well. I selected one of these students, Andy, as my primary subject, since he is a bright, and creative young man who neither does well academically (he gets mostly C's), nor likes school much (by his own admission).

I am especially close to one of the teachers on the team, and we have discussed this project extensively. Being so familiar with my research interests, she helped me identify a secondary subject, Mike. Mike also is very knowledgeable, and intelligent to talk with, but his grades are mostly C's, and his teachers report he has great difficulty remembering to bring things to or from home, or to turn in work.

There may be more objective ways to select subjects, but I was still struggling with how to operationally define my population. Each teacher separately recognized Andy and Mike as readily fitting my (rather vague) description of "students who seem fairly bright, but don't do well in school, or students for whom school doesn't seem to work," adding to my confidence in their selection as subjects.

Students were interviewed separately, at school, away from other people and distractions. My prepared questions (see Appendix B) were of two types: those based on what the literature suggests are motivators (e.g.: “How do your teachers try to make school interesting to you?” or “How is school preparing you for what you want to do when you get out of school?”), and open ended questions which would let the student suggest what motivates him (e.g.: “Imagine that the State Department of Education came to you and asked you how to design courses and units so that you could really learn well, what would you tell them?” or “What’s the one thing you would change about how your classes or how your teachers teach which would help you to learn better?”) To improve my confidence in their responses, I prodded them to expand on and clarify their answers. This was especially important, since there wouldn’t be time for a member check of the transcripts. Interviews were audio taped and took approximately 30 minutes. As a sample, a piece of the transcript from Mike’s interview is included in Appendix D.

To help contextualize and validate what I learned from the student interviews, I shadowed Andy for a day. Using a preformatted table on my laptop, I recorded observations for five minute intervals.

To gain further confidence in what I was learning from my two young subjects, I interviewed one of Andy’s teachers. Mrs. Carpender is a special education teacher and instructs Andy, together with a few other students, in math, as a pull out program. I selected Mrs. Carpender for two reasons. First, Andy mentioned her as a teacher he learns well from. Second, she identified immediately and enthusiastically with the population, stating that she not only taught students like that, but that her own son was that way. I saw interviewing her as an opportunity to both learn from one of Andy’s teachers, and to learn from a parent of a student in my population.

Mrs. Carpender’s interview questions paralleled the student interview questions (see Appendix C). One type of question came directly from the literature on motivation (e.g.: “How do you help students prepare for their goals for the future?” or “How do you tap



into student interests?”). Other questions were open ended (e.g.: “You know I’ve been observing some of your students. What motivates those students?” or “Dealing with students who don’t seem interested in learning can be a real challenge. What are some of the things you try to do to reach these students?”). I used also open ended questions to explore the experiences she had with her son. Although time didn’t allow for a conventional member check, I used follow-up questions to insure I understood her responses. The interview was audio taped and lasted less than an hour.

Limitations of this study. “Ideally, you should stop collecting data because you have reached theoretical saturation. This means that successive examination of sources yields redundancy, and that the data you have seem complete and integrated” (Glesne & Peshkin 1992, p. 132). This was a practice exercise for a research class, and time simply did not allow for the kind of thorough job with data collecting I would have liked to do.

The reader should keep in mind that these findings are based on single interviews of two students, and a teacher, and about 10 hours of classroom observation. For future studies, I would like to interview more students, and teachers; interview them more often; conduct a member check of the transcripts or findings from transcripts; and conduct more observations.

Data analysis. In spite of my concerns about, the four findings above, relative to motivating underachieving and disengaged learners, were supported by the evidence gathered. I only reported a result if I could do so with confidence, that confidence coming from the result being supported by multiple sources in the study. I transcribed the interviews myself and double-checked their accuracy by reading the transcript while listening to the tape. Typographical and spelling errors were cleaned up in the observational field notes. This work was done shortly after the interviews or observations to insure that they were fresh in my mind.

Each file was printed with large margins, then read multiple times, coding for my population question, what motivates students to learn, and what interferes with their learning.

Lines and paragraphs received as many codes as were suggested by their content. Passages were organized by their codes and conclusions were drawn by reflectively examining patterns in the data.

Author bias. Throughout analysis, I tried to be continually alert to my own biases, repeatedly asking myself, “Is this what they meant? Can I back it up from the interview transcript or from my observational field notes?”

I have 13 years of classroom teaching experience and have conducted numerous classroom action research projects. I have published 5 books and at least 10 articles related to education and engaging students in meaningful learning. I have conducted numerous workshops, presented at conferences, and taught courses throughout Maine and across the country, including working with an all black, inner-city, Title I middle school in remediation (our topic was meaningful, engaged learning). I have been active in the Partnership Teacher’s Network (Maine’s Foxfire Network) and worked closely with James Beane, Barbara Brodhagen, and other teachers working with integrative curriculum. I am finishing my coursework for my Ed.D. and have been well trained in conducting rigorous academic research in preparation for doing my dissertation. I am a practiced, and scholarly, critical theoretician and philosopher. These qualifications illustrate my commitment to the high standards of scholarly research, theory, and philosophy, especially as it relates to engaging all students in meaningful learning.

My teaching career has been dogged by the anomalies I see around me: students who get an “A” on a challenging word processor test, but come back two weeks later with a paper to write and asking me to show them how to use the word processor again; fellow teachers who have precise, easy-to-follow, step-by-step instructions for activities or projects which seem interesting to us, but students who treat them as if the directions were written in a foreign language and the task were impossible; difficult lessons I thought I had taught well by breaking tough procedures into little steps, and students who can use the steps to get

correct answers, but don't understand their work and don't remember how to do it shortly thereafter.

I believe these anomalies grow from the ways that schools misunderstand learning; subscribing to the banking, or transfer, model of teaching (teachers transfer their knowledge to students for use at some unspecified time in the future) instead of recognizing the importance of personal experience, schema theory, and intrinsic motivation to individual learning. Students learn when teachers use contexts for content meaningful to the learner, share authority with and give meaningful choices to the student, build on the interests or goals of the students or generate interest by posing questions, challenges, contradictions and conundrums, or create aims by doing real work or providing a real audience.

Some people see no hope for unmotivated students. The conflict theorist in me fears that some people use that as an excuse not to work towards re-engaging those students in learning. Further, I see social reproduction within schools; practices which, intentionally or unintentionally, keep non-ruling social classes at an educational disadvantage. Under-served, at-risk, "learning disabled," and disengaged youth are often offered learning opportunities of a lower educational quality than some of their "peers." Students who are not given equal educational opportunity (such as by a lack of intrinsic motivators in instruction) are often blamed for their lack of learning or engagement.

My experience, however, indicates that there is hope for underachieving students. Through my involvement with the Foxfire approach to teaching and learning (an approach which actively involves students in deciding how to tackle the curriculum) and Jim Beane's model for integrative curriculum (an approach which actively involves students in designing the curriculum), I have seen first hand, and through the work of other teachers, that unmotivated students can be re-engaged in learning when they are given meaningful contexts for learning, choices and shared authority in the classroom, lessons made interesting or building on student interests, and work and content which matches student goals.

## Results

### Operationalizing The Population

Identifying my population was easy. I knew the type of student I was interested in and could name long lists of former students that fit my mental picture. Defining the population was another matter. How could I identify subjects rigorously? When I talk with teachers about students who are bright but don't do well in school or are disengaged, or for whom school doesn't seem to work, they seem to know exactly of whom I am speaking. But I need a less haphazard method of identifying subjects. My conversations were fine for conversations, but inadequate for conducting research.

I hoped that watching kids would help me operationalize the definition, or at least provide some clues to a formal definition of my population. From my field notes:

Today, I continue looking at kids "turned off by school." I say that, but I'm still struggling with who my population is. Is it at risk, under achieving, disengaged kids, off task kids? I'm not sure. I'll know more when I read the literature, but I have some intuitive sense of who I'm interested in and hope that by just watching kids who are turned off by school (no matter how many good things the teachers try or what their circumstances outside of school are) that I'll get some insights into how to define, identify and operationalize my population.

And later I wrote:

Who is my population? Underachieving is easy: Find tests- when compared to grades, show that the kid isn't working up to potential. But is that who I am thinking about? The kid who isn't doing as well as they could be? Or am I looking for the kid who is turned off by school? Or do I mean any kid who just isn't learning? Or is that the same as underachieving kids? Or am I looking for the kid who doesn't do their work? who doesn't participate? Or am I really interested in low SES or kids from cultural groups who don't get the same kinds of legitimacy as kids from the accepted culture? Or am I interested in anyone that school doesn't seem to be working for? I have a bias: school doesn't work for some kids. Schools misunderstand learning. Even kids who do well in school are suspicious of the value of the content they work with and the activities that they do. They think that the purpose of school is getting them to obey. Am I just interested in the kid who is disruptive? Am I interested in difficult students? When I think of the Maine Youth center and the Goodwill-Hinkley School, that's certainly who I'm thinking of. Can schools better meet the needs of those kids, or is it the outside circumstances which have placed them there and there is nothing teachers can do? By defining the population am I also defining the solution?

During my time in classrooms, I saw kids demonstrate behaviors which potentially could provide clues to my population. Some students were angry. They slapped desks, or made periods with a vicious stab of their pencils, or spoke sarcastically to their peers. Other students were bored, putting their heads down on desks, or reading magazines when they should have been doing other work. Some students just distanced themselves, staring off into space.

One student, who I named White Shirt in my notes, seemed to be the perfect candidate. She was in both a reading class and a Social Studies class which I observed. I wrote in my notes:

Depression Era songs. Kids listening, looking in all directions but listening. Some kids bouncing around. White shirt girl sitting by herself, no one even near her. Arms crossed over chest, looking at a place on the table about 30 million miles away. Corner of mouth down. Looks around the room, but no indication she's listening to the music. Is she there?

One of my practicum teachers tried to get her to do some work during reading.

Practicum teacher joins White Shirt and tries to get her engaged. She's holding the book but has the same unhappy expression. She's looking through it and the practicum teacher is looking with her, but not doing the work. He just sits beside her. She seems to be reading, but isn't reading out loud. The practicum teacher asks a question and White Shirt shakes her head, he chuckles, and she almost smiles, not really, but almost.

Later, she is working in a small group on her Social Studies project

White Shirt is in a group sitting by themselves. She's now in the same seat she was in before, with the exact same body stance, although now she's adding a few things to the conversation, but doesn't seem happy about it.

I thought that I had found a good candidate for my study. The body language, lack of involvement, and distant look all seemed to be good indicators. But I wanted to confirm my find with the teacher. During break, I asked her about White Shirt. She said that White

Shirt had recently called another girl a name and was now on “sexual harassment notice” and was pouting. White Shirt was usually much more involved and generally a good student. I had struck out.

### Student’s View of Motivation

Four key motivational issues emerged strongly out of the interviews with the two boys. These issues were confirmed through critical examinations of the observation field notes, and the teacher interview. The issues are learning styles; active, hands-on lessons; trusting, respectful relationships; and the gap between what schools do and what could be done.

A matter of learning styles. Andy brought up on his own how different students learn differently. He said, “Some enjoy book work, others don’t. Some like papers, others don’t. Some like science, some don’t.” I asked him if there was any kind of work that he thought that most students would like doing and he said that he didn’t know. One interview question addressed learning styles directly. I asked each interviewee for their reaction to a quote by Seymour Papert:

I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them. (Papert 1996)

All three were in strong, and enthusiastic agreement with the statement. Andy said, “I think he basically hit it right on.” Mike said, “That guy’s smart!... I think he’s smart because he’s got everything right. It’s good.” Mrs. Carpenter said, “That’s right, I would agree with that. Absolutely. Absolutely.”

In each of the three interviews, I went on to probe how schools do or don't react to different learning styles. Andy said that teachers try to make learning "fulfilling" to students by getting them involved, building on their interests, doing a variety of activities, and doing active work. Mike mentioned avoiding book work and having access to technology. Mrs. Carpenter talked about building on students' strengths:

- Mrs. Carpenter (C): Don't focus all the time with what's wrong with the kid. Find what's right and go after it because that's where your child will succeed. Just go after it.
- Researcher (R): So it's not just taking what they're good at and building it into this other thing you want to do, but by giving them the opportunity to excel in this area...
- C: It gives them the strength to grind out the grind work you have to do...
- R: The grind stuff...
- C: That's right. Because some of it is just grind, and in life you have to grind through spots.
- R: And if we're not giving them a place to succeed and feel good, then they really aren't going to put the time into those dead spots.
- C: They don't have the strength to do it. They don't have the emotional strength.

Doing things vs. book work. Both boys made it clear that they prefer doing activities to doing book work. Mrs. Carpenter agreed, when I shared my preliminary findings with her.

Andy talked about how math class was one of his favorites because they did hands on work such as working with tanagrams. Part of why he likes them is that there is more



than one correct way to do things. In fact, he seems to like finding several ways to make a shape using the tanagrams.

Mike was more vehement about an overreliance on book work: “[Y]ou never learn anything sitting over a book 24 hours a day, you’re just staring at it,” and “I’d rather have hands-on than looking at a book all day.” The topic came up in other points in our interview, as well:

- Researcher (R): Let’s imagine that the state Department of Education comes to you and they say, we need some help. We want to know what kinds of things you think we should do if we were going to design courses and units, and how they should be taught, so you could learn really well. What would you tell them.
- Mike (M): I’d say, you’d actually be working, you’d actually be doing something instead of just sitting in class and just doing book work. Some of the classes that’s all you do. You sit there all day doing book work, but you don’t learn anything cause you just go back to find the answer and all that. And you don’t learn anything.
- R: So other than book work, what kinds of work do you think you’d tell the state that teachers should have you do?
- M: Probably hands-on cause that’s the only thing you learn a lot from. Everything else is just sit down, write it down, you like ace this test then like a day later you forget it all.

And when I asked Mike how his Math teacher made Math interesting, he said:

- M: He tries to make it interesting by giving us different things. Like in school we get to use protractors, rulers, and that stuff. We’ve been using that lately to make like circles and all that. That’s basically hands-on.

- R: So what is it about that that makes it interesting for you?
- M: Because you are actually doing something different than just sitting at a book all day and doing work. It's better.

Relationships, trust, and respect. I had expected students to focus on intrinsic motivators closely related to content, including pace, choice, curiosity, and alignment with personal goals. Those were validated by the boys, but not as strongly as the importance of relationship, trust, and respect in the classroom. One of the most important factors for successful learning, to my two underachievers, was the student/teacher relationship.

Andy talks about how teachers who nag turn him off to learning. I witnessed the Science teacher (T) dealt with an angry child (S) by fostering a positive and respectful relationship with the child. I wrote:

S came in already agitated, hit desks, snapped at people.

T called S over and took him out in the hall. Other students continued to settle in and didn't seem to notice. When he came in, he went back to his seat. Orderly, sat quietly. T noticed that a girl next to S was taking his notes for the video. T said "no" and gave S his own paper.

Later saw that he was taking one word notes and reminded him that he needed to write phrases, then reminded whole class. Some groaned, but they did it.

S became frustrated with note-taking. Groaned and started to crumple his paper. T saw this and said "no" strongly, then came over and got down low next to S. T told me later that she let S know that she cared about him, knew he could do the work, and showed him what to do. S smoothed out his paper and went back to doing the work.

I became immediately aware that what was going on was not pedagogy but relationships. T used a combination (although she probably wasn't aware of it) of relationship building with the student, high standards, and some of the tips and tricks which come out of the self efficacy literature.

The Social Studies teacher's classroom permeates with a respectful atmosphere.

From my field notes:

There is a real climate in the room of respecting student input and treating kids like people. There is more of a "social responsibility" climate than an "authority" climate and I wonder if this is part of why students seem to learn well in this class.

Mrs. Carpender admits that it might be one of her most important tool in reaching underachieving students.

- R: What are some of the things that you think motivate your kids.
- C: The kids that come in and work for me.... (long pause) They know there aren't going to be any surprises. I'm absolutely reliable...
- [And later in the interview]
- R: It sounds like one of the things that you rely on the most for reaching these kids is the element of "the relationship" not that you're trying to be buddy-buddy, but that you're trying to be consistent, and honest, and reliable, and trustworthy
- C: Yup, yup, yup. For fragile learners. I think it's true for anybody, but really for fragile learners.

A gap in schools providing for motivation. It was clear from talking with Andy and Mike that although some of their teachers had created respectful relationships with their students and that some teachers made sure that their teaching was activity based, many teachers were not. Both boys, for example, referred to teachers who yelled, or nagged, or bossed students. In reference to book work, recall that Mike said, “Some of the classes that’s all you do. You sit there all day doing book work, but you don’t learn anything cause you just go back to find the answer and all that. And you don’t learn anything.” Both boys implied that both the Math teacher and the Language Arts teacher did mostly book work.

Although the boys put most of their emphasis on the student teacher relationship and on doing things, both boys said that they thought it would make it easier for them to learn if schools tied in learning to student’s interests and goals, and connected learning to the “real world.” These areas, however, is where I found the largest gap between what schools might do and what they are doing.

In regard to preparing students for their goals, for instance, both boys could readily identify what they want to do professionally when they are done with school: Andy wants to draw, and Mike wants to be a pilot or work with computers. Both could identify only peripheral ways that schools helped them with their goals. Mike said that the schools had computers, although they didn’t work right much of the time. Andy could only see that school was helping because it was getting him ready to go to college, not that it was helping him directly with his goal to become a professional artist. Mrs. Carpender says that she is aware of many of her students’ goals and interests, but doesn’t try to relate content to them.

When asked about how school learning relates to the real world, Andy said it teachers you not to sass back to adults. Mike saw no connections to the real world. When I asked him, “How do you see a connection between the work that you do here and [the town you live in]?” he replied, “Basically, I don’t.” When I asked Mrs. Carpender, “How do

you try to show students that course content is useful and important to them?” she chuckled and replied, “I don’t even go there.”

### Discussion

I would like to replicate the study, being more thorough in my data collection, and seeing if the new data generate the same results. Even so, the results from these data raise some interesting issues deserving of further discussion.

### You Can’t Judge A Book By It’s Cover

The idea that I “could not judge a book by its cover” was reinforced shortly after observing White Shirt. I was observing one of my practicum teachers working with first graders in a nearby elementary school. She was trying to involve a group of five students in a story sequencing activity. They kept moving around and were easily distracted. My practicum teacher was doing a wonderful job of trying to keep them on task, using multiple classroom management strategies, but they were an extremely difficult group to work with. We both thought that they had learned nothing from the activity.

We were fooled, however. All the groups got back together on the floor for a class meeting. Every one of the active, seemingly distracted students was able to explain to the rest of the class what they had done and what they had learned in the lesson. Both the practicum teacher and I were surprised. Who is engaged and who is not may not be outwardly observable. Some students who appear distracted may be doing more than one thing at once, both attending and the behavior we have label as “distracted.” Other students, who we assume are on task and engaged, may simply be “going along for the ride.” They do what is asked of them, but aren’t really attending to the lesson.

I also wondered if I did not see more behavior indicating disengaged learners because I had conducted these observations in two classrooms with wonderful teachers. The Social Studies teacher, for example, had her students involved with projects. She conducted

a class meeting at the beginning and ending of class, checking on the status of the projects and helping groups decide what they needed to work on. Those meetings also proved to be a time to do some group problem solving. Students seemed engaged by their projects, working with peers, technology, and various media. Teacher/student interactions were characterized by respect and classroom discipline was handled with an equal amount of respect. Again, relationship seemed to be an important component of the classroom.

So, I might not have seen many behaviors, which would point to my population, because the teachers used strategies which engaged and encouraged the students. Or, you simply can't judge a book by its cover and short observations are not the best way to identify my population. Either way, I am back to talking with teachers and getting them to help me identify subjects.

I am more confident about this option than when I started, because of how readily teachers identify with the group I describe. That group seems to be an accepted and recognized part of the school culture. The four teachers on the team all agreed that Andy and Mike fit that group. Further, Andy and Mike both readily recognized themselves as part of that group. In fact, when I first talked with Andy, I said, "I'm studying students who are fairly bright, but..." and he quickly interrupted me and finished with, "...but don't like school much." Mike did the same thing, but finished my sentence with, "...but don't do well in school."

When working with a team of teachers who share students, potential subjects for further research might be identified by asking the teachers to list students who they think "are fairly bright but don't do well in school or for whom school doesn't seem to work." Lists can be compared and students who appear on multiple lists could be selected to participate. If student records are available, their grades and test scores can also be compared, looking for a discrepancy between potential and performance. I hope to learn other strategies for identifying my population when I read more of the underachieving and at-risk student literature.

### A Matter Of Learning Styles

I was interested that, although students and teachers believed that many of the learning problems in school were because students weren't being taught in their learning style, students and teachers couldn't really tell me what being taught in their learning style would look like. Perhaps this reflects that teachers don't have mental models of what teaching might look like; our own experiences and expectations may shape what teaching strategies we see as acceptable.

In our interview, Mrs. Carpender repeatedly equated hands-on learning and vocational education, for example. But the students included in their references to "doing things" or to "hands-on learning" activities like doing research projects over topics of interest (self-selected topics). In reference to her own son, Mrs. Carpender admitted that she didn't see hands-on activities as being academically oriented, although as her children get older, she's starting to see how reading is not the only way to be smart.

Identifying alternative approaches and helping teachers build mental models of those approaches may help with motivating all students to learn.

### Doing Things Vs. Book Work

Even though both boys wanted to avoid book work and would prefer doing things with their hands, that did not mean that they didn't want to do any book work. In Shop, for instance, Andy didn't mind taking notes about different kinds of batteries. I wrote in my field notes: "Why are they so well behaved in Shop?... Do they not mind doing the book work and notes because they get to do projects and activities, too?" I noticed too, that the Science and Social Studies teachers, who do a lot of projects and activities, don't do so exclusively. Again from my field notes: "'Activity-based' teachers don't always do activities. They still deliver content, and review, and take tests. Does it [kids being engaged] have more to do with respect and choices and doing things?"

### Coprocessing And Multi-tasking?

Certainly students act out if they are bored or aren't taught according to their learning style. But during my observations, I reflected on if part of the problem was that inattentive students just didn't get enough activity. "Doing things" might simply be being active. I wrote in my notes:

Is one of my issues how active the students are - are they turned off because they need to be more active and there just isn't enough going on? Do they need to use more of their senses and sitting doesn't do it for them?

I've started to wonder if some students don't simply coprocess and multi-task. Maybe they do several things at once. ADD and ADHD are increasing in our schools and have been linked, not to *not* paying attention, but rather to paying attention to everything. Maybe ADD and ADHD is simply another version of multi-tasking. Maybe with all the fast paced media available to young people, we have a new and different generation who does more than one thing at a time. Certainly my practicum teacher, described above, had first graders who could do more than one thing at a time

Teachers are trained to keep students on task. This certainly helps with keeping order in the classroom, but may be a problem for student learning, especially if some students learn best when they are multi-tasking. I commented in my field notes:

How much of the noise and stuff isn't really being off task, but is just coprocessing? Are we (educators) making a mistake by killing the drive to learn because students need to be doing more than one thing at once and we only allow them to do one thing?



Project-based learning, for example, may appeal to some students because it is natural to do more than one thing at a time when working on the projects.

The Science teacher on the Ram Team has been thinking along these lines for some time, and admits that she thinks that is how her own mind works. During a parent conference for a boy who is often disruptive in class, she asked the student if he was also paying attention while he moved around the room. He said that he was half paying attention. The teacher and I wondered if that was because he could only pay half attention when he was doing other things, or if he only half paid attention because he was also bored.

### Compliance Vs. Learning

Keeping students on task raises the issue of whether students view school as a place of compliance or a place of learning. In the Introduction, I wrote that secondary students I have talked to see the purpose of school as learning to obey others. This is the concern of conflict theorists, that not all people, or groups of people, are treated equally and that some are taught to think and lead, and others are taught to comply.

This study raised further questions about issues of complying and learning. For one, I learned that you can't tell if someone isn't learning because they are doing something else, nor if they are learning because they are on task. Learning is an internal process which may have few, if any, external indicators. It is hard to tell from those indicators whether students are learning or simply not being disruptive. Therefore, although teachers do need to keep an orderly and safe classroom, they must also be careful that they are not shutting down learning by how they react.

Attempts to keep the class orderly may inadvertently be squelching student interests. In the shop class, students were taking notes on different kinds of batteries. Throughout the lesson, Andy showed a lot of interest and knowledge about batteries. Andy got talking with a few neighbors about shelf life. It was related, but not the specific topic being discussed at the time. His mind was diverging onto other things that he knows about batteries and was

trying to share that knowledge with some of his classmates. The teacher's aid stopped him because it was off the topic. But I wonder about the message Andy got. Was he being told that the information the teacher was going over was important, or was he indirectly and inadvertently being told that his ideas were unimportant?

During one of my observations, I commented in my notes, "Part of me believes that kids who drop out mentally are objecting to inappropriate uses of power??? The kids at our alternative school do better because much of the control issues are done away with." Mike repeatedly came back to having choices and some control as important conditions which help him learn. Andy started his interview hinting at compliance issues at school:

- R: Why don't you start by telling me what a typical day is like.
- A: (Pause) Do work, follow directions (Researcher's Comment: oh-oh. More compliance and control stuff?)
- R: Tell me a little bit more than that.
- A: (Pause) You don't work, you don't follow directions, you get behind and you have to stay after and you get talked to later on.

I am certain that most teachers have nothing but the best intentions for students. I worry, however, that much of what we do is driven by tradition, and not by reflecting on the ebb and flow of young minds. I am disturbed when I hear some teacher say that students need to adapt to school, when students are not in school by choice (they are there by law) and schools are supposed to be providing a service to children (not the other way around). Only through better understanding what motivates each child to learn can we provide that service to all children.

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Pilot Informed Consent

## Informed Consent Agreement Classroom Observation

University of Maine

*Please read this consent agreement carefully before you decide to participate in the study.*

**Project Title:** Intrinsic Motivation: The perspective of the disengaged learner.

**Primary Investigator:** Michael R. Muir

**Faculty Advisor:** Kate Moirs

**Purpose of the Research Study:** The main purpose of this study is to gain practical experience with the qualitative research methods of observation and interviewing for a Qualitative Research course the primary investigator is taking. The guiding question for the study is “What is the underachieving learner’s perspective on intrinsic motivation?” The study focuses on the intrinsic motivators of context, choices, curiosity, and alignment with student goals. Teachers are challenged daily by underachieving and unmotivated learners. By learning the perspective of those who are turned off by school, this study seeks to broaden and deepen the prevailing views surrounding the use of intrinsic motivators and provide teachers with more ideas on how to reach these learners.

**What will you do:** Nothing. With your permission, I will observe and make notes on student behaviors. Observations and notes will provide me with source material for a close analysis of information. I will keep the field notes after the study. If you withdraw from the study, I will destroy those field notes pertaining to your classroom.

**Time Required:** I will conduct a minimum of 10 hours of classroom observations.

**Risks:** None.

**Benefits:** Your participation in this study will benefit the existing knowledge base surrounding working with reluctant learners; otherwise, there is no other direct benefit to you.

**Confidentiality:** The information that you make available to the study will be handled confidentially. I will keep all names (places and people) anonymous and will create false names when referring to you. In addition, I will not share field notes with anyone except the members of my dissertation committee and the other students in my Qualitative Research class, who will abide by the same high standards for confidentiality. I request your permission to use the conclusions for future research publications, conferences, and presentations.

**Voluntary participation:** Your participation in the study is completely voluntary.

**Right to withdraw from the study:** You have the right to withdraw from the study at any time.

**How to withdraw from the study:** If at any time you wish to withdraw from this study, you are free to do so and need only tell me or state so in writing.

**Payment:** You will receive no payment for participating in the study. Copies of the final study will be made available on request.

**Who to contact if you have questions about the study:** Mike Muir, RFD 3, Box 1140, Skowhegan, ME 04976; 207-778-7179; e-mail at [wilder@somtel.com](mailto:wilder@somtel.com).

**Who to contact about your rights in the study:** Katie A. Moirs, Ph.D., 305 Shibbles Hall, University of Maine, Orono, ME 04469, 207-581-2487.

**AGREEMENT:** I agree to participate in the research study described above.

**Signature of Superintendent:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Principal:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Math Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Soc. Stud. Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Lang. Arts Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Science Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Exploratory Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Phys. Ed. Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Researcher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

*You will receive a copy of this form for your records.*

Pilot Student Interview Questions

## Student Interview Questions

1. Think of a good learning experience. It can be in school or out of school, but think of a time when you had an 'ah-ha!' or when everything fell into place. Maybe you could finally do something you had been struggling with or something finally made sense. Maybe it was your English teacher who finally taught you how to write a good essay, or maybe it was when your grandfather taught you how to fly fish. So whether it was in school or out, think of a time that you had a really good learning experience. Briefly describe that experience to me.
2. Now think about what made that a good learning experience. What are the characteristics of your good learning experience?
3. How many of your classes/teachers (include the elements from question 2)? Describe them a little.
4. Describe a good class or teacher that you have now or have had in the past. What made them good?
5. How many of your classes/teachers are like that? Describe them.
6. Help me out. Imagine that the State of Maine came to you and asked to design how courses and units should be taught so that you could really learn well, what would you tell them?
7. What's the one thing you would change about how your classes or how your teachers teach which would help you to learn better?
8. How do your teachers help you to successfully learn new material and help you feel like you are capable of doing the work?
9. What do you want to do when you get out of school?
10. How is school preparing you for that?
11. How is school preparing you for your future?
12. How do your teachers try to make school interesting to you?

I'm going to read you some quotes from a teachers organization and I'd like your reaction:

The work teachers and learners do together is infused from the beginning with learner choice, design, and revision. The central focus of the work grows out of learners' interests and concerns.

What is your reaction to this kind of teaching? How would it impact your learning?

How do your teachers do this kind of teaching?

Connections between the classroom work, the surrounding communities, and the world beyond the community are clear. Course content is connected to the community in which the learners live. Learners' work will "bring home" larger issues by identifying attitudes about and illustrations and implications of those issues in their home communities.

What is your reaction to this kind of teaching? How would it impact your learning?

How do your teachers do this kind of teaching?

Imagination and creativity are encouraged in the completion of learning activities. It is the learner's freedom to express and explore, to observe and investigate, and to discover that are the basis for aesthetic experiences. These experiences provide a sense of enjoyment and satisfaction and lead to deeper understanding and an internal thirst for knowledge.

What is your reaction to this kind of teaching? How would it impact your learning?

How do your teachers do this kind of teaching?

I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their



apparent disabilities when given the opportunity to learn in a way that comes naturally to them.

What is your reaction to this statement? How does it match your experiences as a learner?

Pilot Teacher Interview Questions

## Teacher Interview questions

- 1) You know I've been observing some of your students. What motivates those students? When do they learn well? What are their interests and goals?
  - 2) Dealing with students who don't seem interested in learning can be a real challenge. What are some of the things you try to do to reach these students?
  - 3) What makes it hard to reach those students?
- 
1. Think of a good learning experience. It can be in school or out of school, but think of a time when you had an 'ah-ha!' or when everything fell into place. Maybe you could finally do something you had been struggling with or something finally made sense. Maybe it was your English teacher who finally taught you how to write a good essay, or maybe it was when your grandfather taught you how to fly fish. So whether it was in school or out, think of a time that you had a really good learning experience. Briefly describe that experience to me.
  2. Now think about what made that a good learning experience. What are the characteristics of your good learning experience?
  3. How many of your classes/teachers (include the elements from question 2)? Describe them a little.
  - 4) How do you help students prepare for their goals for the future?
  - 5) How do you tap into student interests?
  - 6) How do you try to show students that course content is useful and important to them?
  - 7) What kinds of choices do you give students and what kinds of decisions do you let them make?
  - 8) To what extent do you agree with the statement "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment"?

- 9) To what extent do you agree with the statement , “If I really try hard, I can get through to even the most difficult or unmotivated students”?

I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them.

What is your reaction to this statement? How does it match your experiences as a learner?

Pilot Sample Transcript

Portion Of The Transcript Of Mike's Interview

Researcher: You know what I'm interested in is knowing more about how you think you learn well. So I'll ask you a bunch of different kinds of questions.

Mike: Okay.

R: And you just tell me what you think. So the first thing I want you to think about is think about a good learning experience that you had. And it could be in school or out of school. But it should be sometime when you had a big AHA or when everything fell in place or you finally felt like you could do something you'd been working at, something like that. So, maybe it was like an English teacher who finally taught you how to write a good essay or maybe it was when your grandfather taught you how to fly fish, I mean it could be anything at all. all right. So whether it was in school or out of school think about a time you had a really good learning experience and tell me about it.

M: Okay, that would sixth grade, last year. It was we were doing this Egyptian project art. I was doing tombs and pyramids. Like my friends, and we were like I ended up doing most of it because most of them were sick all the time. I did most of it anyway. I did like the pyramids. I drew all that stuff, I wrote a lot, like one report or whatever. I can't remember. Oh, anyway it was fun because like the teacher actually let us do this, she said, go and to this, and we said okay and we went and did that. And that's basically it.

- R: Think a little bit about what you think made it a good learning experience. What was it about the activity or the lesson that made it a good experience for you?
- M: The teacher gives a little freedom that made us able to actually do something.
- R: So you... Freedom in what way?
- M: So she'd just say, "Here's the class, do what you want with it."
- R: So you had a lot of choices
- M: Yeah. We didn't necessarily, she didn't say like okay today's study day or today's work on this day or whatever.
- R: So is part of what you're also saying that you had control over how you used the class time?
- M: Yeah.
- R: You also said to me a second ago that you got to do something with it. What do you mean by that?
- M: I mean you could do what you want. You just had to have some sort of visual and some sort of report. Other than that it could be on anything that you wanted. We chose topics anyways, so. I got the one I wanted.
- R: How many of your classes... or tell me about how your classes and teachers in general include some of those elements, like letting you decide how to use class time and giving you some ideas on what to do but giving you a lot of freedom about how to do it.
- M: Um, sixth grade or seventh grade? 'cause in sixth grade I only had one teacher.
- R: What about seventh grade, what about now?
- M: Seventh grade basically....
- R: You're a seventh grader now, right?

- M: Yeah. Most of the teachers give you like all the time you want to work on your report, the other ones try to organize it so much that its like when we are doing... I don't know.
- R: So you actually find it tougher when they try and organize your time for you.
- M: Yeah (almost relieved, like someone finally understands). Cause you're trying to look around and always figure out what's going on and they're always changing what's going on. Okay, we're going to move this over here because we are going to be doing that here.... We ended up not doing one of our projects because we didn't fit the schedule. That's basically it.
- R: Why don't you describe a good teacher or a good class that you've had either now or in the past and tell me a little about why you think they were good.
- M: Basically my favorite teacher was last year in sixth grade.... When we were working on some projects, she let us do what we wanted, basically, instead of like bunching it all together and squeezing it all together into three days. I mean some of the teachers they say, "okay, we'll give you enough time to do all this." but they give us just three days, and it's like not enough and you end up having like getting it in late. And they say, "bla, bla, bla"

## Appendix B: Identifying Underachieving Students

### Checklist For Identifying Indices Of Underachievement Among Gifted Black Students

(Ford, 1996)

#### Social Factors

- Student's primary social group is outside of the school or gifted program
- Student participates in little or no extracurricular activities
- Student socializes with delinquents and/or students who have a poor achievement orientation
- Student's need for peer acceptance and relations outweighs his or her academic concerns about school and achievement
- Student lives in one or more risk factors (e.g., poverty, single-parent family, poorly educated parent(s), etc.)

#### Family Factors

- Student's home life is stressful
- Low parental educational level
- Student has one parent in the home
- Student has relatives who have dropped out of school
- Student has little parental/family supervision; poor family relations
- Parental expectations for student are too low or unrealistic
- Low socioeconomic status
- Communication between home and school is poor

#### School Culture/Climate Factors

- Teachers and school personnel hold low expectations of minority students
- Morale among teachers, school personnel, and/or students is low
- Classroom environment is unfriendly or hostile
- Student feels alienated and isolated from teacher(s)
- Student feels alienated and isolated from classmates
- Gifted program lacks cultural and racial diversity relative to students
- Teaching, administrative staff, and other school personnel lack racial and cultural diversity
- Little attention is given to multicultural education
- Teachers and other school personnel lack substantive training in gifted education
- Teachers and other school personnel lack substantive training in multicultural and urban education
- Minority students are underrepresented in the gifted program and services

#### Psychological/Individual/Factors

- Student motivation is consistently low
- Student has negative attitude toward school
- Student cannot tolerate structured and/or passive activities
- Student relates poorly to authority or adult figures (e.g., teachers, parents, administrators)
- Student has experienced emotional trauma (on more than one occasion, consistently, or frequently)
- Student has low self-esteem
- Student has low academic and/or social self-concepts



- Student has poor racial identity
- Student has health or medical problems
- Student attributes failure to lack of ability; attributes success to luck or easy task
- Student consistently seeks immediate gratification
- Student's learning style preferences are inconsistent with teaching styles
- Student suffers from test or evaluative anxiety
- Student has a learning disability

#### Student Achievement Behaviors

- Student has low standardized test scores
- Student has low grades or grade point average
- Student exerts little effort on school tasks
- Student avoids challenging work
- Student bores easily; dislikes drill work and rote practices
- Student disrupts the classroom
- Student procrastinates on school assignments
- Student has poor study and/or test taking skills
- Student resists participating in gifted program and services
- Student has been suspended and/or expelled
- Student has been truant or does not go to classes

#### Achievement Identification Measure Sample Inventory Items

(\* indicates negative indicator)

Rimm (1986, 1988)

### Dimension #1-Competition

- \*My child is considered bossy.
- \*My child blames others or finds excuses when he loses at something.
- My child continues in an activity or game even if he loses.
- \*My child avoids competitive activities unless he is almost sure to win.
- My child enjoys competition, win or lose.
- \*My child gets depressed or cries and complains when he loses at something.

### Dimension #2-Responsibility

- \*I help my child with his homework.
- \*My child had a lot of health problems as a preschooler.
- \*The mother or father in the family is perfectionistic.
- My child does schoolwork at a reasonable speed.
- My child was the center of an unusual amount of attention for at least the first 3 years of his life.
- \*My child seems to ask for more teacher help than most children.
- \*My child postpones working on a long-term project until the last minute.

### Dimension #3-Self-Control

- \*Since we parents had a difficult childhood, we want our child to have everything we missed.
- My child is well behaved in school.
- \*My child and his mother had an unusually close relationship as a result of difficult family circumstances (e.g., divorce, illness, spouse's work away from home, etc.).

- \*My child often convinces his parent to change his or her mind.
- \*My child is anxious to be as similar as possible to his friends.
- \*The mother in the family is overly protective.

#### Dimension #4-Achievement Communication

- The mother in the family is happy in a career other than homemaking.
- The father in the family thinks good grades are important.
- The mother in the family was a high achiever when she was a child.
- The father in the family liked school.
- \*The mother in the family is more interested in school achievement than the father.

#### Dimension #5-Respect

- \*My child "talks back" to the father in the family.
- \*The mother in the family is happy in the role of full time homemaker.
- My child usually obeys his mother.
- \*My child "talks back" to the mother in the family.
- \*The father in the family appears to be a kinder person than the mother.

### 40 Developmental Assets

\* indicates Assets middle schools can directly affect

Scales (1996)

#### Support

1. Family life provides high levels of love and support.

- 2. Parents and youth communicate positively; youth is willing to seek parents advice and counsel.
- \*3. Youth receives support for three or more non-parent adults.
- 4. Youth experiences caring neighbors.
- \*5. School provides caring, encouraging environment.
- \*6. Parents are actively involved in helping children succeed in school.

#### Empowerment

- 7. Youth perceives that community adults value young people.
- 8. Youth are given usual roles in community life.
- \*9. Youth gives one hour or more per week in serving her/his community.
- \*10. Youth feels safe in home, school, and community.

### Boundaries And Expectations

- 11. Family has clear rules and consequences; and monitors whereabouts.
- \*12. School provides clear rules and consequences.
- 13. Neighbors would report undesirable behavior to family.
- 14. Parent(s) and other adults model prosocial behavior.
- 15. Youth's best friend models responsible behavior.
- \*16. Both parents and teachers encourage youth to achieve.

### Constructive Use Of Time

- \*17. Youth is involved three or more hours per week in lessons or practice in music, theater, or other arts.
- \*18. Youth is involved in three or more hours per weeks in sports, clubs, or organizations at school and/or in community organizations.
- 19. Youth is involved one or more hours per week in religious programs or services.
- 20. Youth spends two or fewer nights per week out with friends "with nothing special to do".

### Educational Commitment

- \*21. Youth is motivated to do well in school.
- \*22. Youth has a B average or better.
- \*23. Youth reports one or more hours of homework per day.
- \*24. Youth cares about her/his school.
- \*25. Youth reads for pleasure three or more hours per week.

### Values

- \*26. Youth places high value on helping others.

- 27. Youth places high value on promoting equality and reducing hunger and poverty.
- 28. Youth acts on convictions and stands up for her/his beliefs.
- \*29. Youth tells the truth even when it's not easy.
- \*30. Youth accepts and takes personal responsibility.
- \*31. Youth believes it is important not to be sexually active or to use alcohol or other drugs.

#### Social Competencies

- \*32. Youth has skills to plan ahead and make wise choices.
- 33. Youth has empathy, sensitivity, and friendship skills.
- \*34. Youth has knowledge of and comfort with people of differing racial/ethnic backgrounds.
- \*35. Youth can resist negative peer pressure.
- \*36. Youth seeks to reduce conflicts non-violently.

#### Positive Identity

- \*37. Youth feels he/she has control over "things that happen to me".
- 38. Youth reports high self-esteem.
- 39. Youth reports "my life has a purpose".
- 40. Youth is optimistic about her/his personal future.

## Appendix C: Informed Consent Forms

## Student Assent to Participate Script

### University of Maine

My name is Mike Muir, and I am conducting research to find out what middle school students think motivates them to learn. I'm especially interested in underachieving students, that is, students who are fairly bright, but don't do well in school, or for whom school doesn't seem to work. I hope this study will help lead to ways teachers can make learning more interesting and meaningful to you.

If you decide to participate, I will interview you twice. Each interview will take about 45 minutes. I'll ask you questions about what you think motivates you to learn and under what conditions you think you learn well. I will audiotape the interviews. We will also meet so you will have a chance to look over the transcripts from each interview and make sure it says what you want it to.

The information I collect will be completely confidential; I won't use your name or any information which would give away your identity. Your participation is completely voluntary. You can decide not to participate, even though your parents have already given permission, or even if you change your mind after we start the research project. You can also decide not to answer any question you don't want to.

If you have any questions at any point in the project, you can call me (778-7179, collect, if you need to) or e-mail me (wilder@somtel.com).

Below is more complete information about this research project:

**Project Title:** Motivating Underachieving Middle School Students: The Students' Perspective.

**Primary Investigator:** Michael R. Muir

**Purpose of the Research Study:** The purpose of this study is to better understand what underachieving middle school students believe are the educational conditions and instructional strategies under-which they best learn. The guiding question for the study is "What do underachieving middle school students believe motivates them to learn?" It is hoped that by learning your perspective, teachers will develop new ways to make learning more interesting and meaningful to you. This study is being conducted by Michael R. Muir as partial fulfillment of the requirement for the degree of Doctor of Education in Curriculum and Instruction at the University of Maine, Orono.

**What will you do:** You will participate in two guided interviews. As a participant in the interview, you will discuss what you believe motivates you to learn and how you learn well. With your permission, I will audio tape the interviews for the purposes of accuracy. Audiotaped interviews will be transcribed and provide me with source material for a close analysis of information. You will have the opportunity to review and revise the transcript. After the study, the audio tapes and field notes will be kept in a box in a locked office and destroyed after five years. If you withdraw from the study, I will erase the tapes and destroy the field notes.

**Time Required:** A total of about an hour and a half is required for the study: two 30-45 minute interviews, and a separate 15-20 minute follow-up discussion. From beginning to end, your participation will last no longer than 4-6 weeks. The discussion session provides an opportunity for you to respond to my interpretations of the two interviews with you.

**Risks:** Although there is no anticipated risk from participating in this study, risk is never completely foreseeable. You can be assured that every precaution has been taken to prevent risk to you.

**Benefits:** Your participation in this study will benefit the existing knowledge base surrounding working with all learners. Eventually, studies like this one may lead to improved teaching practices and student engagement. Otherwise, there is no other direct benefit to you.

**Confidentiality:** The information that you make available to the study will be handled confidentially. All identifying names and characteristics will either be changed or withheld, to protect your anonymity. In addition, I will not share field notes with anyone except the members of my dissertation committee, who will abide by the same high standards for confidentiality. I request your permission to use the conclusions for future research publications, conferences, and presentations.

**Voluntary participation:** Your participation in the study is completely voluntary. You can choose not to answer any question you don't want to and may decide to discontinue participation at any time. If at any time you wish to withdraw from this study, you are free to do so and need only tell me or state so in writing.

**Who to contact if you have questions about the study:** Mike Muir, RFD 3, Box 1140, Skowhegan, ME 04976; 207-778-7179 (you may call collect); e-mail at [wilder@somtel.com](mailto:wilder@somtel.com).

*You will receive a copy of this form for your records.*



# Informed Consent Agreement

## Student Interview

University of Maine

*Please read this consent agreement carefully before you decide to allow your child participate in the study.*

**Project Title:** Motivating Underachieving Middle School Students: The Students' Perspective.

**Primary Investigator:** Michael R. Muir

**Faculty Advisor:** Dr. Ed Brazee

**Purpose of the Research Study:** The purpose of this study is to better understand what underachieving middle school students believe are the educational conditions and instructional strategies under-which they best learn. The guiding question for the study is "What do underachieving middle school students believe motivates them to learn?" It is hoped that by learning your child's perspective, teachers will develop new ways to make learning more interesting and meaningful to your child. This study is being conducted by Michael R. Muir as partial fulfillment of the requirement for the degree of Doctor of Education in Curriculum and Instruction at the University of Maine, Orono.

**What will your child do:** Your child will participate in two guided interviews. As a participant in the interview, your child will discuss what your child believes motivates him/her to learn and how your child learns well. With your permission, I will audio tape the interviews for the purposes of accuracy. Audiotaped interviews will be transcribed and provide me with source material for a close analysis of information. Your child will have the opportunity to review and revise the transcript. After the study, the audio tapes and field notes will be kept in a box in a locked office and destroyed after five years. If your child withdraws from the study, I will erase the tapes and destroy the field notes.

**Time Required:** A total of about an hour and a half is required for the study: two 30-45 minute interviews, and a separate 15-20 minute follow-up discussion. From beginning to end, your child's participation will last no longer than 4-6 weeks. The discussion session provides an opportunity for your child to respond to my interpretations of the two interviews.

**Risks:** Although there is no anticipated risk from participating in this study, risk is never completely foreseeable. You can be assured that every precaution has been taken to prevent risk to your child.

**Benefits:** Your child's participation in this study will benefit the existing knowledge base surrounding working with all learners. Eventually, studies like this one may lead to improved teaching practices and student engagement. Otherwise, there is no other direct benefit to your child.

**Confidentiality:** The information that your child makes available to the study will be handled confidentially. All identifying names and characteristics will either be changed or withheld, to protect your child's anonymity. In addition, I will not share field notes with anyone except the members of my dissertation committee, who will abide by the same

high standards for confidentiality. I request your permission to use the conclusions for future research publications, conferences, and presentations.

**Voluntary participation:** Your child's participation in the study is completely voluntary. Your child can choose not to answer any question he or she doesn't want to and may decide to discontinue participation at any time. If at any time you wish to withdraw your child from this study, or if your child wishes to withdraw, you or your child needs only to tell me or state so in writing.

**Who to contact if you have questions about the study:** Mike Muir, RFD 3, Box 1140, Skowhegan, ME 04976; 207-778-7179 (you may call collect); e-mail at [wilder@somtel.com](mailto:wilder@somtel.com).

**AGREEMENT:** I agree to allow my child, \_\_\_\_\_ (name), to participate in the study described above.

**Signature of Parent/Guardian:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Signature of Researcher:** \_\_\_\_\_

**Date:** \_\_\_\_\_

*You will receive a copy of this form for your records.*

# Informed Consent Agreement

## Teacher Interview

University of Maine

*Please read this consent agreement carefully before you decide to participate in the study.*

**Project Title:** Motivating Underachieving Middle School Students: The Students' Perspective.

**Primary Investigator:** Michael R. Muir

**Faculty Advisor:** Dr. Ed Brazee

**Purpose of the Research Study:** The purpose of this study is to better understand what underachieving middle school students believe are the educational conditions and instructional strategies under-which they best learn. The guiding question for the study is "What do underachieving middle school students believe motivates them to learn?" It is hoped that through this study, teachers will develop new ways to make learning more interesting and meaningful to students. This study is being conducted by Michael R. Muir as partial fulfillment of the requirement for the degree of Doctor of Education in Curriculum and Instruction at the University of Maine, Orono.

**What will you do:** You will participate in one guided interview. As a participant in the interview, you will discuss what you believe motivates underachieving and unmotivated students to learn. With your permission, I will audio tape the interview for the purposes of accuracy. Audiotaped interviews will be transcribed and provide me with source material for a close analysis of information. You will have the opportunity to review and revise the transcript. After the study, the audio tapes and field notes will be kept in a box in a locked office and destroyed after five years. If you withdraw from the study, I will erase the tapes and destroy the field notes.

**Time Required:** A total of about an hour is required for the study: one 30-45 minute interview, and a separate 15-20 minute follow-up discussion. From beginning to end, your participation will last no longer than 4-6 weeks. The discussion session provides an opportunity for you to respond to my interpretations of the interview with you.

**Risks:** Although there is no anticipated risk from participating in this study, risk is never completely foreseeable. You can be assured that every precaution has been taken to prevent risk to you.

**Benefits:** Your participation in this study will benefit the existing knowledge base surrounding working with all learners. Eventually, studies like this one may lead to improved teaching practices and student engagement. Otherwise, there is no other direct benefit to you.

**Confidentiality:** The information that you make available to the study will be handled confidentially. All identifying names and characteristics will either be changed or withheld, to protect your anonymity. In addition, I will not share field notes with anyone except the members of my dissertation committee, who will abide by the same high standards for confidentiality. I request your permission to use the conclusions for future research publications, conferences, and presentations.

**Voluntary participation:** Your participation in the study is completely voluntary. You can choose not to answer any question you don't want to and may decide to discontinue participation at any time. If at any time you wish to withdraw from this study, you are free to do so and need only tell me or state so in writing.

**Who to contact if you have questions about the study:** Mike Muir, RFD 3, Box 1140, Skowhegan, ME 04976; 207-778-7179 (you may call collect); e-mail at [wilder@somtel.com](mailto:wilder@somtel.com).

**AGREEMENT:** I agree to participate in the research study described above.

**Signature of participant:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Signature of Researcher:** \_\_\_\_\_

**Date:** \_\_\_\_\_

*You will receive a copy of this form for your records.*

# Informed Consent Agreement

## Classroom Observation

University of Maine

**Project Title:** Motivating Underachieving Middle School Students: The Students' Perspective.

**Primary Investigator:** Michael R. Muir

**Faculty Advisor:** Dr. Ed Brazee

**Purpose of the Research Study:** The purpose of this study is to better understand what underachieving middle school students believe are the educational conditions and instructional strategies under-which they best learn. The guiding question for the study is "What do underachieving middle school students believe motivates them to learn?" It is hoped that through this study, teachers will develop new ways to make learning more interesting and meaningful to students. This study is being conducted by Michael R. Muir as partial fulfillment of the requirement for the degree of Doctor of Education in Curriculum and Instruction at the University of Maine, Orono.

**What will you do:** Allow me to periodically observe in your classroom. Individual classroom observations may last from a single period to an entire day. With your permission, I will observe and make notes on student behaviors. Observations and notes will provide me with source material for a close analysis of information. After the study, I will keep the field notes in a box in a locked office and destroy them after five years. If you withdraw from the study, I will destroy those field notes pertaining to your classroom.

**Time Required:** From beginning to end, your participation will last no longer than 4-6 weeks. The amount of time in individual classrooms will vary, but I will conduct a minimum of 10 hours of classroom observations.

**Risks:** Although there is no anticipated risk from participating in this study, risk is never completely foreseeable. You can be assured that every precaution has been taken to prevent risk to you.

**Benefits:** Your participation in this study will benefit the existing knowledge base surrounding working with all learners. Eventually, studies like this one may lead to improved teaching practices and student engagement. Otherwise, there is no other direct benefit to you.

**Confidentiality:** The information that you make available to the study will be handled confidentially. All identifying names and characteristics will either be changed or withheld, to protect the anonymity of your students, your school, and yourself. In addition, I will not share field notes with anyone except the members of my dissertation committee, who will abide by the same high standards for confidentiality. I request your permission to use the conclusions for future research publications, conferences, and presentations.

**Voluntary participation:** Your participation in the study is completely voluntary. You can choose not to have me observe at any given time and may decide to discontinue

participation at any time. If at any time you wish to withdraw from this study, you are free to do so and need only tell me or state so in writing.

**Who to contact if you have questions about the study:** Mike Muir, RFD 3, Box 1140, Skowhegan, ME 04976; 207-778-7179 (you may call collect); e-mail at [wilder@somtel.com](mailto:wilder@somtel.com).

**AGREEMENT:** I agree to participate in the research study described above.

**Signature of Superintendent:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Principal:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Math Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Soc. Stud. Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Lang. Arts Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Science Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Exploratory Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Phys. Ed. Teacher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Researcher:** \_\_\_\_\_ **Date:** \_\_\_\_\_

*You will receive a copy of this form for your records.*

## Appendix D: Characteristics of Underachieving Students Checklist

## Characteristic Checklist

### Underachieving Middle School Student Study

Please rate each child on each of these factors on a scale of **1 (strongly disagree) to 5 (strongly agree)**. Use **0 (zero)** if you are **unsure** or **don't know**.

Student's primary social group is outside of the school								
Student participates in little or no extracurricular activities								
Student socializes with delinquents and/or students who have a poor achievement orientation								
Student's need for peer acceptance and relations outweighs his or her academic concerns about school and achievement								
Student lives in one or more risk factors (e.g., poverty, single-parent family, poorly educated parent(s), etc.)								
Student's home life is stressful								
Low parental educational level								
Student has one parent in the home								
Student has little parental/family supervision; poor family relations								
Parental expectations for student are too low or unrealistic								
Low socioeconomic status								
Communication between home and school is poor								
Morale among teachers, school personnel, and/or students is low								
Student motivation is consistently low								

Student has negative attitude toward school								
Student cannot tolerate structured and/or passive activities								
Student relates poorly to authority or adult figures (e.g., teachers, parents, administrators)								
Student has experienced emotional trauma (on more than one occasion, consistently, or frequently)								
Student has low self-esteem								
Student has low academic and/or social self-concepts								
Student attributes failure to lack of ability; attributes success to luck or easy task								
Student consistently seeks immediate gratification								
Student's learning style preferences are inconsistent with teaching styles								
Student suffers from test or evaluative anxiety								
Student has a learning disability								
Student has low grades or grade point average								
Student exerts little effort on school tasks								
Student avoids challenging work								
Student bores easily; dislikes drill work and rote practices								
Student disrupts the classroom								
Student procrastinates on school assignments								
Student has poor study and/or test taking skills								

From REVERSING UNDERACHIEVEMENT AMONG GIFTED BLACK STUDENTS:  
PROMISING  
PRACTICES AND PROGRAMS by D. Y. Ford, 1996.



## Appendix E: Sample Transcript of Student Interview

**Site S Sub M Interview**  
**Male Seventh Grade Student**  
**6/8/99**

Context: Student interviewed, in an empty office, during a study hall at the end of the day.

**Researcher:** Start out by thinking of a good learning experience that you've had. It can be in school or out of school, but think of a time when you had an 'ah-ha!' or when everything fell into place. Maybe you could finally do something you had been struggling with or finally something made sense. Maybe it was your English teacher who finally taught you how to write a good essay, or maybe it was when your grandfather taught you how to fly fish. So if it was in school or out of school, think of a time you had a really good learning experience, and then briefly describe that experience to me.

**Student:** Hmm! (thinking) Okay, this is kind of a mix between in school and out. Cause it was on school team. I kind of... I just started playing soccer a lot more on a real team. So I had to use the rules more. And I couldn't dribble that well, so.. and then I got some help and I dribbled.

R: Good. Good. Alright, so think about what made that a good learning experience. What were the characteristics of that experience that made it good?

S: It was good, because every time that I did something wrong, no one really pointed out like in a rude way or something.

R: So it is okay to make mistakes?

S: Yeah. But they'd still be able to joke about it. Which I like.

R: What else went in to making it good? Was it finally being on a real team that made it more important to learn this stuff?

S: Um hm. (Confirmation)

R: So you said, being respectful about making mistakes?

- S: Um hm. (Confirmation)
- R: Helping you learn how to do things right?
- S: Yup.
- R: And you said finally being on a real team, having something real to do?
- S: Um hm. (Confirmation)
- R: So how many of your classes or teachers work those elements into their teaching? Do they do... do any of those things exist in your classes?
- S: Hmm. I guess so, sometimes. And... one of the classes I really like are math and science, because both (something) the teachers will joke around, instead of always being serious and uptight.
- R: Like some of your other teachers! (joking)
- S: (Laughs) No names!
- R: No names! That's okay, in the transcript, I'll just black out names. (we chuckle) Alright, that's good. Describe a good class or teacher that you have now or have had in the past. What made them good?
- S: I liked a teacher named Mr. M. He was a teacher in (a town) Elementary.
- R: What grade was that?
- S: That was during 5<sup>th</sup> grade, I think. No that was during 4<sup>th</sup>. And I did school here (the current town) until 3<sup>rd</sup> grade and then half a year of 4<sup>th</sup>, then moved there, then moved back for 5<sup>th</sup> and 6<sup>th</sup>. And over there, he would always have some sort of joke going around. Like when we had book reports, he would make it sound like he's not the one assigning it. Like it was someone from a fairy tale, if we had to one on fair tale. He'd had his own little fictional character from a fairy tale and he'd come in dressed up as that person. He once came in in drag, dressed up as a woman. With ... and he had like big red cheeks and put a blond wig on and came in and read off the paper what we were supposed to do.
- R: Wow, that sounds really cool! Was there anything else that made him good?
- S: Yeah, he'd give us class money so we were able... and we had to pay rent for our desk.

- R: Oh really?
- S: And you could buy other people's desks and they had to pay rent to you, however high you see fit. And I liked that. That was fun.
- R: Cool! What else did you do with the money?
- S: Oh, we got... at the end of the year, we got to buy things such as... because we had this big thing where everyone would bring in all their junk they didn't want any more and you'd pretty much bid for it. (interrupted briefly while a teacher got boxes of yearbooks)
- R: And so you'd have like an auction?
- S: Yeah. And before the auction, we had just.. we'd sell (something – can't hear) store...
- R: You'd bring all your junk from home and stuff like that?
- S: Yeah.
- R: Cool.
- S: And every time you passed in a homework assignment on time and stuff, you'd get paid. If you messed up and didn't do that, you wouldn't be able to get paid.
- R: To what degree did you just do the work so you'd get the money? Or did you do the work, because it was fun and getting the money just made it more fun?
- S: Yeah, that's what it was.
- R: So, how many of your classes or teachers that you have now are like that?
- S: Well, not many are. Like, my Language Arts teacher and my Social Studies teacher, they don't really make any of their classes fun. It's more of just boring.
- R: Very serious?
- S: Yeah. And, my Math class, we... that's pretty much I think the closest thing to it we've had. Either that or science.
- R: Cause the Math teacher jokes around quite a bit, right?
- S: Yes, he does.
- R: Alright, good. Thanks. Help me out. Imagine that the State of Maine Department of Education came to you and

asked how to design courses and units so that you could really learn well. What would you tell them?

- S: I would tell them to have a class that would be fun and interesting, not just to one kind of person, but to everyone.
- R: What do you think that would look like? What would make it fun and interesting to everyone?
- S: Well for some people, they need to have like a hands-on class, they have to always be doing some kind of project. Some people have to like the money that we had. And those were called jokes they had. You have to, I think, divide the class up into sections of how they want to learn.
- R: Alright. What else would you tell the state?
- S: I think I'd tell them that people in classes aren't having as much fun as they should. I think people should... people don't like school, they look forward to getting out and I think they should more look forward into getting into it.
- R: Should look forward to coming to this school? So you think that one of the major things that stands between you and learning really well is how fun the classes are or how fun they aren't?
- S: Yeah.
- R: Alright, good. What's the one thing you would change about how your classes are taught or how your teachers teach that would help you to learn better?
- S: Okay.... Mrs. E (Social studies) She teaches her classes and... when she does, she always... she keeps on varying (his word) the class. Like one minute, we'll be doing one thing and the next minute we'll be doing something totally different. That's always fun, because it's spontaneous, and it's not always the same thing always the same thing over and over and over. And that's the same thing with my Math teacher, my Science teacher. Mrs. Y, my Language Arts teacher, usually doesn't do a bunch of different things. All of her things are usually based on the same exact thing.
- R: So the thing you would change is to make more classes like the Social Studies class where they would change what they were doing. So it's a change of pace.
- S: Yeah. So you're... So you can learn several things.

- R: Okay What else would you change if you could?
- S: Okay. I'd like to have like a class where you get to learn what you want to learn. And it would be pretty much divided up... We have something like that only it's an activity at the end of the day, called Apache, we have on some days. I think there should be a class that is just, you choose what you're going to learn. You have a little list of choices and you just choose.
- R: What would you like to learn if you could?
- S: I'd like to learn more about typing on computers and stuff, because I like writing and stuff.
- R: What kind of writing do you like to do?
- S: Just... a lot of stuff.
- R: Stories? Or letters or what?
- S: I like to do more like meaningful things, that make people think.
- R: So like thought essays?
- S: Yes!
- R: Cool. That's what I like to write, too.
- S: Yeah, that's what I always do in my journals for free choice. Mrs. Y sometimes gets tired all those of hearing all my thoughts along the...
- R: Oh, really?
- S: Yeah, I give way too much thoughts.
- R: Naw, thoughts are a good thing. Don't get rid of your thoughts. Okay, what's the best part of school?
- S: I think it's being able to see my friends.
- R: Umhm, what else is good about school?
- S: (long pause)
- R: What do you like to do when you see your friends?
- S: Here at school?
- R: Sure.

- S: Like to talk. Set up for the weekend which is like, we always have little parties and stuff on the weekends.
- R: Cool. Alright, how do you think you learn well?
- S: I think I learn best when we're doing hands on activities that we have more control of as the students. Like... people should have different due dates that they can set for themselves. Say you have a book report. You say how long you think it will take you to get it done, but there be a maximum limit. It can't take you three months to get this done, but you can say, this will take me two weeks to do.
- R: Okay, good. How else do you think you learn well.
- S: I think I learn well in an environment where everyone can laugh and joke.
- R: So it feels safe and fun and...
- S: Yeah.
- R: Alright, good. What do you like to do when you aren't in school, like in the afternoons, evenings, and weekends?
- S: I like to practice at soccer and be with my friends and stuff.
- R: What kinds of stuff do you do with your friends?
- S: Oh! We play a lot of soccer.... We play video games. We go places like bowling and things. Go to the movies.
- R: What's your favorite movie?
- S: (thinks...) Austin Powers.
- R: Austin Powers, really? So you're waiting for the new one to come out?
- S: Yeah, my dad already has our tickets! So we're going to be able to go see that on Friday.
- R: It comes out this Friday?
- S: Yeah.
- R: Have you seen the new Star Wars movie yet?
- S: Yeah.

- R: I went the first night. I made sure I was right there!  
Okay. So you're interested in going to the movies,  
playing video games, playing soccer, visiting with your  
friends.
- S: Yeah.
- R: Does school tie into those interests? Do any of your  
teachers try and tie into your interests?
- S: No. (Very quickly, very definitively)
- R: No?
- S: Really.
- R: How do you think your teachers try to make school  
interesting to you?
- S: (thinks long time) By making... they try to make it more  
like a game. But they think that's working when it really  
isn't because they... because they'll... they have a  
baseball style vocab and they... it gets kind of corny.
- R: Gets corny?
- S: Yeah. It will be like, "oh, oh, oh! Can you get them out  
at first? Oooo, ooo, ooo."
- R: So it just gets too silly?
- S: Yeah.
- R: So when is a game good and when is it too corny?
- S: When there are rules are so binding you to something.  
And they get too carried away with it being related to this  
real life thing instead of...
- R: When it's obviously not a real baseball game.
- S: Yeah.
- R: Are there other ways they try and make school interesting  
to you?
- S: I think... They try to do things that we'd like to do. But  
they never... they just assume that we're going to like  
something is the problem. It's like, "Well I liked this  
when I was a kid, so they have to."
- R: So the problem is that they make some assumptions, and  
they may be good ideas, but they never bothered to ask  
you guys.

- S: It's be better, maybe to have a survey, or something.
- R: Or if they involved you somehow in deciding.
- S: Or they asked.
- R: Any other ways that they try and make things interesting?
- S: I can't really think of any.
- R: What's your favorite subject? Why?
- S: Hmmm. (thinks) I think my favorite subject is  
P\_\_\_\_\_.
- R: Which is careers and computers, right?
- S: Yeah. Cause I like to try to think ahead about it. And I like using computers.
- R: Now when you say, "I try to think ahead," what do you mean?
- S: Like I try to plan ahead of me, like what am I going to do once I get out of the school, once I get out of the high school.
- R: And so that kind of helps you think about your goals?
- S: Yeah.
- R: What do you like about the computers?
- S: I like computers because they're new and they're always fun on whether you're working except for typing sometimes that can be a drag.
- R: Sometimes typing gets a drag?
- S: Yeah.
- R: But when you're doing other work and get to do it on the computer, you like it?
- S: Yeah.
- R: Have you done any computer projects this year?
- S: Yeah.
- R: In any of your other classes?



- S: Well during (the career & computer class) I put up a web page. We did a HyperStudio project in my group for Social Studies.
- R: How was that?
- S: I was pretty good, except one of the people didn't finish they're part.
- R: Don't you hate when they do that? And they leave you high and dry!
- S: Yeah, that's happened to me quite a few times. Like we were building these bridges out of tooth picks, and your partner supposed to make one half and you're supposed to make the other. My half got built, but his didn't. And my grade got really bad for the class.
- R: So what makes (the career & computers class) interesting to you?
- S: I think it's interesting because she lets us do role playing up there, where... and she gives us these jobs, and... we get paid. We use our check book balancing. And whenever you do something wrong, you get charged, instead of "Oh, you have to stay and...."
- R: So it's kind of like how it worked in your fifth grade class, right?
- S: Yeah.
- R: How do you think you are learning "better" in that class compared with other classes?
- S: I think I'm learning better, because I'm having more fun in there. And the things in there that we do are, I consider better more fun. Just all around.... Good....
- R: If you could make all of your classes like this particular one, how would you have to change them?
- S: Well in Math class, I... my teacher has a personality, but he doesn't use it enough toward the activities, which I think that....
- R: So he kind of keeps his personality separate from his teaching?
- S: Yeah. And in Language Arts we just make it so its more fun. And Social Studies to when we do things kind of... the way it's always off the wall, I wish it would have a little bit something to do with each other, because one minute we'll be doing some... we'll be making maps for

South America, the next thing we know we're doing something on Canada.

R: So even though you like the change of pace...

S: Yeah... But they do it...

R: ... sometimes it feels kind of fragmented.

S: Yeah. Well, she'll be teaching us one thing while we have a test the next day on something totally different and that's hard to do.

R: So you like the activities jumping around....

S: Yeah...

R: ...you're not sure you like the topics jumping around.

S: Yeah.

R: Okay. Good. That helps me a lot. How do your teachers give you choices and let you help in class decision-making?

S: (chuckles) (long pause) (mumbles) oh, I don't know.

R: When do you get to be in charge of your own learning?

S: (mumbles something) I guess during reading class, because we get to do a free choice oral book report. And I guess that's kind of like that....

R: Okay. Good. How do your teachers try to help you see how course content, and the topics and the school work you are doing is useful or important?

S: They teach us... Mr. B\_\_\_\_\_, our math teacher, will show us things that might actually help by... We had to... Building those bridges if someone wanted to be an architect or that that just shows you that you need math during everything. And then we made boats and you need math during everything. And... During Language Arts... (someone knocks on door – brief interruption) In Language Arts there is just (mumbles) she's always pointing out how we use it.

R: So some of your teachers have you do projects so you can see how you use it and some of your teachers just point out how you use it.

S: Yeah.

R: Any other way?

- S: Ummm.... Some teachers will kind of combine both pointing and... That's always better because you'll always have to be doing this even on projects. And some will make us do worksheets or something like that. What I don't understand is this Social Studies. I don't know when I'm ever going to use that in my life.
- R: Right. So even though you're doing some pretty interesting activities, you're left feeling like it's not... what does this have to do with me?
- S: Yeah. That's it. Why do I need to know that the Incas were conquered by Someone Pizzaro?
- R: Those are good questions. What do you want to do when you get out of high school?
- S: Ummm... (pause) I think I want to go to a good college. But I still want to be able to have some time to do fun things, not just all college study, study, college, college, college, study. Because, during the winter I like to go snow boarding, because that's a really fun thing to do. And, ummm, if I don't get up there enough, any skills I do learn will start fading back and I won't be able to learn new things. Snow board's the kind of sport where you just can't take it up. Go for three days and then not go back at all.
- R: What do you want to study in college, do you think?
- S: I don't know.
- R: I mean you have a lot of time to decide, right?
- S: Yeah. I'll probably do something on typing or something and language.
- R: Have you given any thought to what kind of job you'd like to have?
- S: I do, like I said, like writing things are (couldn't hear – sounded like “handful”) so maybe journalism, or something.
- R: That'd be really cool! How is school preparing you for that, for going to college and possibly becoming a writer or a journalist?
- S: By teaching me some of the skills I'm going to need in advance. You can't all of the sudden just be totally illiterate and go to a college and expect to come out a journalist.

- R: Right. So you feel like school is preparing you to go to college and preparing you to....
- S: And if you go in with a three word vocabulary, you're not going to come out with the world's ..... it takes so much time. School kind of also teaches you patience that you're going to need.
- R: How do you think school is preparing you for your future?
- S: I think they're preparing me by... with the money thing, it's teaching us... because we're really going to need to do all this. Cause we have to balance checks in (careers & computers class) which is something that we're really going to have to do some day. So teaching us something us something that we're going to have to do. Like paying rent. We're going to have to pay rent. So we're going to get some practice.
- R: Right. Okay. How do your teachers try and show you the connections between your school work, and what that has to do with your community, or with the real world?
- S: (long wait) it kind of seems like one of the questions we've gone over already.
- R: I think so. I think that....
- S: I think it's basically pointing the way they pointed it out. And it's like I said before on the other one, with the projects and with all the things. This is... You're going to use this. You're going to use it for this. And stuff like that.
- R: All right. Good. There's a guy named Seymour Papert, who invented a programming language for kids, called Logo. And he's really interested in how young people learn. And I'm going to read you a quote from one of his books and I'd like you to give me your reaction to it. And especially tell me how it matches your experiences as a learner? Alright? "I am convinced that a large proportion (though certainly not all) of cases of learning difficulty are produced by imposing on children ways of learning that go against their personal [learning] styles. Over and over again I have seen children shake off their apparent disabilities when given the opportunity to learn in a way that comes naturally to them."
- S: I agree to that. I mean, I like to learn while having fun and if I'm not having fun while I'm learning, I'm obviously not going to do as well. Some people have to have the classes that are strict. That's how they learn.

Like I said earlier, I think you should find out how people learn, divide them up into those learning groups.

- R: So you really think it would help schools a lot if they help people understand how they learn well, and then help give them opportunities to learn that way.
- S: Yeah.
- R: How do your teachers help you to successfully learn new material?
- S: Well, they just basically teach us everything that they can. They'll ask if we've learned this before which I like, because there's stuff that they've taught me and I've heard the same lesson....
- R: (at same time) Over and over again....
- S: three or four times. And that's especially true with when I went to Lewiston, they're school is like two grades ahead of what we're doing here.
- R: So they were doing stuff down there in 5<sup>th</sup> grade that you're now doing here in 7<sup>th</sup> grade?
- S: Yeah. We were doing stuff in 4<sup>th</sup> grade that we're doing now, and that... I just think that's kind of crazy.
- R: Yeah.
- S: And I'm hearing things over and over and over again. It's even for the people who go here, they hear the things over and over.
- R: Right. How do they help you feel like you are capable of doing the work?
- S: (long wait) They don't really, I don't think. I mean they just pretty much give you the paper and pen and do it. And then anytime they might sometimes say I know you can do this, or something. But not really going to help you that much when it comes down to actually doing it.
- R: Right. Okay. And anything else you want to tell me about how you think you learn well?
- S: Like I said, I like doing stuff in an environment where I can joke around and not always be up tight... I think being with friends and 'cause if you... you're stuck with someone whose just the worst person you could possibly work with in the whole world you yourself are not going to succeed, because they'll be pulling you down. I mean I know you're going run into these people in real life, but

they won't be able to drag you down like they will if you're in class.

R: Right. Okay, anything else?

S: I can't really think of anything else.

## Appendix F: Sample Field Notes

**Field Observation****Date - 6/3/99****Place - Site S****Purpose - To shadow Sub F**

7:15

7:20

7:25 Students in ER. Subject isn't present. Teacher takes attendance and lunch count. Students come here instead of their regular home room. Kids talking quietly. Books surround several walls. Posters and banners on the walls. Video equipment and tapes sprawled everywhere. Play props. Lots of filing cabinets. Computers along the walls. White boards filled with info.

7:30 Teacher made announcements about how today's routine would be different. Announcements on intercom. Today practice public speaking performances. Students go to get missing students. Teacher's desk in middle of room and student desks surround it on three sides. Individuals practicing. Students still trying to track down students. One students practicing out loud. One bulletin board full of student pictures. (today's schedule happens to be the same as when I did the general observation.

7:35 Student ask if her group can go out in the hall. Subject F is absent today, but I'll follow her schedule. Students looking over their speeches. One group speaking out loud. Students coming and going. Teacher looking over papers on his desk. The two girls doing it out loud are doing well and seem to only look occasionally at their papers. The others just looking over their papers and not speaking out loud. The boys aren't even talking with each other. Tired faces, rubbing eyes, hunched shoulders. Girls go to a sing-song part of the speech. Teacher adds a few comical gestures. Another student asks if she is supposed to be flat.

7:40 Another student starts his speech at the same time, speaking quietly while his partner reads along and checks his progress. It seems like many go the students are now out of the room. Teacher goes outside (to check on students?). Students get phone when it rings, teacher comes and takes it. students go on practicing.

- 7:45 Teacher called in all of the students again. Made sure everyone had copies of the invitations. Teacher somewhat uncomfortable with my being here. Keeps looking at me. Teacher talked about expectations including having a prompter. Uses dry humor. seems pleasant and approachable. Treats the students as equals. First student goes.
- 7:50 Student doing very well and topic was interesting (from Black Like Me). Teacher doing some prompting. Student did awesome. Teacher told others that student "had thrown down the gauntlet and set the standard that the rest of you must meet." Switched to the group doing MacBeth. Students gave some feedback and suggestions to first student.
- 7:55 (room is getting VERY hot. fan is going, but doors are closed) Shakespeare group goes. Group doing well. When they finish, teacher gives some feedback to them.
- 8:00 Girls talk about their second speech, this one about MacBeth and the witches. Teacher gives some extra info about the scene. Rest of class listening.
- 8:05 A student prompts them. Girls finish. Teacher gives them some concrete feedback. Both about the presentations and . Talked about where they would go from here. One group (mine) will stay while 8th grade Lang Arts comes in. Teacher tells them to practice until next Tuesday.
- 8:10 8th graders come in. Teacher introduces the 7th grade speakers to the 8th graders. Teacher gives me feedback that Subject F (although absent today) as already taken the initiative to practice. They had gone over it yesterday and she did a good job. Her topic is the "true" story of Humpty Dumpty. New group goes. Appears uncomfortable, and don't know lines as well as last group. Their topic, however is "An Analysis of Scooby-Doo"
- 8:15 Teacher teases prompter to do a better job prompting when student doesn't know line. Kids have humor in their presentation. Teacher had the class do a funny one clap then snapping fingers. "you gentlemen are lucky since you are in the presence of a unique group of thespians!" (very wry) one boy says I don't know what that means.
- 8:20 Teacher using a lot of humor. They're giving a lot of very critical criticism, but done in a way that it sounded supportive. Last 7th grade group won't go (teacher had already heard them and knows that they are doing well). Teacher uses a lot of humor. Another 7th grader goes.



Teacher makes sure that he is reciting, not reading.  
Student makes fun of his own nervousness.

- 8:25 Gets lots more feedback. People laughing. Feedback is good, but critical. Again delivered with humor and by being supportive. They want to make sure that he knows what to do to be successful. Last group instructed to keep working. 8th graders go to work on their projects. Students grab folder and tapes. (video projects) Students broke into groups. One group dubbing their tape, another watches their tape and reads a script. Another grabs musical instruments another out in the hall. 7th graders listing their groups and their speech topics on one white board. Teacher cleans off the other (large) white board).
- 8:30 Musicians practicing quietly in a corner. Students work on projects
- 8:35 Students work on projects. Teacher talks with me about technology and where technology has gone in the school and the district.
- 8:40 Students work on projects. One calls information to get the phone number of a local business. The two guitarists are playing the Star Wars theme.. Teacher goes out in hall to check on other groups. Kids problem solving
- 8:45 Projects: sound tracks for soap operas (parody), music, focus on stretching their abilities, toxic pollution in Maine bill - checking on the validity of the article, and why the bill is controversial. Teacher talking informally with students about their projects. Helping the student make the phone work.
- 8:50 Students getting organized to leave. Returning TV, putting away materials. Some students already leaving. Other groups finishing up.
- 8:55 Exploratory - Until 9:40
- 9:40 Science - Kids working on Louvee-air cars. Students finishing their projects given their last pieces of tape. Cars built around a paper cylinder with paper tires straw and paperclip axles and powered by a rubber band and a paper propeller. Students have 20 minutes for final modifications and then will run their last tests.
- 9:45 Teacher reminded class of problem constraints. Passed out tape by table. Kids working on their cars, testing on their tables. Teacher giving advice on testing and problem solving their cars.

9:50 Kids working and talking and moving around, but noise level is down and people are productive. Teacher stands at head of room and looks over their room and talks to individual students from where he stands. Some students come up to him with questions or to show what they have does so far or to get help troubleshooting.

9:55 Teacher gives individual students specific suggestions and observations about their cars. Tchr checks how much more time they have for modifications.

10:00 Still working on trouble-shooting and privately testing cars. teacher asked that everything be cleared from their desks, except the car. Return all materials. Kids trying to finish up Students putting things away. Teacher writes on board - several numbers (1, 2, 3) and the words Roll, Prop-Moved, and Dist. - 6 feet (2m) - had to meet these requirements for an A (one off for a B and two off for a C). Today, requirements are tougher - must move 6 feet (goes over how that effects your grade) can earn an A+

10:05 Teacher read off the order that students would be doing. No one else should be playing with their car - all eyes forward. teacher has some sort of paper whit records. As students try, teacher goes over with entire class how it met the requirements (students kind of involved even while sitting at their seat). teacher adds cute, informal commentary. Comfortable atmosphere.

10:10 continue with testing and commentary. teacher lets students know who is coming up. Very positive attitude. More testing and joking. Lots of friendly interaction.

10:15 Still testing. Kids watching the tests, talking about their cars. Testing their cars, winding propellers. sitting on desks. But noise level is generally low. Reminded students in a friendly way about not playing with cars.

10:20 Still testing. Called all eyes forward. Talked about how cars had progressed. Joked about student's car that didn't work first time and the pressure to make it work. Extra credit by working on it during quiet study to raise it half a letter grade. If you don't want extra points, then throw them away. Don't leave them in locker or on lockers. Dismissed for Break.

10:25 Break - until 10:40

10:40 Math - until 11:20 (math's not part of this project at this site)

- 11:20 Social Studies - South America - Kids come into class. Interacts easily with students. Ignores a student who wants to move his seat. Teacher checked in with students about the worksheet they've been working on. Will go over some of it today.
- 11:25 We'll work on worksheet and when finished can work on homework for other classes. Can use paper to get ready for test. Loosing paper means that you're out of luck. Kids wondered how the test would effect their grade. Talked about moving the test from next Tuesday to next Thursday. Described what kinds of questions are on the test. Wanted students to know what to expect on the test.
- 11:30 Started going over the worksheet questions. Asked questions to extend student knowledge. Talked about George Washington and someone who is the "South American George Washington" (Simone Bolivar). Connected a country's freedom with young people getting freedom - connected to kid's own lives. What is it like to live with your parents - conditions?
- 11:35 What do you need in order to be successful living on your own. Eventually got to making some rules for yourself. Used lots of questions to get kids to connect. What happens if you don't live by your rules? What do you need? Responsibilities and Rules. Now let's carry that back? What was going on in those countries when they gained independence? lack of money, literacy, rights. Poor. Rivalries. Dictatorships.
- 11:40 Continued going over the sheet. Put a lot of time going into more depth with the questions. Kept probing and probing. Helped students connect to their own lives.
- 11:45 Still discussing questions on the sheets. Moved on to page 43. I'm going to go around the room and ask everyone a question. What are the factors involved with building a house - comparing different climates. Why don't we have flat roofs on your house?
- 11:50 Spent a lot of time connecting residential architecture to the climate or location. Got back to the question on the paper - if you live in a dry climate - adobe - kept asking more and more questions to get students to connect to it.
- 11:55 Lots and lots of questions to connect and to extend understanding. What's the advantage of a stone house in cold leather? How many of you have felt and asphalt drive after the sun has shined on it all day? It not only traps the heat inside, but it absorbs the heat. What do you need on a farm if you want it to be successful? good soil. How many of you have tried to plant something in bad soil? What happens? Workers. Livestock. In order

to grow something what do you need (acknowledges but ignores answers that are off track)? water. irrigation. the right tools. Is it easier to do it by machine or by hand? good seeds. What's a bad seed? Jokes with a student about dropping a whole tomato on the ground and hoping it will grow.

- 12:00 The other thing you need is good land without erosion. What's erosion? Kids came in from the chorus field trip. Teacher got them clued in to where they were. How can you prevent erosion? Connected to a local river. Went to Spanish words. What's a tortilla? What does it look like? What's it made from? Lots of questions. Starches. Connected to ones they eat. How do you know they have starch? What happens when you boil them? What happens to the water?
- 12:05 Continued going over vocabulary. Lots of questions to help student connect and to extend understanding. Right now you are either finishing this paper or going to your locker to get a book. Reminded them of work they needed to do in other classes. About half the students went out into the hall.
- 12:10 Students working quietly. Some moving, some talking, but students appear on task. Teacher circulates to see how students are coming on their sheet for class. Aid works in corner of room with a few students. Everyone settled in and working silently. teacher made sure that one student doing nothing had something to do. Helped find him a calculator so he could work. Called a student up to go over her paper.
- 12:15 Helped a student find her folder and figure out how it got into another room. "sounds like the guy who did this needs to be roughed up." do you need me to do it? "No, no, I'll do it." Students continue working.
- 12:20 Students still working very quietly. Who wants to participate? Asked questions and students raised their hands to answer. Could keep working if they wanted. Correct answers earned a piece of candy. Questions came from the unit. Teacher called on a variety of students.
- 12:25 Students really trying to answer the questions even a boy who was not paying attention during the rest of the class. A student got a second answer and the teacher suggested that he give it to someone who hasn't gotten one. He got to choose who. Last question and you have to sing the song! Don't lose your heart to Argentina. Dismissed to lunch.
- 12:30 Lunch (until 12:50)

12:50 Study Time (until 1:30)

1:30 Dismissal

## Biography

Michael R. Muir was born in East Orange, New Jersey, on January 10, 1963. He was raised in rural, northern New Jersey, the Chicago suburbs, and rural western Maine. He graduated from Mt. Blue High School in Farmington, Maine, in 1981. He attended Colby College in Waterville, Maine, and graduated in 1985 with a B.A. and a major in Mathematics, an independent major in Computer Studies, and having completed the Education Program (Maine teaching certificate).

Mike taught math at Winslow High School and worked on his Masters of Education degree from Lesley College. He graduated in 1989 with an M.Ed. in Curriculum and Instruction with a concentration in educational technology. Mike has worked for the Maine Computer Consortium as an educational technologist, for Skowhegan Area Middle School as the Computer Integration Specialist, for Skowhegan Area High School as a math teacher, and for the University of Maine at Farmington as a Practicum Supervisor, Student Teacher Supervisor, and as a professor of Middle Level Education and Educational Technology. He has participated on the writing teams of two curriculum projects for LEGO Dacta, the education division of LEGO Toys, has written a book on artificial intelligence, two books on integrating hypermedia tools into the curriculum, and numerous articles on educational computing and on middle level education. Mike is the director of the Maine Center for Meaningful, Engaged Learning, a venture to engage undergraduate students in creating web-based and multimedia products of use to educators and educational scholars. Their projects include the web site for the Maine Association for Middle Level Education and republishing *The Story of the Eight Year Study* on the web.

In 1994, Mike designed an independent doctoral program in Curriculum and Instruction, focusing on Middle Level Education and learning theory. Mike is a candidate for the Doctor of Education (Individualized Program) degree from the University of Maine in May, 2000.