What Engages Underachieving Middle School Students in Learning?

Underachieving students provide insights to help teachers select teaching strategies that more closely match how students learn. Relationships, trust, and respect emerge as critical motivators.

By Mike Muir

Ben, Doris, Eric, Cathy, Mike, and Andy are probably just like some of the students you have. Ben does well when he turns in his work, but often misplaces, loses, and forgets papers and books. Doris' teachers feel that they do not know her well, because she is frequently absent and very quiet when in school. Eric does not do much of his work despite the fact that he is bright, garrulous, and personable. Cathy is the kind of friendly student you would like to have in class, but her mom often keeps her home to care for her six younger siblings. Mike wants to be a pilot or work with computers but does not see how school is preparing him for his future. Andy is an extraordinary artist whose learning style does not seem to match his schoolwork.

These six students are all underachievers. Their teachers identified each of them as such and they readily recognize themselves as being bright but not

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A simulated archeological dig helps create a meaningful learning experience.

doing well in school or not liking school much. They happily identify with this characterization, rather than being offended by it. They also each agreed to be interviewed, so that I might gain some insight into what they believe motivates them to learn.

The Challenge

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. Even early in the 20th 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 nonetheless 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)

Teachers are challenged daily by students who do not seem interested in learning. Teachers struggle with discipline issues and with meeting the needs of students at widely differing ability and achievement levels. One of the most persistent questions facing individual teachers is, "How do I motivate *all* children to learn?" 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.

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I decided to ask underachieving students what they thought about how they learn well. There is a lot written about how experts think students learn well. Although these studies and theories can be very helpful to teachers, there is much less written about how *students* think they learn well, especially from the point of view of underachieving students. I asked my underachieving students a series of questions. The first set included open ended questions such as the following:

- Think of a good learning experience. What made that a good learning experience?
- Describe a good class or teacher that you have now or have had in the past. What made them good?
- 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?
- What is the one thing you would change about how your classes are taught or how your teachers teach that would help you to learn better?

These questions did not suggest any factors which might help them learn better, but solicited the students' own ideas. The second set of questions was based on what research advises might help students learn. This set of questions included:

- How do your teachers try to make school interesting to you?
- How do your teachers give you choices and let you help in class decision-making?
- How do your teachers try to help you see how course content is useful or important?
- How is school preparing you for your future?

There are two things that you, the reader, should keep in mind as you read this study. The first is that the sample is small and narrow: There are only six students in the study. This sample includes only

middle school students not those in elementary or high school, and it includes students from rural, central New England, rather from other possible demographic regions.

The second is that this is a "theory building" study designed to explore what students think. Because it is a theory building study, and not a theory testing study, I do not have achievement data on these students. While the stories and conclusions are presented to help you build your own theories about what motivates underachieving students to learn, it will not "prove" that any particular motivator will help students. What I have done below, however, is point out where the students' ideas connect with the professional literature on learning.

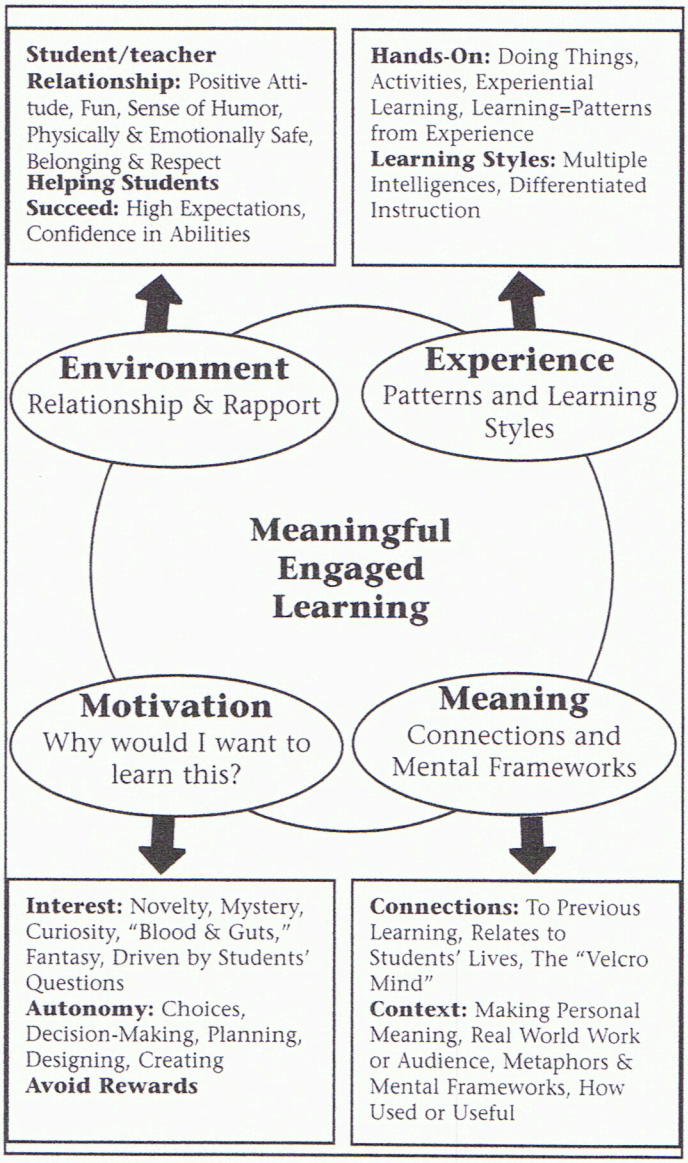
Keep in mind that with this kind of study, it is up to you to decide if these students' opinions and my conclusions match your own experience base, theories, and beliefs about motivating underachievers.

You do not have to accept my results. This study can be a model for your own action research, and I enthusiastically invite readers to ask your underachieving students questions about how they think they learn well. All six students had clear ideas of how they learn 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 leads me to think that you will find the same when you ask your students.

The six students were seventh graders attending one of two middle schools in rural, western Maine. 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) and about 100 students each. Both 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.

To add more credibility to the findings from the student interviews, I also interviewed four of their teachers, and conducted classroom observations. Synthesizing these findings with the literature on learning and motivation, a theory for meaningful, engaged learning begins to emerge. There are four

Figure 1
Components of Meaningful Engaged Learning



key components: the learning environment, experience, motivation, and meaning making.

Environment

I had expected students to focus on intrinsic motivators closely related to content, including hands-on activities, choice, curiosity, pace, and alignment with personal goals. Those were validated by the students, but not as strongly as the importance of relationship, trust, and respect in the classroom. Andy talked about how teachers who nag turn him off to learning and Mike said that he would not learn from

a teacher who did not like him. 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 does not learn well from teachers who are grumpy and Ben equates boring classes with teachers who are too serious and not having much fun. Ben said he would tell the Department of Education that students are not 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 are not authoritarian. Dowty (1997) and Emerick (1992) also report that the student/teacher relationship is key to improving achievement.

A teacher 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. Interviews and observations revealed 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,

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having peers explain a difficult concept, giving students a second chance, creating an environment where mistakes are viewed as a learning opportunity, and using questions to guide students.

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 genuinely like and respect them, even when disciplining them.

Experience

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, Schraw, & Ronning 1995). It is not surprising, then, that all six students thought they learned best from experiential work such as projects and hands-on activities, especially when they had input into project design or in selecting a topic.

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. Andy talked about how math class was one of his favorites because they did hands-on work. Doris says that fun schoolwork is "doing something," not just reading or studying, and Cathy does not mind reading and writing assignments, as long as the teacher combines it with hands-on activities.

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. Many of the students went on to complain that they did not learn well from too much bookwork. Eric and Cathy said it was because there was too much sitting and they wanted to be more active. The recommendations that several of the students would make to the Department of Education focused on reducing the amount of bookwork 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 bookwork. Their descriptions of hands-on activities and project work were full of references to researching, reading, and writing. Cathy was specific about not minding bookwork as long as there were some more active components to the work, as well.

Much of the talk about active hands-on learning revolved around discussions of respecting and providing for students' diverse learning styles. Both Doris and Ben commented on how different students learn differently and that students sometimes might be placed into groups according to how they learn best. Doris saw differentiated assignments as a form of fairness. Ben recommended that teachers help students discover how they best learn. Only Eric thought he learned well with traditional schoolwork, although his math teacher reports that he is doing best in math with the nontraditional activities. Educators should keep in mind that 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 learning differences was very important to the six participants. All the students and all the teachers interviewed 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.

Motivation

Motivation is the next key factor. This does not refer to why teachers might want students to learn material, but why students themselves 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.

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

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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 (such as providing students choices and giving them opportunities for decision making, planning, designing, and creating), 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, Valler and, 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, and several teachers believed that choice is a way to spark student interest or to engage students.

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 does not mind parameters, but does not 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. 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, and project topics were often student selected.

Meaning

Meaning is the fourth component. People 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, Reynolds, Schallert, & Goetz, 1977; Anderson, Spiro, & Anderson, 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.

Seeing connections and believing that content is useful is important to these 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. Ben says his math teacher shows how content and skills are useful through application projects, like building bridges and boats. Eric says that some of his teachers explain how course content might be useful to careers he is interested in.

Teachers say they use a variety of strategies to help students connect to content and understand its usefulness. Eric's and Cathy's math teacher uses problems and projects related to real world problems, and their language arts teacher 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. Ben's and Doris' science teacher mostly tries to make interdisciplinary connections or connections to lessons the students have had previously. Their social studies teacher 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, because you can always compare people and customs. As far as U.S. History connecting to their lives, I guess I would do that more with what is going on now in the world, using topics like gun control, the death penalty, as well as laws and amendments. You can bring it right to their personal life.

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.

Conclusion

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 serving all students.

Mike, Andy, Ben, Doris, Eric, and Cathy allowed me insights into how they think they learn well, in a hope that I can select teaching strategies that more closely match how students learn. You may wish to follow up with your own action research into how your underachieving students learn well. Finding out what motivates our underachieving students will help inform and equip teachers in the struggle to lead all students to academic achievement.

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