

# Student Engagement and Its Relation to Quality Work Design: A Review of the Literature

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## **Student Engagement and Its Relation to Quality Work Design**

When students are authentically engaged in meaningful, quality work, the likelihood for them to learn something new and to remember what was learned increases (Hancock & Betts, 2002). Philip Schlechty (2002), supported by the group at the Center for Leadership in School Reform (CLSR), theorized that when teachers work on the quality of work they give students, the work will engage more students more of the time. Improved student academic performance will result from increased student engagement because students work harder to achieve desired results. This “Working on the Work” theory attributed to Schlechty has come to be known as the “WOW framework.” As a result of exposure to Schlechty’s work, I became curious about quality work, student engagement, and the relationship between the two. Consequently, questions followed. What motivates students to become engaged? Is Schlechty’s focus on the quality of the work designed by teachers warranted? What research supports or refutes his claim?

The purpose of this literature review is to explore student engagement, the work students find engaging, and the design components of quality work. I wanted to judge whether the literature supports Schlechty’s idea that quality work increases engagement and results in improved performance. By Schlechty’s own admission (2002, p. xvi), “No systematic research program has been directed at assessing the impact of the WOW approach on improving schools.” Consequently, I turned to related studies to seek validation for these ideas.

## **Student Engagement**

What is engagement? Fred Newmann, (as cited by Voke, 2002), author of the 1992 book *Student Achievement in American Secondary Schools*, states that engaged students make a “.... psychological investment in learning. They try hard to learn what school offers. They take pride not simply in earning the formal indicators of success (grades), but in understanding the material and incorporating or internalizing it in their lives” (para. 3). Newmann’s definition implies that students who are engaged are involved in their own learning. For a truly engaged learner, the joy of learning inspires a persistence to accomplish the desired goals even in the face of difficulty (Schlechty, 2001). Engaged students have the skills to work with others and know how to transfer knowledge to solve problems creatively (Jones, Valdez, Nowakowski, & Rasmussen, 1994). Strong, Silver, and Robinson (1995) found a definite pattern when they asked teachers and students two questions at the beginning of a research project: (1) What kind of work do you find engaging? (2) What kind of work do you hate? Respondents stated that the most engaging work was the work that allowed for creativity, sparked curiosity, provided an opportunity to work with others, and produced a feeling of success. Work that was repetitive, required no thought, or was forced on them was described as work the respondents hated.

Engagement is not just keeping busy. According to Wasserstein (1995), when educators equip students with the tools to become self-motivated, real engagement in learning takes place. Self-motivation comes from a desire to understand something of interest or from the enjoyment of learning in order to achieve personal goals rather than from any kind of reward or incentive. Intrinsically motivated students bring more of their previous learning and creativity to learning

activities, and therefore, they retain more of what they learned in the new situation (Sheldon & Biddle, 1998). On the other hand, students who rely solely on extrinsic motivation such as grades, stars, stickers, or teacher approval, understand less, retain less, and fail to produce any long-lasting commitment to learning (Brewster & Fager, 2000; Kohn, 1995; Lumsden, 1994; Strong, Silver, & Robinson 1995). Alfie Kohn is an especially outspoken critic of extrinsic rewards. He cites several studies demonstrating that offering a reward to a person for doing something well may result in that person being less likely to have an interest in the activity later on; it merely buys temporary compliance. Kohn has written, "Learning is undermined by rewards. Rewards reduce the quality of performance, particularly on challenging tasks" (para.11). One of the jobs of educators is to help students develop an intrinsic desire to make sense of the world and to become life-long learners (Kohn).

Ideally, the act of learning becomes its own reward. Young children have a natural curiosity to learn and a desire to make sense of their environment; however, as they grow older, a delight in learning is often changed to a boring grind (Lumsden, 1994). School related successes and failures shape the attitudes and goals students use to cope with learning situations (Lumsden). Lumsden cites Raffini who says that students may avoid work at school, in order to "protect their sense of self-worth" (para. 25). Students may choose to do nothing or even disrupt other students rather than take a risk of being a failure. In a study in which data were collected from 86 middle school students during 114 interviews and 24 structured observation periods, Dowson and McInerney (2001) found that students' work avoidance may include copying, cheating, asking the teacher for help on an easy task, or other off-task behaviors like talking, "playing" with school supplies, trying to talk the teacher into an easier assignment, "tuning out", or pretending not to understand. Dowson and McInerney's study also found that the attitudes associated with limited engagement in learning are laziness, boredom, inertia, anger, and lethargy. High-ability learners and at-risk students alike may not be engaged due to boredom perhaps because of an absence of challenging activities (Day, 2002; Means, 1997; Plucker & McIntire, 1996). These unengaged students may try to identify the easiest rather than the most interesting or most valuable option. For example, a student may try to get other students to do the work for them, avoid planning and organizing the work, not attempt the work, or do it in a sloppy or insufficient manner (Dowson & McInerney). Work avoidance has not been extensively explored in the literature, but from the comments made in interviews and observation data, the Dowson and McInerney study found that "work avoidance goals are maladaptive in most circumstances, leading to limited engagement in learning" (p. 40). In light of the circular problem of work avoidance and low engagement it seems important to investigate possible solutions.

### **Design Qualities in Lessons that Foster Engagement**

Researchers agree that engaged students learn more, retain more, and enjoy learning activities more than students who are not engaged (Dowson & McInerney, 2001; Hancock & Betts, 2002; Lumsden, 1994; Voke, 2002). Consequently, Schlechty attempted to answer the question, "What do teachers, schools, and school districts need to do in order to insure that more students are engaged in learning activities more of the time?" He theorized that design qualities in the work teachers design for students are an important feature related to student engagement. Schlechty (2002) grouped the design qualities that he assumed could foster engagement into ten categories: Content and Substance, Organization of Knowledge, Product Focus, Clear and Compelling Product Standards, Safe Environment, Affirmation of Performance, Affiliation,

Novelty and Variety, Choice, and Authenticity. Although the terminology differs slightly, the literature supports the effectiveness of particular design qualities for enhancing engagement. The following sections focus on Schlechty's definitions of the design qualities and how his definitions are supported or refuted by other examples from the literature.

#### *Content and Substance*

When a lesson contains the design quality of content and substance, it means that the content involved is that which teachers, administrators, and the community agree is important for students to know at a particular grade level. The content is consistent with the standards and benchmarks established by the state and local school boards. Schlechty (2001) defines content and substance this way, "Among themselves, teachers and administrators have a clear and consistent understanding of what students are expected to know and to be able to do, and there is community consensus regarding these matters" (p.109). Meaning and interest for students are not automatically a part of subject areas or topics. Educators must provide a motivation for mastering skills by dealing with the basic skills in context and by using higher-order thinking and purposeful activities. These activities may include asking questions, posing contradictions, or encouraging research in order to engage more students in the tasks that some students consider boring (Brooks & Brooks, 1999; Day, 2002). A study by Assor, Kaplan, and Roth (2002) found that when teacher behaviors clarify the relevance of schoolwork, even if it is perceived as boring or tedious, students are more likely to value the task and become engaged in it. If the entire community is to be in consensus about what students should know and be able to do, classroom projects should make "visible" to the community the outcomes the teacher and district care about (Diez, 2000). Learning tasks for engaged learning should take place over an extended period of time, present an authentic challenge, and undergo ongoing assessment, including self-assessment by the students (Jones et al., 1994).

The ARCS Model of Motivational Design, developed by John M. Keller of Florida State University, is one theoretical model that identifies effective techniques for designing motivating instruction (Small, 1997). The theory for the ARCS model is based on a number of motivational concepts and characteristics including expectancy-value theory. In expectancy-value theory, the person must value the task and believe he or she can succeed at the task. The learning task must be engaging and meaningful to the student and promote success in achieving learning objectives (Small).

According to Keller (2000), attention, relevance, confidence, and satisfaction (ARCS) are the four conditions (in that order) necessary for a person to be fully motivated. First, a lesson must capture the learner's attention. Strategies to attain attention may include presenting an unexpected event, posing thought provoking questions, using humor, or varying the instructional format. The next step is to build relevance. This step can be achieved by letting students know how they can use prior knowledge, addressing how the instruction will be useful now or in the future, matching the activities to the students' learning styles, allowing students to have a choice, or relating the content to the students' current interests. The third step required for motivation is confidence. Students gain confidence when they clearly understand the lesson being taught, set realistic goals, understand that their success was a result of their efforts, and can practice the skill under safe conditions without fear of failure. The final step is satisfaction. In order to stay motivated, students must feel a sense of accomplishment for their efforts in a reasonably challenging task. Learners need to use their new skills as soon as possible, be offered unexpected rewards, praise, and motivating feedback. Negative influences like threats or other negative feedback should be avoided. Finally, students should feel that the amount of work

required was appropriate and feel a sense of fairness about grades and other issues in order to build intrinsic feelings of satisfaction.

### *Organization of Knowledge*

Instructional strategies that focus on the organization of knowledge ensure that students have the skills to do the work assigned and focus on interests that appeal to the largest possible number of students. (Schlechty, 2001). Plucker and McIntire (1996) found evidence supporting earlier research by Feldhusen and Kroll; Mitchell; and Reis and Purcell that says our schools lack challenging materials and activities, and the lack of challenge especially affects gifted students. To fill the gap and engage more students, the teacher should provide a variety of learning experiences and resources, including technology (Zorfass & Copel, 1995). Osberg's (1997) research found that using virtual reality, whether in a constructivist or traditional classroom setting, produced highly engaged, self-directed students.

Several studies demonstrate the importance of the teacher's actions. Based on a research project begun in the mid 1980's, Strong et al. (1995) outlined a model for student engagement called SCORE (success, curiosity, originality, and relations). According to SCORE, teachers should clearly define the criteria for success, model the skills, connect unresolved topics for study and creative projects to students' lives, and give work that will augment relationships with people the students care about. Assor et al. (2002), in a study of 862 Israeli-Jewish students from grades 3-8, found that when teachers try to understand their students' authentic interests and goals and help students to understand the connection between their own personal goals and schoolwork, then the students are more likely to value the school task and become more engaged in it.

Well-known theories form the foundation for practice in this area. Anderman and Midgley (1998) suggest that middle school teachers and administrators consider three theories when adjusting the instructional practices to engage all students: attribution theory, goal theory, and self-determination theory. Middle level students learn best when they are actively engaged with content and when the teacher acts as a mentor, coach, or "guide on the side" rather than the "sage on the stage" giving lectures to the whole class (Hancock & Betts, 2002; Jones, et al., 1994; Starnes, 1999). In a synthesis of recent research, Hancock and Betts (2002) present a scenario of a future classroom in which it is the exception rather than the rule to "find teachers conducting 'stand and deliver' lectures in a whole-class setting. More often, they act as mentors, coaches, and guides for individuals and small groups" (para. 7). An instructional strategy that is based on passive learning, especially in a whole class setting, does not appear to promote learner engagement. However, when individual, active learning is designed around a variety of content rich materials, students showed a higher rate of achievement related to core concepts (Hancock & Betts). By building on prior knowledge, students can develop thinking processes that allow them to ask questions, pose answers, and gain understanding (Bievenue & Gentry, 1997; Day, 2002; Jones, et al., 1994; Osberg, 1997; Starnes, 1999; Wasserstein, 1995). However, adapting instruction to individual learner needs and interests may take a toll on the teacher's time and finances (Brewster & Fager, 2000; Voke, 2002). Buying materials needed to carry out a special project can be expensive. Creating an engaging lesson takes more time and resources than just assigning a chapter to read with questions to answer at the end.

### *Product Focus*

Having product focus means that the work students are assigned to do is connected to an end result that is meaningful to them. Only after teachers clarify project themes and concepts are they able to design and coordinate a set of hands-on activities designed to allow students to

connect what they are doing to a meaningful end product they find compelling or significant (Zorfass & Copel, 1995).

The tasks students are assigned and the activities students are encouraged to undertake are clearly linked in the minds of the teacher and the students to problems, issues, products, performances, and exhibitions about which the students care and upon which students place value (Schlechty, 2001, p. 113).

Product focus is clearly linked to the standards movement and to assessment according to Diez (2000). In a scenario, Diez relates how a seventh grade science teacher, Karen, teaches the “big ideas” by focusing on inquiry and practicing the concepts in hands-on experiments that the students find engaging. Karen allows her students to express their understanding of concepts with music, art, dance, and drama. She finds that students are “more careful with their work samples when they see that they will be used again in another setting”(para. 6). In another empirical article, Murdock, Hansen, Kraemer, Vandiver, Hunt, and Hennessy (1995) related the success of setting basic objectives and requirements at the beginning and letting students work independently. A Massachusetts middle school devotes Fridays to Horace, based on the fiction English teacher Horace Smith in *Horace’s Compromise* and *Horace’s School* by TheodoreSizer (as cited by Murdock et al.). Students spend all day Friday with one teacher working on intensive, project-based learning projects. Teachers found that working on an open-ended project over an extended time period fostered student engagement and emphasized student work. Students planned their own projects and set their own deadlines. Parents stated that “students eagerly discussed their work with relatives and friends and refused to miss school on project days” (p. 39). The Foxfire approach, as reported by Starnes (1999) agrees that course content takes on new meaning when the audience is central. Students strive to do well when they realize that others may see the results of their work.

#### *Clear and Compelling Product Standards*

Students are more likely to engage and persist with work when the standards by which the product will be judged are clear and compelling.

When problems, issues, products, performances, or exhibitions are a part of the instructional design, students understand the standards by which the results of their work will be evaluated. Furthermore, they are committed to these standards, see them as fair, and see a real prospect of meeting these standards if they work diligently at the tasks assigned or encouraged (Schlechty, 2001, p. 115).

Rubrics, tailored to fit the specific assessment task, are an effective tool for measurement. A list of appropriate criteria for each project allows students to work toward mastery and to learn from mistakes as they move through the process. Understanding the criteria also allows for improved skill in self-assessment (Diez, 2000). Teachers should give students examples of high-, average-, and low- level work and give them a chance to discuss how each assignment was evaluated (Strong et al., 1995).

#### *A Safe Environment*

A safe learning environment is one in which students feel free to take risks to learn new things without fear of failure. Providing a safe learning environment affects student engagement. Students are provided many opportunities to try to complete a task without being penalized for failures associated with lack of knowledge and skills. Instead, when failure occurs, the reasons for the failure are diagnosed by the student and the teacher, and new efforts are encouraged (Schlechty, 2001, p. 117).

Reflection allows teachers and learners to engage in ongoing assessment in which revisions and refinements account for additional learning. Mistakes should be welcomed as opportunities for learning, and students should be given the chance to redo work (Anderman & Midgley, 1998; Kohn, 1997; Starnes, 1999). Kohn theorizes that the process is definitely more important than the product produced. The artifacts produced are just the by-products of learning. He further states that the mistakes a student makes are valuable clues to what the student is thinking. Students gain confidence in themselves and in learning because they have the freedom to take risks (Brewster & Fager, 2000). Teachers at Barren County Middle School used a program called Different Ways of Knowing to raise student achievement (Manzo, 2000). One of the components of Different Ways of Knowing, which is aligned with Kentucky's academic standards, is to allow ample time for "review and remedial instruction" (para. 35) and looking for ways for students to improve rather than just covering the content. Teachers can foster an environment conducive to student engagement by practicing small, seemingly unimportant activities: greeting students at the door, making eye contact, allowing enough "wait" time when expecting a student to answer a question before moving on to another student, dignifying wrong responses, repeating a question, or giving hints that will encourage students to try again (Marzano, 1992).

#### *Affirmation of Performance*

Affirmation of performance means that people or groups who are significant to the learner verify the importance of the work the student does. Designing schoolwork that can be presented to "significant others" can increase student engagement. "Affirmation suggests significance" (Schlechty, 2001, p. 120).

Persons who are significant in the lives of students, including parents, siblings, peers, public audiences, and younger students, are positioned to observe, participate in, and benefit from student performances and to affirm the significance and importance of the activity being undertaken (Schlechty, 2001, p. 119).

Students want an audience beyond the teacher to affirm the work is important, needed, and worth doing. Students are more careful with their work samples when they know the work will be seen by an audience outside the classroom (Starnes, 1999). Diez (2000) reports that students are more careful with their work samples when they know they will be used again in another setting. Whenever possible, students need to connect learning tasks to the real world outside school (Jones, et al., 1994; Murdock et al., 1995).

#### *Affiliation*

Being given a chance to work with others, or affiliation, is an activity Schlechty theorizes will enhance student engagement. "Students are provided opportunities to work with others (peers, parents, other adults, teachers, students from other schools and classrooms) on problems, issues, products, performances, and exhibitions that are judged by them and others to be of significance" (p. 121). Teamwork is important. Dewey referred to it as building "common and shared life..." (as cited by Starnes, 1999). Even though Kohn (1997) does not like the idea of equating what students do in school with what adults do in offices and factories to earn money (work), he does agree that collaboration is good in both places. Dowson & McInerney (2001) found several benefits of group effort. Working together is better than using gimmicks to "motivate" people. Affiliation promotes cognitive effort, planning and organizing, and self-monitoring. Students work hard to give a good example to other students, parents, and teachers. They like the feeling of belonging and helping others. Reluctant or at-risk learners are willing to be involved in academic activities because of the people in the group despite a dislike for the

activities themselves. One student in the Dowson and McInerney study said, "I feel smarter when I'm working with other people" (p. 38). Their social group influences middle school and high school students' level of engagement as much, if not more, than teachers, parents and other adults (Brewster & Fager, 2000). Cooperative learning builds acceptance and understanding among the members of a group (Marzano, 1992). Students learn that cooperative learning can lead to the accomplishment of group and individual goals (Renchler, 1992). At-risk students can work as part of a collaborative group and be judged on their ability to successfully complete a complex task. Technology can help foster productive cooperative learning relationships. Students help each other learn (Means, 1997).

#### *Novelty and Variety*

Providing novelty and variety is one more way to engage students in classroom activities. The range of problems, issues, products, performances, and exhibitions is large and varied, and the technologies students are encouraged to employ are varied as well, moving from the most simple and well understood (a pen and piece of paper, for instance) to the most complex (sophisticated computer applications, for example) (Schlechty, 2001, p. 123-124).

Teachers and administrators at Barren County Middle School say their students are no longer bored because they have worked hard to create "purposeful fun" by using an arts-focused curriculum to engage students (Manzo, 2000). Technology can be used to bring real-world examples into the classroom (Osberg, 1997; Reed & McNergney, 2000). Rather than textbooks, worksheets, and multiple-choice tests, student products can take the form of portfolios, WebQuests, PowerPoint presentations and reports to classmates. A middle school in Lexington, Massachusetts used extended time blocks to allow students to work on projects that incorporated opportunities for student decision-making, connection to the world outside school, and independent thinking (Murdock, et al., 1995). Student-centered learning in a technology lab required students to work in pairs to carry out assignments and solve problems without asking the teacher. They had access to videotapes, a student lab manager, a programmed module, and a teacher, who acted as a mentor, or guide, in order to successfully complete the assigned tasks (Day, 2002). Teachers who can create a positive affect -- humor, joy, happiness -- into classroom activities are using a basic human behavioral principle to enhance student engagement (Marzano, 1992).

#### *Choice*

Students may be more engaged if they have some degree of control over learning (Brooks & Brooks, 1999). "What students are to learn is usually not subject to negotiation, but students do have considerable choice of what they will do in order to learn what it is intended that they learn" (Schlechty, 2001, p. 125). Students can make decisions about their own learning and manage time and materials effectively. They can be given choices between different assignments, be given minimal supervision in group projects, and be made to be responsible for monitoring their own progress. Students' first attempts at decision making and time management may not be successful, but teachers can help by providing guidelines students can use to monitor their own progress (Murdock et al., 1995). Anderman and Midgley (1998) note that teachers should not relinquish control of the classroom. Choice does not mean letting students do whatever they want to do. "Even small opportunities for choice, such as whether to work with a partner or independently" (p.3) give students a sense of self-direction. School leaders can establish policies that allow teachers to offer students choices. When students are allowed to set their own goals, they can define their own criteria for success (Osberg, 1997;

Renchler, 1992). Brewster and Fager (2000) describe the program at Amity Creek Magnet School as not only a school *of choice*, but also a school where *choice* is the basic educational philosophy. Learning at Amity Creek is child-initiated. The school staff's job is to facilitate learning in an atmosphere where they believe that children are unique, construct their own knowledge, and learn in a continuous process as they engage with the world. Located in Bend, Oregon, Amity Creek's philosophy was met with suspicion from the community at first, but when it was rated as "exceptional" by the state of Oregon, the nontraditional approach was validated. More than 75 percent of students exceeded the state's standards on reading, writing, and math tests. The 155 students at Amity Creek are allowed the freedom and support they need to ask questions, solve problems, interact with others, think independently, construct their own knowledge, and develop social responsibility and self-discipline.

### *Authenticity*

Authenticity means students are given work that is genuine to the students. Authentic work is more than just a random assignment out of a textbook. The assignment has real meaning to the learner. "The tasks students are assigned and the work students are encouraged to undertake have meaning and significance in the present lives of students and are related to consequences to which students attach importance" (Schlechty, 2001, p. 127). Humans are driven to engage in authentic, personally meaningful, and relevant work (Voke, 2002). Course materials should relate to students' lives and highlight ways learning can be applied in real-life situations (Bievenue & Gentry, 1997; Brewster & Fager, 2000; Murdock et al., 1995). The connection to real-life issues must not be superficial. Educators must ask what issues in adolescents' lives cause them to ask questions and look for answers. What ideas are unresolved, yet manageable? (Strong et al., 1995). Technology is one way to bring authenticity into the classroom. Students can learn basic skills in the process of working on authentic tasks (Means, 1997).

### **Impact of Technology on Engagement**

Technology is one resource that affects student engagement and achievement in many ways (Hancock & Betts, 2002). The research on how technology affects achievement is inconsistent (Hede, 2002). A meta-analysis by Liao (as cited by Hede, 2002) in an examination of 35 studies concluded that "multimedia-based instruction is superior to traditional instruction. However, it is notable that 10 of these studies showed the opposite, namely, that traditional instruction is superior to multimedia" (p. 178). Hede proposed an integrated model of the multimedia effects on learning to accommodate a wide range of contradictory research results. The model serves as a reminder of the numerous factors that need to be considered when designing a multimedia package. Multimedia tools must be used with careful thought and application of good instructional design so they will have a positive and not a detrimental effect on learning (Hede, 2002). Kozma (as cited by Hede, 2002) suggests that instructional designers looking for ways to engage students might ask, "In what ways can we use the capabilities of media to influence learning for particular students, tasks, and situations?" (p. 18).

Some studies have shown that student performance improves when teachers and school districts make a commitment to use technology (Mann & Shafer, 1997). In a six-month study of 55 New York state school districts that spent over \$14 million on computer technology and training, Mann and Schafer found that increased access to technology resulted in increased achievement levels on the state Regents exam in math and English and higher scores on the state's Comprehensive Assessment Report, especially in sixth-grade math. The study, one of the



most exhaustive studies done to date, produced quantitative, qualitative, and longitudinal data, as well as anecdotal reports. “Everything points to the same conclusion—that increased technology supports, facilitates, and encourages student achievement. The gains reach across schools and districts with different education policies and socio-demographic backgrounds” (para. 7).

Technology-enhanced, project-based student work is a staple of quality knowledge work. Quality knowledge work is defined by Schlechty (2001) as work students find “to be engaging and from which they learn those things that are considered by parents and other adults to be important to them and to the future of culture and the society” (p. 55). The Milken Exchange on Education Technology (1999) analyzed the five largest scale studies of education technology to date. Some of the positive findings included the following: Kulik (as cited by Milken, p.4) said, “Students like their classes more and develop more positive attitudes when their classes include computer-based instruction”; Sivlin-Kachala (as cited by Milken, p.5) found that “Students in technology rich environments experienced positive effects on achievement in all major subject areas”; “Apple Classrooms of Tomorrow (ACOT) did have a positive impact on student attitudes and did have an impact on changing teacher teaching practices toward more cooperative group work and less teacher stand-up lecturing” according to a study by Baker, Gearhart, and Herman, (as cited by Milken, p. 5); Scardamalia and Bereiter concluded that “Computer Supported Intentional Learning Environment (CSILE) maximizes student reflection and encourages progressive thought, taking multiple perspectives, and independent thinking” (as cited by Milken, p. 8). Technology can bring the real world into the classroom (Hancock & Betts, 2002). Teachers view computers as a way to help all children—not just slow learners or gifted students—learn problem-solving and reasoning skills (Collopy & Green, 1995). In hypermedia environments, students exercise choice and control of their personal learning. Computers and multimedia software are the tools students may use to construct their own learning (Ashton, Bland, & Rogers, 2001; Milken, 1999). Some of the studies cited by Milken Exchange on Education Technology (1999) show that use of technology may not be as effective if the learning objective and how the technology is to be used are unclear.

### **What do students find engaging?**

Much information is in the literature about how technology engages students, but what kinds of school academic activities do students find most engaging or most memorable? A survey of 200 seventh and eighth grade students in Colorado revealed some surprising responses (Wasserstein, 1995). A hands-on science activity was the number one choice for 27 percent of the students surveyed. Twenty-eight percent picked independent research as their most memorable school activity. Many students cited stand-up performances like plays, speeches, skits and other activities in which they had an active part. The troubling part is that obviously missing from the list were activities involving reading, writing, and math. Those who did choose a writing activity as memorable did so because they had written a letter to a real person and had received an answer to the letter. Students did not choose easy activities; they were satisfied when the assignment took hard work but they learned something and achieved success. The students suggested that “challenge is the essence of engagement .... and students recognize and despise busywork” (p. 41). “Busy” students are not necessarily engaged. Grades did not appear to be an important factor in defining engaging work because students mentioned grades as an afterthought, not why they put forth the effort for their memorable work.

According to a report by Easton (2002) about students at Rock Eagle School, an alternative high school in Colorado, students want to be engaged, and they have ideas about how

they can be engaged. Educators could learn a lot if only they would listen to their students. Some of the suggestions students at Rock Eagle School made were discussing “authentic” questions, ones with no simple right-or-wrong answer-- even the teacher does not know the answer; learning with hands-on activities; performing; having some control over what I learn; being creative; having some fun while learning; learning actively; teaching others; having teachers who listen, accepting feedback, and acting on it; being academically challenged. Respondents in a research project by Strong, Silver, and Robinson (1995) expressed the same goals for success, curiosity, originality, and satisfying relationships. The activities they hated included “work that was repetitive, that required little or no thought, and that was forced on them by others”(p.1). Choice of learning activities, some student control over learning materials, and a chance to discuss ideas with peers were ideas for engagement supported by students in an article about student engagement in reading (Worthy, 1998).

### **Conclusion and future implications**

Every description of research or practice that I found in the literature about activities that engage students fits into one of the ten areas of quality work suggested by Schlechty (2001) in his Working on the Work framework. What makes it so hard to implement the design qualities? Are some teachers using the ideas suggested in the WOW framework? How many?

In many classrooms across the United States, the teaching practices are not that different from the way they were 50 or even 100 years ago (Marzano, 1992; Osberg, 1997). As I look at the volume of information that my students are required to know compared with what I had to learn as an eighth grader in 1964, I see that teaching practices must change. Now, more than ever, students must know how to think creatively and critically, process and apply information, and learn how to learn. Rote memorization alone is no longer even an option. Students must be engaged in order to establish long-term, meaningful habits of learning. The students know what engages them (Kuh, 2001), and it is exactly what the research says should engage students.

In order to make real changes in teaching practices, teachers must have the support of the entire school district according to the philosophy of the Standard Bearer Schools of the Center for Leadership in School Reform (CLSR) (Schlechty, 2001). Teachers need monetary support, support for designing quality work, and time to design quality lessons. The research suggests that teachers should be designing lessons incorporating the quality work design qualities outlined in the WOW framework (Osberg, 1997). Do quality knowledge lessons engage students? What level of engagement do students exhibit? What percent of the time? What prevents student engagement? How does the use of technology affect engagement and learning? No research showed up in the literature to document the level of engagement associated with the ten design qualities in the WOW framework. More research is needed to document the effectiveness of quality work design qualities to promote student engagement resulting in school improvement.

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