A Literary Review of Engaged Learning and Strategies That Can be

Used in Planning and Implementing Instruction That

Engages Students in the Learning Process.

by

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ABSTRACT

The benefits of student engaged learning are rich and plentiful. Greater

awareness of personal understanding, more student involvement, higher standardized test

scores, and improved social skills are just a few of the possible repercussions of students

being highly engaged in their own learning.   There are many strategies and practices that

promote and encourage students being highly engaged in their own learning, several

highlighted in this study are cooperative learning strategies, authentic learning tasks, the

use of technology within the classroom, student-led conferences coupled with student

portfolios, and student self-assessment. Educators should make it a priority to get

students involved in the learning process, taking a more facilitative role in guiding

students to take a hold of their own learning and make it their own.

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Chapter I: Introduction

In education, trends come and go. Some explode onto the scene, seem promising and impacting, but then fade away as quickly as they appeared due to rigidity of form or lack of student improvement. Other trends endure, prove their merit by being easy to put into practice in the classroom, being adaptable and changing with the times, and most importantly, fostering student achievement in meaningful and lasting ways. Instruction and assessment that engages students in their own learning is one of those enduring trends in education.

It is generally agreed upon "that engagement is important for learning and achieving success in school" (Klem and Connell, 2004, p.1). The challenges that most teachers face within their classrooms, such as trying to deal with lack of student motivation, students being uninterested in content material and social and behavioral disruptions can also be addressed by making attempts to engage students in the learning process. The strategies, in which teachers can employ to improve student understanding, motivation, and behavior, are quite numerous though they all have very similar characteristics and the same goal in mind. Terms such as "collaborative learning, problem-based learning, project-based learning, self-directed learning, and engaged learning "are sometimes used almost synonymously because there are similarities in the ways these philosophies are put into practice" (Theroux, 2004, p.1). These teaching strategies or philosophies lead to the development of habits and qualities in students that will lead to them valuing learning and becoming life-long learners. "Each of these teaching philosophies encourage[s] the development of autonomous learners who are

motivated to become, and responsible for being, in control of their own learning processes. Regardless of whether students work in groups or alone students learn how to take responsibility for their own learning" (Theroux, 2004, p.1).

This idea of student responsibility is such an important concept in learning, as much of the research cited throughout this study will demonstrate. Some of the components of this research are rather recent, especially the findings related to technology and student engagement, but the significance of students being responsible for their own understanding has been studied and known by educators for many years. Charles S. Bacon, in his article written in 1993 quotes Rogers as he is discussing the findings from a study he conducted on juveniles in (Rogers, et. al, 1948),

> I began to see the significance of inner autonomy. The individual who sees himself and his situation clearly and who freely takes responsibility for that self and for that situation is a very different person from the one who is simply in the grip of outside circumstances. This difference shows up clearly in important aspects of his behavior.

Bacon places much emphasis on the importance of intrinsic motivation and the idea that students can not be forced in to engagement. Intrinsic motivation is very clearly defined by Deci & Ryan (1985) as, "... the innate, natural propensity to engage one's interests and exercise one's capacities, and in so doing, to seek and conquer optimal challenges. Such motivation emerges spontaneously from internal tendencies and can motivate behavior even without the aid of extrinsic rewards or environmental controls" (p.43).

(Janes, et. al., 2000) states clearly that "recent research has determined that if students are to be more deeply engaged and intrinsically motivation, educators need to re-evaluate the current ideas about motivation" (, p.30).

As is the case in Bacon's article, the author of the present study is aware that, "Responsibility has both visible components (behavior) and invisible components (cognition, affect, and attitude)" (Anderson and Prawat, 1983). Though both components are equally important to student achievement, the research conducted in conjunction with the present study focuses on and will be used to support the many benefits that student engaged learning strategies have on the "invisible components". (Bacon, 1993, p.1).

Statement of the Problem:

Traditional classroom instruction, where the norm is teacher-centered lecture and student memorization of facts or practicing of skills leaves a lot to be desired in the areas of effectiveness of teaching individuals and student involvement. "Research has shown that students learn in different ways. In order to reach all students, teachers must be prepared to address those differences" (Janes, et. al., 2000, p.23). Educators using solely traditional teaching methods need to be encouraged to make a change, or at least additions, to how they teach and attempt to get students more involved in the learning process. The use of independent and cooperative learning strategies, problem-based learning, integrating technology in to the curriculum, and encouraging students to self-assess are all instructional methods that would be complimentary to the occasional teacher-centered lecture.

Purpose of the Study:

The purpose of this study is to provide educators with information that supports the best practices which lead to students thinking critically about their own learning and playing a more active role in their own education. "The most significant factor affecting students' learning in the classroom is the quality of their teachers" (HandsNet, 2006, p.1). With that in mind, this literature review also serves to inform educators of the important role that they must play in allowing and assisting students to do so. There are many teaching strategies as well as information regarding what a classroom that values social interaction, authentic problem solving, and personal reflection looks like highlighted in this study. It is the author's hope that the research cited and philosophies focused on lead readers to see the immense value of engaged learning in students' development and success in school, as well as throughout the rest of their lives.

Limitations of the Study:

This study was conducted by one person with an interest in the subject and basic researching skills. Undoubtedly, a more experienced researcher would have produced a study that would be more exhaustive in scope and sequence than the present study. The researcher is an educator and therefore sees the value in student engaged learning. As a result, the findings of the study are limited to communicating the pros of the issue at hand and are biased towards implementing more of the engaging practices within classrooms. These are the limitations the researcher feels are incorporated into this study.

Chapter II: Literature Review

Foundations of Engaged Learning

Engaged learning has roots in two very widely known education theories, John Dewey's "Learning by Doing" and Jean Piaget and the theory of constructivism. They both encourage learners to engage in problem solving and place the majority of the responsibility of learning in the learner's hands (Inman, 2001).

Dewey's main argument against traditional education during his time was that learning should not merely involve the reading and learning of lessons and other forms of rote memorization. Instead, he advocated the use of investigation, problem solving, and critical thinking skills to educate and prepare students to be contributing members of a society he felt needed fixing. He also encouraged incorporating what we know today as student prior knowledge into lessons. By finding out what students already knew about a topic or what experiences they may have had regarding the subject of study, new knowledge could then be built upon prior knowledge, leading to more lasting learning (Sloan, 2008).

Constructivism promotes learning by doing and creating new knowledge from experiences. Social interaction is important and necessary to learning, therefore activities that place people together in groups to engage in conversation and share ideas is a key characteristic of constructivism. Assessment practices, within the context of constructivism, lead to learning as well as inform what has been learned by the student, or formative assessment. It is not advised that traditional tests be the sole method of checking for understanding. An open channel of communication between teacher and

student should be used frequently to assess the level of understanding on the student's part and determine feedback given by the teacher to help improve that understanding in the future. At its core, constructivism encourages students to be stewards and owners of their own learning. (http://www.funderstanding.com/constructivism.cfm)

What Does Engaged Learning Mean?

There are concrete characteristics in which engaged learning can be identified by. "Students are engaged when they devote substantial time and effort to a task, when they care about the quality of their work, and when they commit themselves because the work seems to have significance beyond its personal instrumental value" (Newmann, p. 242). "Engaged students seek out activities, inside and outside the classroom, that lead to success or learning. They also display curiosity, a desire to know more and positive emotional responses to learning and school (Akey, 2006, p.3). Angela Lumpkin speaks highly of engaged learning in her article when she states, "Through active learning, students become engaged with a problem, solve it, and report their solution to classmates so that their learning is open for all to see and assess…when students are engaged, they are more likely to learn" (Lumpkin, 2007, p.159).

In engaged learning, the responsibility is shared between the teacher and the student. They both equally carry the load of the goal and task of teaching and learning together in a warm and welcoming atmosphere using a variety of strategies, methods, and resources that gain and hold the interest of the learners.

There are several indicators that Jones, Valdez, Nowakowski, and Rasmussen (1994) believe are present when engaged learning is taking place.

- Successful, engaged learners are responsible for their own learning. These students are self-regulated and able to define their own learning goals and evaluate their own achievement.

- In order to have engaged learning, tasks need to be challenging, authentic, and multidisciplinary. Such tasks are typically complex and involve sustained amounts of time.

- Assessment of engaged learning involves presenting students with an authentic task, project, or investigation, and then observing, interviewing, and examining their presentations and artifacts to assess what they actually know and can do.

- The most powerful models of instruction are interactive. Instruction actively engages the learner, and is generative. Instruction encourages the learner to construct and produce knowledge in meaningful ways. Students teach others interactively and interact generatively with their teacher and peers.

- For engaged learning to happen, the classroom must be conceived of as a knowledge-building learning community. Such communities not only develop shared understandings collaboratively but also create empathetic learning environments that value diversity and multiple perspectives.

- Collaborative work that is learning-centered often involves small groups or teams of two or more students within a classroom or across classroom boundaries.

- The role of the teacher in the classroom has shifted from the primary role of information giver to that of facilitator, guide, and learner. As a facilitator, the

teacher provides the rich environments and learning experiences needed for
collaborative study.

- One important student role is that of explorer. Interaction with the physical
  world and with other people allows students to discover concepts and apply
  skills. Students are then encouraged to reflect upon their discoveries...

(pp. 11-15)

Teacher-Centered Instruction & Passive Reception – Opposition of Engaged Learning

The traditional method in which to teach children is to prepare well thought out,
informative lessons in which the teacher talks and the students listen. The focus is on the
teacher. In this fashion, the largest amount of new material can be covered because it is "one-
way communication" (TA Consultants). Following the lecture or lectures, independent practice,
in the form of reinforcement worksheets are completed, usually alone, by the students. Lastly, a
test is administered so the teacher can assess student understanding. The students complete the
test and find out what they understood and did not understand just in time to hear their teacher's
lesson on the next chapter or new material. This teaching strategy is referred to as teacher-
centered, passive reception. All emphasis is placed on the importance of the teacher, the one
with the knowledge, passing it on to the ones without the knowledge, the students (Hayes, n.d.).
The schedule of lessons and lectures is based on the teacher instead of level of student
understanding. Students sit, often in rows, and are asked to listen attentively for long periods of
time, about material that they are not connected to in anyway and have no prior knowledge
about. Ultimately, they are tested on the material they just learned not necessarily to assess their
level of understanding for the purpose of modifying instruction, but because the end of the unit
has arrived and tests are what take place at the end of teacher-centered, passive received units.

This type of learning environment is student engaged learning's polar opposite. "Action-based or experimental learning teams and problem-based learning are more successful than lectures in helping students see the relevance of what they are expected to learn as well as in helping them remember and apply what they are learning" (Lumpkin, 2007, p.159).

What is the Teacher's Role in Engaged Learning?

Student engaged learning does require the teacher to play an important role, actually "teachers are key players in fostering student engagement" (Akey, 2006: Garcia-Reid et al., 2005, www.centerforscri.org newsletter, April 2007, p.1) however, not the role that the teacher-centered educator plays. Instead, teachers should take on the responsibility of "creating a culture of achievement in their classrooms, developing interactive and relevant lessons and activities, and being encouraging and supportive to students", these "are all ways in which teachers can foster student engagement in the classroom" (www.centerforcsri.org newsletter, April 2007, p.1). According to Janes, et. al., (2000), "The teacher acts as a guide facilitator. The teachers create opportunities for students to work cooperatively, to solve problems, do authentic tasks, and construct their own meaning. They learn along with the students" (p.28).

In order for engaged learning to take place there must be certain freedoms granted to students by teachers. "In an engaged learning environment, the students are allowed to explore, discover, and interact. According to Talbot (1998), students should have choices in learning activities whenever possible, and they should be allowed to formulate questions and explore topics that interest them" (Janes, et. al., 2000 p.28). Klem and Connell agree when they say;

providing choices within the context of clearly stated, high expectations creates an environment that enhances student learning. Students are more likely to want to do school work when they have some choice in the courses they take, the material they study, and the strategies they use to complete tasks. However, the autonomy must exist within a structure. Students still need teachers to keep track of and care about whether they attend class, turn in homework, and understand the material (p.6).

Another responsibility of educators which is extremely vital to student achievement and engagement, yet does not necessarily take place inside a classroom is that of developing professional learning communities "among staff to ensure that teachers develop the skills they need to provide these conditions" (Klem and Connell, 2004, p.7).

An environment that promotes encouragement and achievement as opposed to humiliation and competition is critical in engaging students. A classroom culture "where instruction is challenging, students feel comfortable asking questions, and students are expected to do their best" (www.centerforcsri.org newsletter, April 2007, p. 2) is an integral piece of the puzzle. In many cases, teachers give students the impression, through negative body language and offering responses to student inquiries that are highly destructive, that asking questions when they do not understand the material is not alright. "Teachers should aim to create a culture in the classroom where learning is cool, and asking questions is not only okay but expected" (Akey, 2006, p.4). An environment where being wrong leads to an onslaught of laughter and ridicule is a detriment to engaged learning and students being willing to take chances when learning something new. This type of classroom environment may take some time to develop, but it can be

done if the teacher sets clear expectations and models appropriate responses to questions, encouragement after student mistakes, and appropriate praise after student triumphs (Akey, 2006).

The Importance of Getting All Students Engaged

In their article, Engaging Youth in School, Adena M. Klem and James P. Connell make a very strong case for engaged learning and relay the importance of getting all students engaged when they state,

> An abundance of research indicates that higher levels of engagement in school are
>
> linked with positive outcomes such as improved academic performance. In fact,
>
> student engagement has been found to be one of the most robust predictors of
>
> student achievement and behavior in school – a conclusion which holds regardless
>
> of whether students come from families that are advantaged or disadvantaged
>
> economically or socially. Students who are engaged in school are more likely to
>
> earn higher grades and higher test scores, and have lower dropout rates. In
>
> contrast, students with low levels of engagement are at risk for a wide range of
>
> long-term adverse consequences, including disruptive classroom behavior,
>
> absenteeism, and dropping out of school (Klem & Connell, 2004, pp. 1-2).

It is important to mention drop out rates when speaking about the importance of getting students engaged in the learning process. In his article publicizing the benefits of service learning, which is yet another strategy implemented to engage students, published in April 2008, John Bridgeland states that "every day 7 thousand high school students drop out of school – and the American high school graduation rate hasn't budged for almost three decades" (p.1). Even more alarming than the rate is the reasons students give for dropping

out of high school before earning a diploma. Barabara Pytel (2006) offers this statistical data

gathered from a survey of "500 dropouts, ages 16-25

- 47% said classes were not interesting

- 43% missed too many days to catch up

- 45% entered high school poorly prepared by their earlier schooling

- 69% said they were not motivated to work hard

- 35% said they were failing

- 32% said they left to get a job

- 25% left to become parents

- 22% left to take care of a relative

Two-thirds said they would have tried harder if more was expected from them" (p.1).

When summing up the information displayed above, it is difficult to avoid the phrases "not

interesting", "missed too many days", "poorly prepared", "not motivated to work hard", and

"would have tried harder if more was expected from them". The strengths of student

engaged learning directly address each of these situations.

There is an obvious need for all teachers to incorporate instructional strategies and

assessment tools that encourage and lead to learning environments that center on student

involvement and ownership of understanding. What this type of classroom climate looks like

has been briefly mentioned, more detailed information on several methods that can make this

happen in any classroom anywhere in the world are explained in more detail in the following

sections.

Cooperative Learning Strategies: Collaboration and Freedom of Choice

"Engaged learning provides opportunities for students to work cooperatively with a purpose. Learning groups are formed according to the purpose of instruction, common needs, and interests. Working cooperatively allows students to develop social skills and problem solving skills" (Judy, 1999 as cited in Janes, et. al., 2000, p.28). Judy Willis, an M.D., neurologist, and teacher at Santa Barbara Middle School in California has this to say about cooperative learning, "I discovered that relinquishing traditional autocratic control and allowing students to collaborate interactively with classmates to achieve common goals resulted in our becoming more invested and engaged in our learning" (Willis, 2007, p.4). Cooperative learning can only occur when teachers take a step back from being the one source of information and knowledge within the class yet still set guidelines for behavior and interaction and demand high expectations from students. Goodwin (1999), states

> that in this type of environment small groups of students discuss topics and learn to take charge of their own learning. Team spirit rather than competition is stressed as students work together. Positive interdependence is the goal of cooperative learning; therefore, the success of the group depends on each member attaining both the group and his or her own individual learning goal (as cited in Hall, 2006, p.9).

This instructional strategy allows for students to keep one another accountable as well as to step into roles that they feel they are talented at and not simply forced to complete or participate in by the teacher. These opportunities, to monitor one another's participation and quality of work as well as the opportunity of choice are appealing to students and result in their being more interested, and therefore more invested in assignments and projects.

When students participate in engaged learning activities in well-designed, supportive cooperative groups, their affective filters are not blocking the flow of information. When you plan your group so that each member's strengths have authentic importance to the ultimate success of the group's activity, you have created a situation where individual learning styles, skills and talents are valued, and students shine in their fortes and learn from each other in the areas where they are not as expert (Willis, 2007, p.6).

Several more benefits of cooperative learning groups that aid in engaging students in the learning process are that it promotes positive, academic dialogue between students and enables them to share ideas in a receptive environment. One of the many pit falls of a classroom in which students listen to the teacher lecture and practice skills individually is that students are not interacting with one another and their thoughts and ideas are never voiced. Silence in the classroom is equated to students working and learning, which is completely false. On the contrary, meaningful and authentic learning takes place when students ideas are shared with one another, when they are working together to solve a problem, and when they receive positive feedback and constructive criticism not only from the teacher, but also from their peers. "Cooperative learning group activities, unlike whole class discussions or independent work, provide the most opportunities for students to express their ideas, questions, conclusions, and associations verbally. They call on each other's guidance to solve pertinent and compelling problems and develop their interpersonal skills by communicating their ideas to partners" (Willis, 2007, p.6).

Cooperative learning groups have been proven to be beneficial to students in many more ways, such as higher test scores, higher self-esteem, increased engagement, improved

social skills, and better understanding of content and skills. Due to the positive outcomes of this particular teaching style, many teachers have attempted to incorporate this method in to their classroom practices. However, Johnson, Johnson, and Holubec cautioned (as cited in Stahl, 1994)

> A large majority of the group tasks that teachers use, even teachers who claim to be using "cooperative learning," continue to be cooperative group tasks-not cooperative learning group tasks. For instance, nearly all "jigsaw" activities are not cooperative learning jigsaw activities. Merely because students work in small groups does not mean that they are cooperating to ensure their own learning and the learning of all others in their group.

> Listed are several cooperative learning methods that promote student interaction and "enhance the learning environment:

> - Think/Pair/Share – a strategy designed to provide students with food for thought on a given topic enabling them to formulate individual ideas with other students.
> - Roundtable – a cooperative learning strategy in which students take turns contributing answers in a group. Roundtable is usually completed in written form.
> - Webbing – a graphic organizer strategy that provides a visual picture of how words or phrases connect to an object, concept or topic. Webbing helps students clarify concepts" (Hall, 2006, p.10-11).

To ensure that teachers are indeed employing meaningful cooperative learning group instruction, and not simply putting students in groups to work in close proximity to one

another, there are several agreed upon elements or standards that must be present to ensure authentic cooperative learning is taking place.

First, there must be specific learner outcomes that state what the students must know and be able to do as a result of working in cooperative learning groups. There must also be student "buy in" to these outcomes. The students, as a group, need to take these outcomes upon themselves as a goal and "all members of each group must accept their academic outcomes as ones they all must achieve" (Stahl, 1994, p.1). Taking group ownership of the stated objectives is key in getting all students engaged in the learning process. The teacher must then give each group clear instructions in which they can use to complete the task. Agreed upon norms for the students to base their interaction with one another on is also provided, both the norms and the instructions need to be provided to students before they begin the cooperative learning activity. The groups of three, four, or five students should be matched heterogeneously, first by academic level and then by "ethnic backgrounds, race, and gender" (Stahl, 1994, p.1). Heterogeneous groups give students multiple opportunities to become tolerant and accepting of other viewpoints, consider each other's thoughts and feelings, and the need to ask clarifying questions and seek out clarification of ideas. Several more vital elements of cooperative learning groups are face to face interaction, individual accountability, and time at the conclusion of the group project to reflect on group behavior and results (Stahl, 1994).

Problem-Based, Project-Based, and Experiential Learning – Authentic Learning Tasks

Problem-Based Learning, Project-Based Learning, and Experiential Learning are instructional strategies that have much in common, most importantly, they require students to think critically and become engaged in authentic learning tasks. Many times these teaching

strategies are referred to as inquiry-based learning. Ann Carlson (2001) writes that "the term authentic learning means learning that uses real-world problems and projects ... that allow students to explore and discuss these problems in ways that are relevant to them" (p.1). There in lies the key to the importance that these three teaching methods, and other methods similar to them, have on engaged learning, students learn content "in a way...that is relevant to their "real" lives, both in and outside of the classroom" (Carlson, 2001, p.1).

According to Eggen, 2001, "problem based learning uses a problem as a focal point for student investigation and inquiry" (Hall, 2006, p.6). Though the eventual understanding of the content being studied is important, it is also vital that the students engage in the process of constructing possible solutions to the problem. According to Pierce & Anderson, (2004), problem-based learning strategies have several important characteristics in common with one another, they are; they all begin with an inquiry, students are primarily responsible for seeking out a possible solution, and teachers play more of an assistance role.

The project-based learning method is similar to problem-based learning as it "places an emphasis back on learning that is personally meaningful to the students and on children as active participants in their learning process" (Yamzon, 1999, p.9). The key difference between problem-based learning and project-based learning is that project-based learning provides opportunities for students to choose the topic or interest that they want to study, which may or may not be a problem that needs solving. "Silberman, as cited in Katz & Chard (1989), says that when students are able to choose what they want to learn about, they will hold greater interest for that subject than one that has been chosen for them" (Yamzon, 1999, p.11).

The third instructional strategy that is based upon authentic learning tasks is experiential learning. "The goal of this strategy is for students to actively engage in the learning process, to understand and retain course content, to provide an opportunity for outreach/and or service to the community, to expose students to possible careers paths and to develop skill in decision making, team work, communication and problem solving" (Pierce & Adams, 2004, quoted from Hall, 2006, p.14). Through experiences, students gather information, reflect upon that information, and construct meaning based on what they do not on what they hear in a lecture. "The experiential learning environment respects students' ideas and choices, gives students the right to confront difficult situations, and provides an opportunity to take on challenges in an atmosphere of support and caring" (Hall, 2006, p.15).

Technology in the Classroom: Intriguing and Attracting Student Interest

"The use of information technology is growing rapidly in schools across the country today - not just for communication and safety/security… but through a wealth of innovative tools and services that engage students and teachers in the learning process" (Carless, 2008, p.1). Research linked with Carless' article suggests that students have expectations concerning technology, so much so that if schools are wise enough to attempt to meet those expectations "they'll have a much better chance of engaging students - and of course engaging them is critical to maintaining their interest and ultimately helping them achieve." (Carless, 2008, p.2). Some of the recent technological resources adopted in classrooms are Promethean ACTIV Boards, mobile wireless laptop labs with access to high speed internet connections, internet communication software such as Skype, PASCO data collection software, Weblogs and Mindtools. Often times, technology in schools is limited to a computer lab used for researching and typing research papers, however, technology used in

new and innovative ways, that is, integrated meaningfully into the curriculum, is capable of doing so much more to intrigue and attract students' attention and wonder.

Rebecca Endt's high school class in Mississippi has learned that they have much in common with a class their age in Germany by use of the internet based communication tool known as Skype. While video conferencing, something used only in the business world in the past, with their German counterparts, Endt uses her Promethean ACTIV Board to enlarge the image so that the entire class can see and communicate at the same time. Undoubtedly, this method of learning about different people groups and cultures through the use of technology has drawn Endt's students deeper into the learning process in ways that reading a textbook about Germany ever could. It has been influential in the educator's learning experience as well, "These new tools have also reinvigorated me," says Endt,..."When I think back to how I used to teach, I can't imagine having continued for 25 years to retirement, but this has lit the fire in me all over again" (Carless, 2008, p.2)

Student interest in learning improves dramatically when educators utilize technology to improve instruction and make data more meaningful, as seen in Tommy Sumrall's high school science classes. Sumrall has "noticed a big difference in his students' levels of interest and comprehension since he began using more technology in his laboratory teaching" (Carless, 2008, p.3). His students are using data collection devices from PASCO to measure speed and distance during labs that they would not otherwise be able to measure by hand. The results of which are instantly available and can be used in creating graphs, making predictions, and solving problems. "I'm sold on this," Sumrall says. "I've been teaching for 15 years, and I know these kids have a better understanding of the concepts than the students I've had in the past. And now they actually look forward to lab time" (Carless, 2008, p.3).

A Tucson, Arizona high school is also making huge strides in using technology as a tool to engage and teach students by replacing all textbooks with laptops that connect to the web wirelessly. Calvin Baker, the superintendent of the school district offers two important motivators for their progressive and bold move, "'We're attempting to do two things: number one, we're trying to engage students more in the learning process; the second thing is to make education more relevant,". As for how it is working out, he goes on to say, "We have noticed that our students are, as we expected, more engaged in the learning process" (Carless, 2008, p.4).

One of the most recently adopted forms of technology in education in hopes of increasing student engagement is the use of Weblogs, "an increasingly popular form of Web publishing also known as blogs or blogging", to foster open communication, collaboration and student motivation" (The Intel Innovator, 2003, p.1). San Fransisco middle school teacher Helen Turnbull uses blogs in her classes because she feels she is better able to differentiate instruction. She is able to provide specific feedback or assistance to a student that needs it without any other students knowing about it. "What's more, she finds students are motivated to write higher quality work when they know it will be posted to a Web site accessible to their peers" (The Intel Innovator, 2003, p.1). Regardless of content area or grade level, blogs are constantly being integrated into the classroom instruction of teachers all over the world, and for good reason. "Kids are getting excited and engaged in literacy through blogging, commenting, and sharing ideas" online, said Wesley Fryer, director of instructional support services for the Texas Tech University College of Education" (Pierce, 2006, p.1).

As more and more schools around the world adopt the use of technology to assist students with the learning process, a pressing question has arisen. The question is; are we using technology in education as smartly and as effectively as we can to help get our students to become problem solvers and critical thinkers? Jonassen, Carr, and Yueh (1998), believe that "traditional technologies have been used as media for delivering instruction, that is, as conveyors of information and tutors of students…interaction is often limited to pressing a key to continue the information presentation or responding to queries posed by a stored program (p.1). When technology is used in education in this manner, the learning process becomes automated, removing all control over the learning process from teachers and students. Instead, Jonassen, Carr, and Yueh, (1998), argue "that technologies should not support learning by attempting to instruct learners, but rather should be used as knowledge construction tools that students learn with, not from. In this fashion, learners function as designers, and the computers function as Mindtools for interpreting and organizing their personal knowledge" (p.2).

Students making computers work for them instead of merely sitting in front of a computer following prompt after prompt as they receive feedback based on whether or not their multiple choice answer is correct or not is where the term Mindtools stems from. "Mindtools are computer applications that, when used by learners to represent what they know, necessarily engage them in critical thinking about the content they are studying (Jonassen, 1996 as cited in Jonassen, Carr, and Yueh, 1998, p.2) Several Mindtools that are highly engaging, especially when used in tandem with authentic learning tasks are concept mapping (Inspiration and Mind Mapper), databases, spreadsheets, and Microworlds, which "are exploratory learning environments or discovery spaces in which learners can navigate,

manipulate or create objects, and test their effects on one another" (Jonassen, Carr, and Yueh 1998, p.7).

It is also important to note that simply having students use a computer to complete a task that could be completed just as easily without the use of a computer is not considered integration of technology into the curriculum, nor does it engage students. However, when technology is used innovatively and implemented in meaningful ways, it can offer engaging learning experiences for students. (Carless, 2008).

Student Self-Assessment: Learners Taking Ownership

A fourth instructional practice used to draw students in to learning experiences and give them opportunities to be responsible for, and take ownership of, their own learning is student self-assessment. Self-assessment has been proven to be beneficial in a number of ways within the classroom, including increased motivation, improved performance, and higher engagement with material. Geoff Munns and Helen Woodward of the University of Western Sydney, propose that "deeper levels of student self-assessment are critical aspects of pedagogical processes aiming to encourage students to be substantively engaged in their classroom learning experience" (Munns and Woodward, 2006, p.1). Self-assessment gives students opportunities to share their thoughts and feelings about their own learning with the teacher and other students, giving them a voice and allowing them to play an important role in their learning experiences. Students are thinking about what they do and not understand, or engaging in metacognition, and are then able to better communicate with their teachers their level of understanding within the learning process. In most situations, student self-assessment is used as a formative assessment tool, not for summative assessment purposes (Andrade, 2008, p.1). It is important that student self-assessment play a frequent role in the

classroom in order for students to benefit most from its use. There are several popular and highly effective instructional strategies grounded in student self-assessment that an ever increasing number of educators are putting to work in their classrooms, two of them are the use of rubrics and student-led conferences with accompanying student portfolios.

Rubrics, when used correctly and for the right reasons, can be very powerful self-assessment tools. "A rubric is a document that lists criteria and describes varying levels of quality, from excellent to poor, for a specific assignment" (Andrade, 2008, p.2). Students are invited to become highly involved in the learning process when rubrics are used as a tool for providing meaningful feedback which leads to improvement of products and skills. Even more impacting is when students and teachers create rubrics cooperatively. Then, the actual tool used in describing 'what good looks like' is partly created and owned by the individuals that are comparing their work to the assessment tool. "When carefully designed...good rubrics can provide students with important guidelines without constraining [student choices and creativity] and can be a boon to self-assessment" (Andrade, 2008, p.2).

The process of self-assessment using rubrics involves three basic steps. First, "expectations for the task or performance should be clearly articulated by the teacher, the students, or both" (Andrade, 2008, p.3). When students are involved in setting expectations for the task at hand, they become more aware and think critically about "what counts and how quality is defined" (Andrade, 2008, p.3). Perhaps students will be writing descriptive essays, the teacher would lead the students in a conversation about what makes a descriptive essay good. Characteristics such as a clear beginning, middle, and end, using detailed words, and organizing ideas in such a way that it is easy and fun for the intended audience to read the essay might be qualities that make a descriptive essay well written. The discussion would

continue until all opinions about what makes a descriptive essay good are shared, with the teacher ensuring that all of the vital characteristics find their way into the conversation if they are overlooked by the students. Next, the teacher would use the ideas mentioned in class to create several categories, such as Organization, Detail, Sentence Fluency, and Grammar and Usage. Each of these categories would then have different levels of quality described and linked to a score. A well organized essay would earn a 4 for that category while an average organized essay would earn a 2 and a poorly organized essay would earn 0 points. Once the initial rubric has been created, the teacher would share it with students and allow students to ask questions or help revise it until it finds its final form in which all stakeholders, students and teachers, will use to help guide the students writing pieces towards exemplary products. Though this method may seem ominous at first, it is worth the time and effort, and in no way a waste of time, because of the active role that students play in the process. The more opportunities that students are allowed to participate in setting clear expectations and creating rubrics that they will use to help steer their efforts in the right direction, the more engaged they will become and more aware of what they are being asked to do. Students should not begin the project in which they will be working on until all students fully understand the rubric that they will be comparing their work against (Andrade, 2008). A sample of a rubric is included as appendix A.

The second step in using rubrics as self-assessment tools is "conducting self-assessment". If the students are writing, they create rough drafts, if they are performing a skill, they make initial attempts. Upon completion of the first products; "they monitor their progress on the assignment by comparing their performances to the rubric" (Andrade, 2008, p.3). The important concept here is that the teacher does not simply state what is not done

properly, the students themselves are the ones that see where they are now, compare their current status to the rubric, and make decisions on what needs to be worked on to get to where they want to be.

The third step in student self-assessment with the use of rubrics is revision. An example of this step would be a student that realizes when comparing his persuasive essay rough draft to a rubric that he has many sentences that start with the words "I think", which placed lower, a 2 with 0 being the lowest and a 4 being the highest, on the rubric in the category of sentence fluency. He knows he has room for improvement in this area of the writing piece. Now that he has been made aware of this, he is able to go back and vary the beginnings of his sentences more on his second draft, which is a characteristic of a level 4 in the sentence fluency criterion (Andrade, 2008).

The second self-assessment strategy that provides an excellent opportunity for students to play an active part in their own learning is that of student-led conferences paired with student portfolios. "When student-led conferences are coupled with the use of portfolios, students assume more responsibility for their learning and see connections among and between their learning in and outside of school"(Conderman, Ikan, & Hatcher, 2000, p.1).

The increased use of student-led conferences as an alternative to the more "traditional parent-teacher conference" in itself is a testament to many schools' desire to involve the student in an event that historically has seen them left out and wondering what is said or what goes on between teachers and parents "behind their backs" (Hackmann, 1996, p.1). Also, student-led conferences focus on the student's personal learning goals being shared and reported on, not the goals that teachers have for students, "which may or may not have

meaning for the parents or student" (Aseltine, 1993 as cited in Conderman, Ikan, & Hatcher, 2000, p.2).

In addition to the active role the students play at student-led conferences and the fact that their own self-selected learning goals are being showcased, they use portfolios to self-select and display their products and assignments as well. "Portfolios may include a variety of entries, parents learn about the child's interests, the next steps in teaching, future learning activities that should occur, and what strategies the student has used to learn and problem solve (Wesson & King, 1994 as cited in Conderman, Ikan, & Hatcher, 2000, p.2). The process of students purposefully choosing artifacts from throughout the school year to include in their portfolios that exemplify and demonstrate progress made towards achieving their personal learning goals is the very type of practice that student engaged learning stands upon, the student taking ownership of their learning.

Chapter III: Conclusions and Recommendations

Manuel never had a normal childhood. As a matter of fact, he has had a miserable first 10 years of life consisting of abusive and uncompassionate parents and a living situation that was and is far from nurturing. As a result, he has acted out in the one place that seems to care about him, and therefore, responds to his antics, school. His attendance is sporadic and his grades are far below passing. It is nearly impossible for his 5[th grade] teacher to keep him from storming out of class at the drop of a hat, much less teach him fractions or how to write an essay. Manuel deserves a teacher that cares and that is willing to do whatever it takes to get his mind away from the negativity that surrounds his life and wrapped up in something fun, engaging, and positive.

Henry is a bright young 5th grader. He outscores the rest of the class on all standardized tests and is capable of thinking at a higher level than most students his age. Henry reads at a high level and writes with advanced skill. Often times though, he becomes bored with the material that is covered in class and resorts to disruptive talking and joking around while others are still trying to complete assignments or projects he has long since been finished with. There are even times when his grades suffer despite his intelligence because the content or skill that he is learning is not something that is interesting to him, so the amount of effort he gives towards the assignment is far below his best. Henry is minimally engaged in class and his own learning, he would benefit greatly from being a member of a highly engaged classroom environment where there are options and opportunities for students to play a more active role in what and how they learn.

These two stories of students that are not engaged in their own learning are obviously extreme examples, however the students that fall somewhere in between these two examples, a typical student attempting and struggling to be successful in the classroom, would benefit just as much from a teacher and a classroom that stresses student engagement and being actively involved in the learning process.

The ways in which students benefit from a classroom that bases instructional practices upon getting students engagement in the learning process and active in acquiring and creating knowledge, collaborating with one another, and problem solving are highly evident in the findings of this study.

Researchers agree that engaged students learn more, retain more, and enjoy learning activities more than students who are not engaged. Studies have shown a direct link between levels of engagement and achievement in reading and mathematics. Many school-level studies have identified higher levels of student engagement as important predictors of scores on standardized achievement tests, classroom learning and grades, and student persistence (Akey, 2006, p.3).

The role of the teacher in an engaging classroom is highly influential as they are responsible for creating interesting and authentic lessons incorporating proven instructional strategies that foster student engagement such as cooperative learning, authentic learning tasks, technology infused lessons, and opportunities for student to self-assess. Taking on a facilitative role by being encouraging, allowing students choice, and setting guidelines and high expectations of students while at the same time "relinquishing autocratic control" is the first step teachers must take if a more engaging learning environment is what they would like to see materialize within their classrooms.

The results and conclusions of this study are a mere scratch on the surface of student engaged learning. It has been an attempt at informing those reading of the positive impact that this type of instructional strategy can have on students' learning, self-esteem, and social skills.

It is recommended that educators that see the need to implement student engaged learning strategies within their classrooms conduct further research, speak to a colleague or administrator that is well versed and experienced in using them, and attempt to gradually apply these methods within their own classrooms.

References

Akey, T. M. (2006, January). School context, student attitudes and behavior, and

academic achievement: An exploratory analysis. New York: MDRC.

http://www.mdrc.org/publications/419/full/pdf

Anderson, L., & Prawat, R. (1983). Responsibility in the Classroom: A Synthesis of

Research on Teaching Self-Control. *Educational Leadership*, 40(7), 62-66.

Andrade, H. (2008). Self-Assessment Through Rubrics. *Educational Leadership,* 65(4)

pp. 60-63. Retrieved on June 11, 2008, from Academic Search Elite.

Bacon, C. S. (1993). Student Responsibility for Learning. *Adolescence.* Retrieved on July

13, 2008, from

http://findarticles.com/p/articles/mi_m2248/is_n109_v28/ai_13885868

Bridgeland, B. (2008, April). The Key to Keeping Teens in School: Service Learning

Tackles High Dropout Rates and Civic Disengagement. *The Christian Science*

Monitor. Retrieved on July 12, 2008, from

http://www.csmonitor.com/2008/0415/p09s01-coop.html

Carless, J. (2008). 21st Century Teaching Tools Engage Students and Expand the

Boundaries of Leanring. *News@Cicso.* Retrieved on June 3, 2008, from

http://newsroom.cisco.com/dlls/2008/ts_011408b.html

Carlson, A. (2001). Authentic Learning: What does it Really Mean? *Western Washington*

University, Innovative Teaching Showcase. Retrieved on July 13, 2008, from

http://pandora.cii.wwu.edu/showcase2001/authentic_learning.htm

Conderman, G., Ikan, P.A., & Hatcher, R. E. (2000). Student-Led Conferences in

Inclusive Settings. *Intervention in School and Clinic.* 36(1). Retrieved on June

11, 2008, from Academic Search Elite.

Deci, E., & Ryan, R. (1985). Intrinsic Motivation and Self-Determination in Human

Behavior. New York: Plenum Press.

Eggen, P. (2001). Strategies for Teachers: Teaching Content and Thinking Skills. Pearson

Education Company.

Garcia-Reid, P., Reid, R., & Peterson, N.A. (May 2005). School Engagement Among

Latino Youth in an Urban Middle School Context: Valuing the Role of Social

Support. *Education and Urban Society,* 37(3), 257-275.

Goodwin, M. (1999). Cooperative Learning and Social Skills: What to Teach and How to

Teach Them. *Intervention in School and Clinic,* 35, 29-35.

Hackman, D. G. (1996). Student-Led Conferences at the Middle Level: Promoting

Student Responsibility. *NASSP Bulletin,* 80(578), pp.31-36. Retrieved on June 3,

2008, from http://www.ericdigests.org/1997-4/middle.htm

Hall, A.R. (2006). Research Paper on Curricular Models. Retrieved on July 12, 2008,

from Education Resources Information Center.

Handsnet. (2006). Doing What Counts: Teacher Quality in Student Success. Retrieved on

July 13, 2008, from http://webclipper.handsnet.org/mt-static/archives/

2006/02/doing_what_coun.html

Hayes, Brad, (n.d.) An Experiment Using Teacher Centered Instruction versus Student

Centered Instruction as a Means of Teaching American Government to High

School Seniors. Retrieved on June 29, 2008, from

http://www.secondaryenglish.com/approaches.html

Inman, James. (2001). At First Site: Lessons from Furman University's Center

for Collaborative Learning and Communication. Retrieved on June 28, 2008,

from http://aw.colostate.edu/articles/inman2001/

Janes, L. M., et.al. (2000). Improving Student Motivation Through the Use of Engaged

Learning with Emphasis on Multiple Intelligences and Cooperative Learning.

Retrieved on July 12, 2008, from Education Resources Information Center.

Jonassen, D., Carr, C., & Yueh, H. (1998, March). Computers as Mindtools for Engaging

Learners in Critical Thinking. *TechTrends*. 43(2), pp.24-32. Retrieved on July 12,

2008, from Education Resources Information Center.

Jones, B. F., Valdez, G., Nowakowski, J., & Rasmussen, C. (1994). Designing Learning

and Technology for Educational Reform. *North Central Regional Educational*

Laboratory. Retrieved on June 29, 2008, from Education Resources Information

Center

Katz, L & Chard, S. (1989). Engaging Children's Minds: The Project-Approach. New

Jersey: Ablex Publishing Corporation.

Klem, A. M. & Connell, J. P., (2004, September). Engaging Youth in School. *Institute*

for Research and Reform in Education. Retrieved on July, 6, 2008, from

http://www.irre.org/publications/pdfs/Engaging_Youth_9-8-04.pdf

Lumpkin, A., (2007, Summer). Caring Teachers: The Key to Student Learning. *Kappa*

Delta Pi. pp. 158-160

Munns, G. & Woodward, H. (2006). Student Engagement and Student Self-Assessment: The REAL Framework. *Assessment in Education,* 13(2). pp. 193-213.

Newmann, F. M. (1986). Priorities for the future: Toward a common agenda. *Social Education.* 50(4), 240-250.

Newsletter. (2007, April). Using Positive Student Engagement to Increase Student Achievement. Retrieved on May 28, 2008, from www.centerforscri.org

On Purpose Associates. (n.d.). *Constructivism.* Retrieved on June 13, 2008, from http://www.funderstanding.com/constructivism.cfm

Pierce, D. (2006). Panelists: Blogs are Changing Education. *eSchool News.* Retrieved on June 3, 2008, from http://www.eschoolnews.com/news/top-news/index.cfm?i=36898&CFID=7338641&CFTOKEN=64092494

Pytel, B. (2006, November). Drop Out Give Reasons: Why do Students Leave High School Without a Diploma? *Suite101.com.* Retrieved on July 13, 2008, from http://educationalissues.suite101.com/article.cfm/dropouts_give_reasons

Rogers, C., Kell, B., & McNeil, H. (1948). The Role of Self-Understanding in the Prediction of Behavior. *Journal of Consulting Psychology,* 12, pp.174-186.

Sloan, Douglas. (2008). "Progressive Education." World Book Online Reference Center. http://www.worldbookonline.com/wb/Article?id=ar447300.

Stahl, R. J. (1994, March). The Essential Elements of Cooperative Learning in the Classroom. ERIC Clearinghouse for Social Studies/Social Science Education, Bloomington, IN.

TA Consultants. (n.d.). Teaching Philosophies: Teacher & Student Centered Approaches.

Retrieved on July 6, 2008, from

http://trc.ucdavis.edu/TRC/ta/tatips/philosophies1.pdf

The Intel Innovator. (2003). How Educators are Using Weblogs. *The Intel Innovator.*

Retrieved on May 28, 2008, from

http://www.intel.com/education/projects/news/vol_05/elementary2.htm

Theroux, P. (2004). Engaged Learning with Technology. Retrieved on July 12, 2008,

from http://members.shaw.ca/priscillatheroux/engaged.html

Teacher vs. Learner-Centered Instruction. Retrieved on June 19, 2008, from

http://www.nclrc.org/essentials/goalsmethods/learncentpop.html

Willis, J. (2007, March). Cooperative Learning is a Brain Turn-On. *Middle School*

Journal. pp. 4-13.

Yamzon, A. (1999). An Examination of the Relationship between Student Choice in

Project-Based Learning and Achievement. Retrieved on July 13, 2008 from,

Education Resources Information Center.

Appendix A: Rubric

Research Project Scoring Rubric

Name _____   *Total Score* _____ */ 50*

	Needs Improvement 0-2 points	*Good 3-4 points*	*Excellent 5+ points*	*Score*
Outline	No outline.	Outline present, but not complete or incorrect format.	Outline present, complete and formatted correctly.	
Rough Draft	No rough draft. Draft turned in late. Draft does not show appropriate effort.	Rough draft complete. Draft turned in on time. Shows effort, but has many areas that need work.	Rough draft completed and turned in on time. Rough draft has been edited before turned in.	
Title	No title. Can not be read. No creativity.	Title is present and can be read.	Creative title and lettering. Effort shown.	
Picture/Map	No picture included. Picture not related to subject or inaccurate.	Picture is related to subject but not drawn with much effort.	Picture is detailed and shows great effort.	
Report (Points X 4)	Incomplete report. No paragraphs. Subtopics are unclear. Very few facts. Hard for reader to find main ideas. Incomplete or run-on sentences. Poor conventions.	Paragraphs show little revision. Report contains some important facts, but more could be added. Reader can understand the main ideas. Sentence needs improvement. Some convention errors.	Report contains 5 well-written paragraphs. Facts throughout the report. Organization is easy to follow and main ideas are clearly understood. Interesting introduction and conclusion provides nice closure. No convention errors.	
Neatness	Neatness is lacking in two or more elements.	Over all appearance is neat. One area needs work on neatness.	All aspects of drawing and writing show neatness and consideration of appearance.	

Presentation	No presentation. Very uninteresting. Presenter simply reading written report. Difficult to understand presenter.	Presentation is clear and understandable.	Presentation is clear and understandable. Presenter displays enthusiasm and great knowledge of topic covered.	
			Total	