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ABSTRACT

Student disengagement and overuse of direct instruction can result in lack of student motivation. This paper reflects on the practice of 4th and 5th grade teachers at a suburban elementary school that includes diverse, mainly low- and middle-income students. Because of the diversity, motivation has been very important to the school. The paper argues that characteristics of the constructivist approach to teaching and learning can foster student motivation, relating basic constructivist principles that can be applied to engaging students in intrinsic, self-motivating learning. The first section focuses on the basic concept of constructivism, which is that student learning is self-constructed, with knowledge created by the student. The second section looks at two views of constructivism (radical constructivism and social constructivism). The third section examines the relationship between constructivism and technology, explaining that social constructivism uses technology as a tool in the classroom. Technology provides students with almost unlimited access to information that they need in order to do research and test their ideas. It also facilitates their communication, cooperation, and self-reliance. This section describes the school's use of Webquest, an inquiry-oriented Web site, in order to combine constructivism and technology. (SM)

Reflections on Practice: Classroom Observations

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Reflections on Practice: Classroom Observations

Research in teacher education points out that teacher reflection plays an important part in improving teaching and learning. As we have reflected on this year's teaching experiences, we have determined some common problems within our practices. First, direct instruction in our classrooms has been relied upon too much. Our role as "sage on stage" needs to be adjusted to "guide on the side." The majority of classroom instruction is conveyed through the teacher. The students are expected to retain this lectured information.

The second common problem in our teaching practice is the feeling that our students are not engaged in their learning. Because of the high percentage of time used in direct instruction, students are not active participants in their learning. Students are passively receiving information, hence, not actively learning.

Both unengaged students and an overuse of direct instruction relate to a larger underlying problem: a lack of student motivation. We listed many characteristics that point towards a lack of motivation by our students. These indicators reflect both behavioral and academic areas.

Common behavioral problems in our classrooms include fatigued students, disrespectful, disruptive behavior, manipulation, and poor attitude. Theroux (2000) states that, "almost all unmotivated underachieving children manipulate adults by either active or passive behaviors." These unmotivated students are also socially inappropriate within their peer groups. These students use harsh language and aggressive contact with others.

Academic characteristics for the unmotivated student include a reluctance to complete tasks, following through with homework assignments and making academics a

priority. Unmotivated students show lack of skill and developments over the course of the school year. These students are not showing growth to their potential.

The unmotivated student's academic and behavioral characteristics result in a stall in the learning process. As teachers, we feel that dealing with unmotivated students should be a priority.

The students we will be focusing on are 4th and 4/5 multi-age students at a suburban Chicago elementary school. This student body contains unique characteristics, but are indicative of other northwest suburban Chicago schools. The average income of students' families is in the low to middle income range.

The student population is in a highly transitional area. It is common for families to move away unexpectedly throughout the year, and have an equal number of families move in to replace those that left. In one fourth grade class we had eight students move in or out of the classroom within the course of one school year. This reflects the 14.4 % mobility rate in our school. (District 21 School Report Card, 1999).

The students come from culturally diverse backgrounds. According to the School District 21 School Report Card, of the 564 students enrolled at our school in 1999, 58.0% were White, 4.6% Black, 32.4% Hispanic, and 5.0% were Asian/Pacific Islanders.

Last year our school contained six Spanish bilingual classes, and one Polish bilingual class. In all, 28.2 % of the students have limited English proficiency (District 21 School Report Card, 1999). As teachers at this school it is incumbent upon us to serve this diverse, multicultural, and mobile group of students. As a result of this diversity and high mobility, motivating students has become an essential tool.

Motivation effects many aspects of the classroom. A lack of motivation prevents us from progressing through the curriculum. Unmotivated students are not gaining or retaining information on a basic level. Our behavior problems are a result of constantly dealing with students who are unmotivated. Their lack of motivation adds to the frustration level in the classroom, for the teacher and other students. These students are building bad learning practices for themselves, and for the future.

In this paper we argue that the characteristics of the constructivist approach will foster student motivation. In examining the constructivist theory of learning, we will directly relate basic constructivist principles that can be applied to engaging students in intrinsic, self-motivated learning.

In our research of constructivism, we have decided to divide our research into three sections. The first section focuses on the basic concept of constructivism. The second focuses on two views of constructivism: radical constructivism and social constructivism. The third section is the relationship between constructivism and technology.

The basic premise of constructivism is that student leaning is self constructed. Knowledge is created by the student, not the teacher. According to (Matusevich, 1995)

Constructivism:

1. Is child centered
2. Supports the view of multiple perspectives
3. Knowledge is constructed
4. Is experience based
5. Focuses on knowledge construction, not reproduction (p. 31).

Another source (Taggart and Wilson, 1998) cited constructivism as: believing that learning occurs most effectively through guided discovery, meaningful application, and problem solving. In a constructivist classroom there is a unique student/teacher relationship. The role of the teacher is that of a facilitator of information. According to Theroux (2000), a constructivist teacher must "encourage and accept student autonomy and initiative, allow student responses to drive lessons, shift instructional strategies, and alter content, inquire students' understanding of concepts, and encourage students to engage in dialogue, both with the teacher and with one another."

The role of the student in a constructivist classroom is to gain information through self directed instruction. Students have to be engaged in an active experience. From these experiences students form their own knowledge base. What one student learns may not be the same as another. Each student takes away his/her own meaning which is pertinent to them. The constructivist classroom is set up to lend itself to group work and discussion. Students should be open to opinions that are different from their own.

Social and radical constructivism are the two philosophies that make up this theory. According to Ernst von Glasersfeld (1998), radical constructivism supports the idea that students already come to the class with existing knowledge. There is no choice but to construct knowledge out of their experiences. The student's knowledge is innate.

Unlike radical constructivism, social constructivism relies on real world, connected experiences to draw out student learning. Learning and development is a social and collaborative activity. However, it is still knowledge that can not be directly taught. The teacher's role in social constructivism is to create relevant situations that support optimal learning (Vygotsky, 2000).

The final component in our research is the relationship between technology and constructivism. Social constructivism uses technology as a tool in the classroom. According to Hank Becker (Carvin, 2000): This [computer/ constructivist] relationship is perhaps due to the fact that technology provides students with almost unlimited access to information that they need in order to do research and test their ideas. It facilitates communication, allowing students to present their beliefs and products to broader audiences and also exposes them to the opinions of a more diverse group of people in the real world beyond the classroom, school and local community - all conditions optimal for constructivist learning.

Using technology, the student is engaged and self-directed with an infinite amount of knowledge at his/her disposal. Instead of relying on textbooks and library sources the student can access the Internet and tap into a vast resource of information. The student is free to choose an independent path to acquire information. As the student uses the computer to solve problems or research, he/she is actively engaged in a personalized experience.

For successful integration of technology and constructivism, the teacher must introduce a situation or problem in which the student uses a computer to construct meaning, not reproduce information. It is our believe that the basic principles of constructivism can be applied to student motivation. Debra Jones (1997) in her article "Focus on the Student: Designing Library Instruction for Critical Thinkers" states that a key concept for constructivism is "intrinsic motivation". Using the three main branches of our constructivist research we will outline the relationship between constructivism and motivation.

The main points of constructivist theory can be directly related to improving student motivation. According to Jonassen, constructivism is "child centered" and "supports the view of multiple perspectives" (Matusevich, 1995). The student is motivated when the material is pertinent to the child. The student will be motivated to learn when the instruction is centered around information that is important to the student, not the teacher. Because the student is actively involved in the process of learning, they are expressing their own ideas on the information, and open to other perspectives. The learning environment is not closed to just the teacher's ideas. Students will be more motivated when the student's contributions are considered a valuable asset to the class.

Having students actively involved in an experience will increase motivation, especially when that experience is relevant to the student. Students are engaged in the experience and constructing their own knowledge. By having more hands-on experiences and using less direct instruction, the teacher is creating a unique outlet for learning.

The last branch of our research focused on constructivism and how it relates to technology. With the use of the Internet, students are engaged in self-directed instruction. Giving students the freedom to decide a course of action leads to a clearer path for the student to learn. According to Collins "Using computers entails active learning and this change in practice will eventually foster a shift in society's beliefs toward a more constructivist view of education" (p. 33, Matusevich, 1995).

To increase student motivation we should apply social constructivist theory and use technology to engage our learners. The combination of social constructivist theory through technology is motivating because it incorporates student centered learning, relevant experiences, and a cooperative setting.

For instance, in one of our classrooms after the students were introduced to the new quarters the U.S. mint was producing, the students had many insightful questions as to how it all came about. Since Ms. David is familiar with using technology in her classroom, she was able to have the students connect to the U.S. mint's web site to further investigate their questions. This activity was highly motivating for her students. The students directed their own learning. They had questions they wanted answers to. Some of her students took this project to another level by utilizing part of the web sites, which let them create and submit their own design for a new quarter.

In applying this theory of constructivism to technology we have found an instructional tool that will allow us to combine both. In searching for an appropriate technology tool to meet our needs, we found Webquest. "Webquest is an inquiry orientated web site in which some or all of the information that learners interact with come from sources on the Internet." (Watson, 2000). Before the instructional process begins the teacher needs to create the Webquest for the student to use. A Webquest is a web page that gives an outline to a specific project and contains links to teacher approved sources. This inquiry lends itself to student-centered instruction because the student makes a variety decisions about solving the problem. It is up to the student to determine which information is useful for him/her. Each student's results will be different in this type of an inquiry. There are a variety of possible outcomes. This program allows each student to showcase his/her own perspective in their inquiry. The teacher is a facilitator of the students constructing their own knowledge.

To summarize, we see our problem to be a lack of student motivation. We theorized that an application of constructivism could increase student motivation.

Through our research we were able to conclude that a combination of social constructivism and technology would create a student centered atmosphere, therefore enhancing motivation. We expect Webquest to be a child centered, constructive experience. A student uses a Webquest to construct knowledge on their own. Webquest will heighten motivation.

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