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A Comparison Between  
Traditional Teaching Methods  
and Anchored Instruction

Dr. Xavier V. McClung  
Associate Professor  
Adult & Career Education Department  
Valdosta State University  
1500 No. Patterson Street  
Valdosta, GA 31698

## **A Comparison Between Traditional Teaching Methods and Anchored Instruction**

Research indicates that many students learn best in environments that teach them to apply knowledge rather than viewing knowledge as a unit, a point, or a relationship that must be memorized. However, this is in direct contrast to traditional didactic teaching models, where teachers provide students with rules and facts that must be memorized and then put on paper as proof of subject mastery. Additionally, some educators believe that traditional teaching styles are less effective than newly developed ones because traditional teaching tends to leave students having difficulty in recalling information, applying the facts outside the learned context, and using the information to solve daily life problems. A relatively new approach of presenting information to learners is technology-enhanced anchored instruction. For the purpose of this paper, the author will define anchored instruction and compare it to traditional methods of teaching.

The Cognition & Technology Group at Vanderbilt developed anchored instruction under the leadership of John Bransford. While many people have contributed to the theory and research of anchored instruction, Bransford is the principal spokesman, and, therefore, the theory is attributed to him. The primary approach to anchored instruction is an attempt to help students become actively engaged in learning by situating or anchoring instruction around a specific topic. Learning environments are very important when using anchored instruction. Environments should be designed to provoke the kinds of thoughtful actions that help students develop useful thinking skills as well as attitudes that contribute to critical thinking and problem solving.

How does anchored instruction work? Anchored instruction requires placing students in the context of a problem-based story or situation. The students play an authentic role while investigating the problem, identifying gaps to their knowledge, researching the information needed to solve the problem, and developing solutions. For example, when studying aeronautics, students play the role of a pilot to learn subject matter such as gravity, airflow, weather concepts, and basic flight dynamics. The teacher role is to facilitate and coach the students through the process. The use of anchored instruction has been developed relative to mathematics and science educators and personnel involved in military and industrial training.

How is anchored instruction different when compared to traditional teaching methods? Traditional teaching methods allow for lectures, simple overheads, and videotapes, while the use of anchored instruction extends the more traditional and simple use of these methods. Anchored instruction provides teachers access to targeted case study examples designed to address their needs in ways that commercially-produced videotape programs cannot. While videotapes allow teachers a frame of reference on a given topic, they can be cumbersome when the instructor attempts to locate and/or relocate a particular scene that would serve to strengthen the link between a concept presented and a video example. Additionally, videotapes may be limited when a teacher wants to present multiple short examples of a strategy to provide learners a variety of examples. Also, videotapes are not always accessible when teachers need them.

Additionally, in contrast to videotapes that are used to enhance or supplement traditional teaching methods, a CD-Rom provides immediate access to rich video models and allows the instructor to link short video examples to specific concepts being taught. These technological advances have been used for several years and are not new to education. For example, anchored instruction has been successfully used in higher education instructional programs such as training physicians and veterinarians.

Studies have been and will continue to be conducted comparing the effects of anchored and non-anchored instruction. One particular study compared the effects of anchored and nonanchored instruction on test scores of preservice special education teachers. Thirty-seven college students were selected to participate in the study. The students were divided into two groups; one group was selected to receive anchored instruction, and the other group was chosen to receive nonanchored instruction. The majority of students from both groups were females in their twenties. Only two from each group indicated that they had previous hands-on experience with assistive technology. All other students indicated that they had no hands-on experience with assistive technology related applications.

Both groups of students were given a pre- and posttest consisting of multiple choice and essay questions. No differences in the test scores were expected between the anchored and nonanchored instruction groups for the multiple-choice test format. However, the anchored instruction group was expected to have better test scores in the essay test format than the nonanchored instruction group for both the posttest and follow-up test conditions. These expectations were based on the belief that anchored

instruction would result in a greater understanding of the materials presented to the students and would be reflected in the students' responses to essay questions.

Prior to implementation of the study, both lecture and presentation software were developed along with nine objectives that were to be used as part of the introduction. The lecture was designed to provide an overview of adaptive devices that would allow access to computers, single switch technology, electronic communication boards, and a variety of devices for use by people with sensory deficits. Two identical copies of the lecture material were created so that the information shown and presented to both classes would be the same. Both included verbal lecture and still overheads. However, the lecture that was to be presented to the anchored instruction group included access to full motion video clips stored on a videodisc that supported the major points presented in the lecture. The video clips used to anchor the main points were five to twenty seconds in length. Additionally, the videodisc included video clips of students with disabilities using assistive technology, which allowed the anchored instruction groups to be able to observe activities that they would have actually observed in an appropriate field experience. And, the same instructor taught both groups.

Approximately eight weeks after the presentation of the lecture and tests to both groups, the instructor asked each group to take a follow-up test identical to the pre- and post-tests. The purpose of the tests was to determine if the information that was presented was retained. The instructor also asked the students to provide comments concerning the design and presentation of the lecture. It was determined from the results of the tests, that the benefits of anchored instruction may be more related to both long-term retention of content and integration of knowledge than immediately realized.

Further, it was determined from the study that the use of full motion video case examples in the classroom has certain advantages but limits a teacher's ability to determine if students can put to practice that which they learned in the classroom.

While only a limited number of research studies have been conducted and published on anchored instruction, it has been determined that this method of instruction is very beneficial to students with learning disabilities and particularly those students who can be described as "low achieving" and "at risk." However, this method of instruction meets with resistance among some special educators as well as some secondary and postsecondary educators who have been slow to catch on to state-of-the-art technologies.

As education and society continues to make advances in technology, more studies will need to be conducted to further determine the realized benefits of anchored instruction. After having spent only a short period of time researching and studying anchored instruction, I personally feel that a combination of traditional classroom instruction and anchored is appropriate in most educational settings. However, learning styles of individual students differ, and a particular teaching method that works for one student may not necessarily work for another. Therefore, technology enhanced instruction does not meet every student's need.

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