

Constructivist Strategies in Higher Education

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Constructivism is alternately called a philosophy, an epistemology, a teaching strategy, a learning strategy, a perspective, a belief system, a fraud and a fad. It is based on the fundamental assumption that people create knowledge from the interaction between their existing knowledge or beliefs and the new ideas or situations they encounter (Airasian & Walsh, 1997).¹ Because of the emphasis on the interaction between "old" knowledge and "new" knowledge, instructors who subscribe to constructivism strongly support creating environments in which students are encouraged to actively engage both types of knowledge.

At the 1999 Conference on College and University Teaching held at Kennesaw State University a group of college professors were invited to hear about and sample higher education teaching and learning strategies designed with constructivism in mind. The session began with a constructivist strategy, that is, the audience was asked to combine new knowledge in the form of distributed article abstracts with their prior knowledge of the perspective to identify the defining characteristics of constructivism. This exercise led to the realization that the definitions and understanding among the group were, understandably, not the same. In order to begin "on the same page," I continued the session with a set of statements quoted from *Learning With Technology: A Constructivist Perspective* by David H. Jonassen, Kyle L. Peck & Brent G. Wilson (1999).² While not definitive for all, the following statements did provide a basis and a background for the session.

According to Jonassen, Peck and Wilson (1999):

- Knowledge construction results from activity, so knowledge is embedded in activity.
- Knowledge is anchored in and indexed by the context in which the learning activity occurs.
- Meaning is in the mind of the knower. Therefore, there are multiple perspectives on the world.
- Meaning making is prompted by a problem, question, confusion, disagreement, or dissonance (a need or desire to know) and so involves personal ownership of that problem.
- Knowledge-building requires articulation, expression, or representation of what is learned (meaning that is constructed).
- Meaning may also be shared with others, so meaning making can also result from conversation.

- Meaning making and thinking are distributed throughout our tools, culture, and community.
- Not all meaning is created equally (some is more viable due to the richer and more varied experience).

Having established the ground rules for thinking about constructivism during this session, I described and demonstrated three strategies regularly used in my classes at Valdosta State University. I teach mostly graduate level Instructional Technology classes including courses in theory, research, instructional design, needs assessment and evaluation.

The Strategies

The first of the strategies is a group technique called LEGwork (for Learning Environment Group). I coined this term to describe a general teaching strategy I use in several classes. A LEGwork project is one in which groups apply a process (e.g., instructional design, needs assessment) to a large scale problem that continues throughout the term. The LEGwork (done mostly in class) is parallel to an individual project the students are doing outside class. This strategy allows students to immediately apply course concepts and skills to a concrete problem within the supportive environment of the group. It has been shown to be very effective in reducing uncertainty and anxiety in individuals faced with large complex individual projects and in providing a structured opportunity to develop and practice the all-important skills of teamwork and collaboration.

The second strategy is called My Page. I tell the students, "No, we're not on the same page and we shouldn't be." That statement is a real surprise to students who have been trained to think that answers are right OR wrong. At various times, during a class, frequently throughout the term, students are presented with a question or task. They are to write the question at the top of a page and construct a response using the rest of the page. This response is based on information gained within the course resources, but requires application of the concepts to the student's own life and experience. Some pages are written in class; some are assignments for the next class period.

Feedback is given in a variety of ways. For some My Pages, the instructor constructs a response out of her own experience, offers it to the students as an example, and asks them to rank the instructor response, a peer response and their own response on a scale such as "home run", "in the ballpark," and "out in left field." The teaching strategy focuses on reinforcing the concepts through personal self-selected examples and

refining the understanding of the concepts through multiple perspectives. Students are encouraged to annotate their pages with ideas gained from the instructor, peers or self-assessment during class discussion. Students have reported a great deal of satisfaction from using this technique in guiding their reading of resource material and building an annotated record (grounded in their own experience) of important concepts throughout the course.

The third strategy began as an assessment strategy and became, in addition, a learning strategy. *EeeekSams* are exams, and they *aren't*. Most of the courses in our Instructional Technology graduate program are project-oriented, rather than exam-oriented. That may be why the *EeeekSams* I give attract so much attention (and anxiety) from the students. *EeeekSams* take the philosophy of My Pages, "kick it up a notch" and use it for a more formal assessment purpose. Prior to the assessment students are given a description of a general role, e.g., "You are an instructional technology professional responsible for designing, developing, managing and evaluating training which will support productive and routine technology use by adult employees." The students must, from there, elaborate on who they are, where they work, who they teach, what the employees do, etc.

"This assignment required me to create a hypothetical organization which would be used as the basis for the exam's 25 questions. I created TIME OUT, a time management training company. Using my chosen organization, the exam asked me to produce real life scenarios that would apply the concepts..."

Once their persona is fully fleshed out, they are given an *EeeekSam* which requires extensive in-depth application of concepts, procedures and models from text or other resource material. Every question must be answered from within the persona; full access to resources (including other students) is allowed and encouraged, but no "shared personas" are allowed.

"This was a very thought provoking assignment. Our group met on several occasions to discuss what type of answer was needed for each question. We found that each of us has a rather different experience base from which to draw ideas...When I was alone working at home, I found that our collaborative discussions had definitely been worth the effort of setting up."

Students are asked to make two copies of their responses, one to hand in and one to annotate. During a class period, the instructor shares her "persona" and reviews *EeeekSam* responses from that point of view. As in *My Pages*, students are encouraged to annotate their copy for eventual revision and re-submission. Included with the re-submission is a page of reflection on the process of doing the *EeeekSam*, including the

class discussion, peer review and self-assessment activities. Students have been very positive about this form of assessment, reporting a deep and full understanding of the concepts. They were not shy, however, about reflecting upon and sharing the difficulties they experienced.

"I decided to include this artifact in my portfolio because, without doubt, this activity caused me more stress than anything has in a long time. Catering a reception for 500 is a walk in the park by comparison. I had thought that a take-home exam would be a snap. Others I have had were."

"I could not make the transfers from the text to the scenario. I had a hard time even putting myself into the role...after all, I am supposed to be the learner here."

"These exams proved to be a very difficult task. I spent 15 hours on the first exam and 7 hours on the second exam. I thought that this would be easy because I am so involved in providing training for my faculty, but I guess I didn't ever think of underlying theory..."

There is still a range of achievement in the work, allowing for discrimination among levels of mastery of concepts, coherence of viewpoint and student effort. Students say they learn from these *EeeekSams*, a unique testing experience for most of them.

"The most interesting part of the exam was that it provided the opportunity for positive speculation about future opportunities. I've never taken a test before that I wanted to keep and re-read for future reference."

A review of the constructivist statements outlined in the beginning of this article reveals that the three strategies, *LEGwork*, *My Page* and *EeeekSams*, are consistent with the constructivist philosophy. They work by embedding knowledge in activity and making the context in which the learning activity occurs a part of the learning itself. These strategies require students to take personal ownership of the knowledge and to express or represent that knowledge in a number of ways. Meaning is made while these strategies are employed in the conversation of groups, and that meaning is compared, contrasted and refined by comparison with expert and peer models.