

A Constructivist Approach to Online Teaching and Learning

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Abstract

The author contends that using a learning-centered, or constructivist, approach in online courses is critical to student success.

Most professors will agree that teaching online remains a relatively new frontier. Even after many years, online instructors struggle with keeping students motivated and thoroughly engaged in the course material. Researchers have frequently assessed learning outcomes and student satisfaction in higher education courses, both for traditional and online modes of course delivery. Yet as V. Hodson and P. Harland (2004) argue, “Most researchers, however, agree that there is still much that we need to understand about what is a new way of teaching and learning in terms of both learning environment and pedagogy for many teachers and learners alike” (p. 126). Research about effective pedagogy in the online environment is still in its infancy.

Gone are the days of posting a syllabus on a college website and waiting in one’s faculty office for the assignments to be submitted. New technology and institutional demands for quality necessitate new ways of thinking about how courses are delivered virtually (Koyanagi, n.d.). Presenting instructional content online requires faculty to consider course objectives and the learning outcomes that are produced. How those outcomes are achieved and by how many students are important concerns of higher education institutions and their faculty members. Learning outcomes may be framed best through the lens of the learning model.

Two Learning Models

A learning model describes how learning occurs, and two major classifications of models are objectivism and constructivism. A. D. Carswell (2001) notes, “Objectivism argues that there is an objective reality, and that the goal of learning is to understand this reality and change behavior accordingly” (p. 2). Within an objectivist schema, the instructor identifies the course objectives required of students and then systematically arranges the content to reach those goals. This instructor teaches the students a defined body of knowledge within teacher-prescribed boundaries. Constructivism, on the other hand, is founded on the notion that “the only important reality is in the learner’s mind, and the goal of learning is to construct in the learner’s mind its own, unique conception of events” (Carswell, 2001, p. 2). P. Doolittle (1999) emphasizes that constructivism is a theory about how knowledge is acquired, and is not truly a pedagogical model.

In contrast to objectivist theory, within the constructivist model the learner is not a passive recipient but rather the center of instruction: “The learners actively participate in their learning process by discovery, with the instructor as the mediator of the process” (Carswell, 2001, p. 3). The constructivist model promotes a learning environment that has richness – both depth and breadth. Specifically, constructivists believe in independent exploration by students that will lead to a deeper understanding of the content (Koyanagi, n.d.).

Within the constructivist model, educators recognize several approaches or models of learning, including the cooperative/collaborative approach and the socio-cultural model. Carswell (2001) explains these as follows:

The cooperative or collaborative model of learning argues that learning occurs as an individual interacts with other individuals. Learning results as individuals exercise, verify, solidify and improve their mental models through discussions and information sharing. The socio-cultural model of learning argues that learning best occurs when the learning event is meaningful, more deeply or elaborately processed, situated in context, and rooted in the learner’s cultural background and personal knowledge” (p. 3).

Because constructivism is a learner-centered approach, one goal is to create a meaningful environment that includes communication and collaboration (Gold, 2001). V. Hodgson and P. Watland (2004) posit that collaboration is a key component

of making meaning. New technologies allow for construction of knowledge through what is actually deeper reflection by the learner. Through groups and other learning interactions with their online peers, students acquire deeper understanding because of the “opportunities for exposure to multiple perspectives and interpretations” (p. 1). The individual student then interprets and assimilates the new knowledge, embedding it within his or her own experience. S. Gold (2001) adds, “Though we may more or less share one reality, each of us conceives of it in different ways based on our prior experiences, belief structures and perspective” (p. 37). In summary, P. Doolittle (1999) notes that “Constructivism posits that knowledge acquisition occurs amid four assumptions:

- Learning involves active cognitive processing.
- Learning is adaptive.
- Learning is subjective, not objective.
- Learning involves both social/cultural and individual processes” (para. 24).

Online Instructor as Facilitator

According to Gold (2001), online facilitators serve their students in three important ways. *Organizing* involves setting the objectives, procedural rules, and timetables for the experience of learning. The facilitator also serves a *socializing* function by fostering a friendly environment. Specifically, effective facilitators “send out welcome messages, use a personal tone, and seed their feedback with specific examples and references” (p. 43). Instructors also provide social role-modeling of appropriate online behavior, even assisting students in becoming better students. Instructors, in the *intellectual* role, guide the students’ journey to understanding. This is accomplished by probing and questioning students about their responses, by summarizing main themes, and by linking these to assignments such as readings, written responses, and independent and group projects.

The constructivist teacher focuses on the process of learning and the outcomes that are produced. This teacher gives many opportunities to express understanding, as a primary goal in constructing knowledge is the application of the learning in an immediate and meaningful way. For instance, discussion board posts serve as learning artifacts as well as springboards for more learning and the development of community. Factual knowledge is important; however, passing an exam is secondary to the products of learning that are shared in the learning community (Gold, 2001).

Doolittle (1999) also stresses the importance of an active learning environment for online students, built on these recommendations:

- Learning should take place in authentic and real-world environments.
- Learning should involve social negotiation and mediation.
- Content and skills should be made relevant to the learner.
- Teachers serve primarily as guides and facilitators of learning, not instructors.
- Teachers should provide for and encourage multiple perspectives and representations of content.
- Content and skills should be understood within the framework of the learner’s prior knowledge.
- Students should be assessed formatively, serving to inform future learning experiences.
- Students should be encouraged to become self-regulatory, self-mediated, and self-aware. (para. 14)

While Doolittle (1999) suggests that at least half of these recommendations are readily accomplished through online education, the last three are the most difficult to achieve. He contends that one of the most difficult constructivist precepts to address in online education is providing for the learner’s pre-existing knowledge.

Already a Constructivist?

Think about how you currently teach. Perhaps you are already using the constructivist approach in some manner. For example, you may be

- prompting students to develop their own inquiry questions;
- allowing students to express their knowledge through multiple avenues; or
- encouraging group projects and collaborative learning.

In fact, the creation of a rich learning environment is one of the most important components of constructivist instruction. M. Koyanagi (n.d.) argues that “students should be able to independently explore an information space to obtain content, higher level concepts and learn how to learn” (para. 4). In this model, teachers guide students as they explore the many paths before them. As students explore new concepts and incorporate them with previous experiences, the teacher is confident that the relevance of the information will emerge. By posing problems and providing relevant materials and information, the constructivist teacher nudges the student into understanding the relevance of that new knowledge (Mayer, 1996).

Our personal perceptions of how knowledge is acquired ultimately guide our educational practice. As E. Murphy (1997) expresses, “If we believe that learners passively receive information, then priority in instruction will be on knowledge transmission. If, on the other hand, we believe that learners actively construct knowledge in their attempts to make sense of their world, then learning will likely emphasize the development of meaning and understanding” (para. 3). In the constructivist model, knowledge is subjective – not discovered by a learner, but rather gleaned from his or her own relevant experiences and the experiences of others with whom the student collaborates. Ultimately, the constructivist teacher provides the opportunities for learners to leap from what they already know into more sophisticated meanings created by the synthesis of the new material and their present understanding (Mayer, 1996).

Putting It into Practice

These opportunities for learners are limited only by the imagination of the teacher-guide. I have mentioned the use of discussion boards. Using constructivist principles, a teacher may develop discussion topics that are open-ended enough to allow the individual learner to incorporate individual experiences, interpretations, reactions, and opinions into discussion responses. A learner community can be built in the discussion area by requiring students to respond to two or three classmates each week, in addition to posting their own ideas.

Another valuable use of the discussion board is to provide forums that require students to research an area of interest and report back to the class in the forum. For instance, I teach business courses, so when we come to the topic of leadership in a management course, I may ask my students to seek out management-style information from a website of their choice. They will post their findings (in their own words), report why it is important or how it appealed to them, and then evaluate the material and the website for validity and usefulness. In such an exercise, the students are allowed to focus on something of interest to them, and they construct a piece of knowledge that becomes theirs.

Constructivist learning also incorporates collaborative elements. This can easily be accomplished by the discussion board, but I try not to lean too heavily on any one mode of delivery. While group projects are not always favored by students, they have great value in many classrooms, including those on the Internet. There are many things that can go wrong in a group project, which I need not elaborate on here. As with any element of online instruction, much advanced planning should be done to diminish any negative effects of group work on students who favor online learning. The instructor should build in as many collaborative opportunities for group work, including but not limited to face-to-face meetings, private discussion forums for groups (even giving points for everyone making an initial post in their forum), and encouraging the use of virtual chat components such as instant messaging and the component in content management systems like Blackboard. This instructor attends the first such chat for each group. Other group management and grading tools used may be identical or similar to those used in a traditional classroom.

The Power of Choice

As many seasoned teaching professionals know, allowing students the freedom to explore topics of their own choosing provides each student with a meaningful learning experience. Such topic exploration can be accomplished through case studies or research reports. Clearly, much of what we do in a traditional, in-class course is transferable to an online environment. One need only anticipate problems and plan accordingly.

Most educators agree that online instruction requires more advance work and planning. So, if you are going to take the time and effort to plan an online course, why not take the time to create a rich, learner-centered environment for your students? They will remember the content and the course, and they will remember you for the deep, personal learning experience you provided.

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