Constructivist Instructional Design Model
Week 4

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The phrase “instructional design” infers systematic planning and ordering of all the elements involved, to facilitate the attainment of specific goals in learners. Smith & Ragan (2005) defined the complex and encompassing task as “the systematic and reflective process of translating principles of learning and instruction into plans for instructional materials, activities, information resources, and evaluation” (Smith & Ragan, p. 4). An instructional design model is the graphic representation of an instructional design plan, showing the sequence and relationship of key elements (Smith & Ragan, p. 10). The key elements vary, based on the assumptions and philosophical perspectives of the designers, but generally include the following:

- Defined unit, topic or theme
- Specific learning goals and objectives;
- Formative and summative assessments;
- Content necessary for learning goals and objectives
- Sequential benchmarks for learning goals and objectives
- Learning activities
- Reflective evaluation

(Wilson, 2007). The constructivist learning model is based on the assumption that learning occurs when knowledge received during new experiences is processed with prior knowledge. The constructivist instructional designer will carefully choose learning activities, delivery methods and content sequence that will be the most advantageous for the specific needs and learning styles for their target students (Wilson & Lowry, 2000).

One key assumption of constructivism is that learning is a personal and individual process. The constructivist instructional design model stresses the importance of accurately

understanding prior knowledge, cultural perspectives, and developmental maturity of the learners. To provide authentic experiences, teachers at schools that serve a widely diverse population must plan activities that can meet a variety of knowledge levels, learning styles and life experiences. This is a valuable strength of the model for the students, but could be a weakness for the teacher. It may be difficult, even overwhelming to access adequate resources. Traditional textbooks are not going to meet these needs; the use of the Internet can be a solution.

> The Web accommodates considerable variability in answers and perspectives. The idea of a single, authoritative answer is hard to reconcile with the multiple, competing voices on the Web. Although it contains massive information like an encyclopedia, the Web as a whole is unedited, un-refereed, and always changing (Wilson & Lowry, 2000).

Project-based learning is designed around self directed activities, authentic context and meaningful goals. The goal of the instructional designer is on planning high quality learning strategies. The constructivist view is that keeping students active and engaged results in higher order thinking skills.

> Because project learning is filled with active and engaged learning, it inspires students to obtain a deeper knowledge of the subjects they're studying. Research also indicates that students are more likely to retain the knowledge gained through this approach far more readily than through traditional textbook-centered learning. In addition, students develop confidence and self-direction as they move through both team-based and independent work (Edutopia, 2008).

Students gather information, sort and analyze, make hypotheses, and draw conclusions to create a new and personal body of knowledge. Assessments, included as part of the learning activities,

demonstrate that the student has reached deep understanding when the students present their learning in an understandable way to a real audience. Critics of constructivism point out that the assessments do not measure the actual learning process. The process of cognition is unseen. Carefully worded behavioral learning outcomes are the foundation of the assessments, but the students can only demonstrate the outcome of their learning, and at what level. The constructivist teacher cannot describe what has happened during the learning activities to achieve that level of understanding (Jaworski, 1993).

A well-designed constructivist classroom is an exciting environment. Students are involved in real-world situations, considering multiple perspectives on issues, eager to share their findings and hypotheses with others. Social constructivism assumes that high quality learning is collaborative. Knowledge is constructed as all groups share their personal perspectives. The students interpret the collective input and change their own understanding as they decide how separate pieces of knowledge can all fit together (Smith & Ragan, 2005, p. 20). Wilson & Lowry (2000) question if an activity is guaranteed to result in high quality learning merely based on the fact that it involves processing new information, provides sequence and delivery, and meets the needs of all learning styles. A level of involvement this high can be mesmerizing by teachers and administrators. But does that mean it is valuable? Smith and Ragan (2005) describe a high school class spending weeks building a three dimensional model, a salt sculpture, with the end results of one student only able to demonstrate the new knowledge that salt will crack when not enough water is mixed with it.

> One potential danger of the misinterpretation of constructivism is a reinforcement of a perennial problem in education, slipping into the ‘activity for activity’s sake’ mode. This problem is represented by the belief that if learners

> are engaged and enthusiastic, then they must be learning. There are, of course, occasions when engagement and enthusiasm are accompanied by only trivial learning (Smith & Ragan, p. 21).

The constructivist instructional design model emphasizes active learners, learner-directed activities and involves multiple views of information presented in the context of authentic situations. However, it is a difficult model to use effectively. The large quantities of high quality learning resources are difficult for classroom teachers to search for and access. As well, the actual learning of new knowledge is difficult to describe and prove. Finally, the planning design cannot be represented in a linear sequence; the elements double back and intersect in an interwoven entity (Smith & Ragan, 2005, p. 11). Designers may leave out learning goals that are more abstract because the lower level goals fill up the number of activities that could be carried out in the time allowed in the classroom. The difficulties with the model are not inherent in the model itself, but are in the applications. High quality learning can only come when there is high quality planning in every element of an instructional design model.

References

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