Lee's Rational for Case Study 2

The problem for case study two was to formalize an existing, workshop-based curriculum for middle school science teachers developed by Cynthia Oakes. Cynthia is a firm constructivist and wants instruction designed accordingly. Additional characteristics of the curriculum included its problem-based nature, a requisite high-level of communication, time and support. In addition it was clear in order to engage teachers the materials provided must be adaptable for both new and veteran participants. Despite all of these details the challenge for Denny Clifford, the designer, seemed to be a lack of specificity.

Constructivism is a learning theory which espouses the concept that learners construct or develop their own knowledge through the exploration of authentic environments. (Reiser & Dempsey, 2012). While a more traditional lesson may list teacher determined learning objectives, a constructivist lesson might refer to an overarching question or big idea, allowing the learner to set learning goals and determine how these goals are met. Problem-Based Learning, or PBL, allows students to explore and investigate within a supportive but authentic environment (Delisle, 1998). In the case of the teacher education curriculum, the problem could be the development of a problem-based curriculum for their students.

SInce the teachers involved in the professional development will ultimately be teaching using a constructivist model as well as learning through one it seemed practical to parallel the 2 layers to illustrate how aspects of the teacher education could also serve as a teaching model. The map is then broken into smaller maps representing the main components of the curriculum needing to be addressed by Denny's design. Support and Time are placed together because, based upon personal professional

experience, these two resources are closely linked in terms of teacher professional

development, teacher planning, and classroom management.

In addition, many resources are available online for constructivism and problem-

based learning (PBL). The Buck Institute for Education (www.bie.org) offers

professional development as well as "Do It Yourself" resources for problem-based

learning. Edutopia offers a podcast covering all aspects of PBL and I have included two

of these in the Case Study Map. The first, *Learning by Doing: Project-Based Learning*

Overview provides exemplars from around the United States and includes excerpts from

an interview with Seymour Papert (Edutopia, 2008) . The second, *Teachers Discuss*

Daily Challenges of Project Learning, is a debriefing among team teachers in a Main

middle school who utilize expeditionary learning, a particular style of PBL (Edutopia,

2010).

References

Curtis, D. (2011, July 27) . Project-Based learning: Real-world issues motivate

students. Retrieved from http://www.edutopia.org/project-based-learning-

student-motivation

Delisle, R. (1998) . *How to use problem-based learning in the classroom*. Alexandria,

VA: ASCD.

Ellis, K. (Producer, Writer, & Director) . (2008, September 8). Learning by doing:

Project-based-learning overview. *Edutopia*. Podcast retrieved from iTunes U

Ellis, K (Producer & Director) . (2010, March 19) . Teachers discuss the daily

challenges of project learning. *Edutopia*. Podcast retrieved from iTunes U

Lee's Rational for Case Study 2

No author given. Project Planning Forms. retrieved from http://pbl-online.org/

      ProjectPlanning/pdfs/ProjectPlanningForms.pdf

Reiser, R. A. & Dempsey, J. V. (Eds.) . (2012). *Trends and issues in instructional*

      design and technology. Boston, MA: Pearson.

Rosenfeld, S. & Be-Hur, Y. (n.d.) . PBL in science and technology: A case study of

      professional development. Retrieved from http://www.designworlds.com/

      techscape/Sherm_Inservice.html

www.bie.org