Chapter 3

Technology Adoption and the Internet

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Learning Objectives

1. Distinguish between the two best-known frameworks of technological innovation.
2. Describe the identifying characteristics of phase theory.
4. Describe how a study of the levels of adoption of the Web or other Internet technology by the faculty at your college or school can be considered to be “data-driven research.”
5. Explain how educational research on “the adoption of Internet technology” would differ from research on “teaching or learning with the Internet.”

Abstract

Technology adoption has been a popular research style among educational leaders since the mid-1970s. This chapter is an introduction to research on a few technology adoption models with a particular focus on their application in Internet-based teaching and learning. A few technology adoptions are the Concerns-Based Adoption Model (CBAM), Rogers’ Theory of Diffusion, the Instructional Transformation Model and Phase Theory.

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Adoption Models and Theories

Web-based teaching and learning can be studied as “a technological innovation.” Tim Berners-Lee created the technology that made the Web possible in 1990 while working for CERN, a European Particle Physics Laboratory. Its original purpose was to give physicists in the field of high energy a means to communicate and exchange ideas easily. The Web was created to be a pool of human knowledge, distributed to share human beings’ ideas (Berners-Lee, 1997; Berners-Lee et al., 1994). Although online teaching and learning is still a favorite focus of much graduate student research, “adoption of Web or other Internet technology in an educational setting,” usually by novices at your college or school has come of age, and can be said to be a style of educational research in its own right.

Two Well-Known Technology-Adoption Models

In this chapter we discuss two well-known frameworks of technological innovation that may be considered in studies that treat the Web as an educational innovation: the Concerns-Based Adoption Model (CBAM) and Rogers’ Theory of Diffusion.

Concerns-Based Adoption Model (CBAM)

Web-based educational research can be studied as an innovation using the Concerns-Based Adoption Model (CBAM). The Concerns-Based Adoption Model can be applied in research to anyone experiencing change (including changes to Web-based technology in educational settings), that is, policy makers, teachers, parents and students (Hall & Hord, 1987; Hord, Rutherford, Huling-Austin, & Hall, 1987).

The CBAM holds that people considering and experiencing change evolve in the kinds of questions they ask and in their use of whatever the change is. In general, early questions are more self-oriented: What is it? How will it affect me? When these questions are resolved, questions emerge that are more task-oriented: How do I do it? How can I use these materials efficiently? How can I organize myself? Why is it taking so much time? Finally, when self- and task concerns are largely resolved, the individual can focus on impact. Educators ask: Is this change working for students? Or is there something that will work even better?

Central to the CBAM is the change facilitator. People and the change facilitator’s understanding of the point of view of the participants are the most important factors in the change process of this model. The change facilitator is a person or persons who will deliver actions on the basis of the needs of individuals or groups involved in the change. Facilitators have a resource system available to them as well as various interventions.
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