

# Chapter 60

## Knowledge Building Online: The Promise and the Process

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### ABSTRACT

*This chapter explores the promise and process of knowledge building in online environments. The promise lies in the dual capability of knowledge building to support the collective learning of future adult learners by building on the information artifacts produced by present learners, thus improving upon what is known about a subject. Electronic tools for sharing emerging thoughts facilitate knowledge building and expand its reach outside the immediate classroom to involve learners from any part of the world in inquiry-based discussions. The knowledge-building process involves participation, collaboration, and achieving shared understanding. A case study of adult learners attempting higher levels of learning shows knowledge building in process. The chapter proposes a staged approach to preparing adult learners to engage in knowledge building.*

### INTRODUCTION

Learning in online environments can be viewed as a continuum ranging from individual information acquisition to collaborative knowledge generation. Although the discourse on online learning seems to embrace cooperative and collaborative approaches to learning assessment, discussion has not moved toward the higher level of learning—knowledge generation, which adds to the exist-

ing content in a given field (McConnell, 2006; Sorensen, 2005; Barab, MaKinster, & Scheckler, 2004). For example, a discussion board might be thought of as a place for individual performance within a cooperative learning environment in that the dialogue helps individual students better understand the content or gain more insight into its application or implications. In that scenario, the task of the discussion board is to help the student master content as prescribed by the instructor (Rockwood, 1995). Discussion spaces, including wikis, can also be thought of as tools for collab-

DOI: 10.4018/978-1-61692-906-0.ch060

orative learning and the generation of knowledge products. Collaborative tools offer open-ended spaces appropriate when learners are asked to achieve a new understanding by bringing together their experience, ability to search for information and pose questions, and a willingness to test ideas and intensively examine the information they have generated. In that way the learners have pushed forward their understanding that originally was based on authoritative sources.

For adult learners, the possibilities inherent in the discussion board and other sharing tools may not be fully realized in higher education. The tools for sharing information in computer-mediated environments are growing faster than instructors can rethink the ways in which instruction can enable adult learners to take advantage of the technologies to engage in higher levels of learning. This chapter explores the promise of knowledge building in online environments. A case study of adult learners attempting higher levels of learning shows knowledge building in process.

## BACKGROUND

Networked learning helps adult learners actively pursue knowledge building and rely less on the instructor as the primary source of knowledge construction and dissemination. The outcome from a network-type of collaborative approach is a deeper and original understanding of an area of inquiry that comes from learners working together to contribute to a goal that is greater than simply achieving a classroom project. Indeed, Hewitt (2004) questioned papers, projects, and exams typical in classroom learning communities as artificial contrivances that do not provide meaning outside of the classroom. Knowledge building, on the other hand, has been described as a higher level of engagement and intellectual development achievable through online learning environments (McConnell, 2006). Knowledge building is based on the idea that social groupings

can facilitate individual and collective learning. Knowledge building adds to the communal way of seeing the world, while learning adds only to an individual's repertoire of perspectives (Lipponen, 2000). Knowledge building revolves around inquiry rather than around knowledge acquisition and retention.

The terms *knowledge* and *information* are interrelated constructions that have multiple meanings. Following arguments advanced by Stenmark (2002), this chapter positions knowledge as the internal cognitive structures adults have for organizing, integrating, and applying concepts to the external world. Information is the external representation of one's thoughts expressed in words, images, nonverbal signs, or other artifacts. Information is the physical form that represents knowledge. When individuals in collaboration with others restructure, evaluate, assign meaning, and modify their internal cognitive perspectives, knowledge is produced. Prior knowledge is used to interpret experience and information, and information is necessary to build new knowledge.

The term *knowledge building* has been used to refer to task-based and problem-solving groups and seems to involve the application of existing content to novel situations. However, knowledge building as a learning activity is a different process. Knowledge building is an act of creation that stands apart from its creators. Participation and engagement produce a collective understanding of an issue, phenomenon, or situation. In the classroom, the thoughts that emerge are new to the learners, superior to their previous understandings, and for the good of all (Bereiter, 1994; McConnell, 2006). Knowledge building goes beyond sharing of thoughts and moves toward new collective thoughts that can emerge only in a community committed to pushing the basis of existing knowledge and learning ideas for others to expand further. In that way, knowledge-building communities differ from communities of practice (Lave & Wenger, 1991), which unite people engaged in the same occupation or career, and

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