The Design of Authentic Inquiry for Online Knowledge-Constructive Interaction and Self-Regulated Learning Processes

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ABSTRACT

This study examined students’ self-regulated learning processes and satisfaction within an authentic, inquiry-based learning module in a graduate-level online course. In this design-based case study, a WebQuest-based, authentic learning module was developed to support self-regulated, collaborative discussions, and implemented with 22 graduate students at a large southeastern university in US. Online discussion transcripts were coded via the Online Learning Interaction Model, and learning satisfaction data were collected via an online survey. As a result, students’ social and knowledge-constructive interactions were closely associated with self-regulated processes. During group and class discussions, students were involved in planning and coordination interactions as well as those for reflection and self-evaluation. Students were generally satisfied with the design elements implemented in the authentic activities. The study findings provide insights on the design of the authentic and inquiry learning that supports both social and individual aspects of self-regulation processes.

Keywords: Authentic Learning, Collaborative Discussions, Inquiry-Based Learning, Online Learning Interaction Model, Self-Regulated Learning

INTRODUCTION

In online learning settings, students are able to study everywhere at any time. In spite of the accessibility of online learning, the prior studies have reported difficulties in engaging online students in learning (Paulus, 2006; Oliver, 2004). Particularly, students had a lack of support to increase their self-regulated learning skills (Oliver, 2004). Therefore, it is warranted to design the online learning environment that
can assist online students to become active, self-regulated participants.

The authentic, inquiry-based learning has been proposed to support online students’ self-regulation processes as well as their engagement in learning activities. The essential elements of authentic learning activities, as Herrington, Oliver, and Reeves (2003) discussed, included real world relevance, ill-defined problem, sustained investigation, multiple sources, collaboration, reflection, interdisciplinary perspective, integrated assessment, polished product, and multiple interpretations and outcomes. These elements were considered especially applicable in web- or computer-based learning environments because the technology has enabled the flexibility of framing the virtual authentic setting (Woo, Herrington, Agostinho, & Reeves, 2007).

In this design-based case study, we examined the online students’ self-regulated learning processes within an authentic, inquiry-based learning module in a graduate-level online course. The design of the authentic learning module employed the ten design elements of Authentic Learning proposed by Herrington et al. (2003), and the online learning content was framed using WebQuest, an inquiry-oriented lesson format that enables a good use of web resources (Dodge, 2007). The study explored how authentic and inquiry learning elements could be designed and used in the online setting and examined students’ social and knowledge construction and self-regulated processes within the inquiry-based online interactions, as well as their satisfaction with authentic learning.

**LITERATURE REVIEW**

**Applying Authentic, Inquiry-Based Learning in the Online Setting**

*Inquiry Learning* allows students to gain skills and attitudes needed for success in their future careers. Inquiry learning comprises questions about new resolutions and issues, which encourages students to experience with real-world problems and enables them to turn given information into useful knowledge in real-world situations (Brew, 2003). Collins (1988), a pioneer of *situated cognition theory*, argued that “learning knowledge and skills in contexts reflects the way the knowledge will be useful in real life” (p.2). This notion becomes especially important in the information society in which people need to learn how to learn and to be ready for solving real-world problems.

*Authentic Learning*, focusing on creating an environment in which learning takes place within a real-world application, was emphasized by many researchers in the field of learning system and environment design (Herrington & Oliver, 2000). The real-world application includes complex problems, ill-structured solutions, role-playing exercises, case studies, and virtual communities of practice (Lombardi, 2007). Usually, learners are given a case scenario that is related with their optimal goal and requires them to investigate real-world problems in an authentic learning environment. Herrington, Oliver, and Reeves (2003) addressed essential design elements in an authentic task/inquiry-based learning environment:

1. Authentic tasks must have real-world relevance.
2. Authentic tasks must be ill defined, requiring students to define the tasks and subtasks needed to complete the activity.
3. Authentic tasks must comprise complex activities to be investigated by students over a sustained period of time.
4. Authentic tasks must provide the opportunity for students to examine the task from different perspectives, using a variety of resources.
5. Authentic tasks must provide the opportunity to collaborate.
6. Authentic tasks must provide the opportunity to reflect and involve student beliefs and values.
7. Authentic tasks must be integrated and applied across different subject areas and extend beyond domain-specific outcomes.
8. Authentic tasks must be seamlessly integrated with assessment.
E-Learning Accessibility Model: A Culture of Collaboration and Outcomes Assessment
www.igi-global.com/article/e-learning-accessibility-model/78909?camid=4v1a