Designing Scholarly Conversations to Promote Cognitive Presence and Knowledge Building:
An Exploratory Study From an Online Graduate Course

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ABSTRACT

In this exploratory study, a pedagogical intervention, called Scholarly Conversation, was designed and implemented with 26 students in an online graduate course at a public, comprehensive university in the United States. Applying the frameworks of community of inquiry and knowledge building, this paper explains the specific learning goals and design features of Scholarly Conversation. A coding scheme was developed from the conversation text data generated by a high-performing and a low-performing group of the class to describe how learners carried out Scholarly Conversations. Through group comparison, several elements were identified to explain the between-group differences on performance. Particularly, it was found that the two groups distributed their efforts differently during Scholarly Conversations. This study has implications for the design principles for the future Scholarly Conversations.

KEYWORDS

Collaborative Learning, Community of Inquiry, K12 Teachers, Knowledge Building, Online Graduate Course, Scholarly Conversations

INTRODUCTION

In higher education, collaborative learning has often been adopted as an instructional approach to prepare students for their professional careers (Smith et al., 2011). This is particularly imperative for programs that support pre-service and in-service teachers because teachers are expected to model effective collaboration in order for their students to develop the 21st century skills (Trilling & Fadel, 2009, p. 49). However, many programs assume teachers or teacher candidates know how to collaborate, and therefore, do not provide sufficient opportunities to help them gain authentic understanding and skills of effective collaboration (Weiss et al., 2017).

In order to improve collaborative learning, an essential challenge must be addressed in the design phase of collaboration. As researchers have pointed out (Inayat et al., 2013; Margaliot et al., 2018), collaboration should not be limited to communication and sharing of knowledge, but serve as a means for in-depth inquiry to co-construction of new knowledge. To achieve this goal, a pedagogical intervention, called Scholarly Conversation, was designed and implemented in an online graduate course at a public, comprehensive university in the United States. This course was mainly to support K-12 teachers to develop skills in designing online learning environments but the original course design did not include authentic collaborative learning opportunities. The goal of the study is to describe how online learners went about Scholarly Conversations, identify the patterns, if any, of their experiences and explore the design principles for online collaborative learning. In the rest of this article, a literature review on collaborative learning, Community of Inquiry and Knowledge Building will be presented. Next, the design of Scholarly Conversation, the research context, coding methods, and findings will be described, followed by discussions of this study.

LITERATURE REVIEW

Collaborative Learning

A common approach to designing collaborative learning is to develop highly structured group activities to guide students to complete pre-planned tasks and progress to the desired cognitive level (Gasevic et al., 2015). Another approach, called idea-centered collaboration (Hong & Chai, 2017), involves a less-structured process where groups of learners develop and refine ideas continually without any fixed format and pre-determined tasks. Many students do not know how to collaborate due to a lack of learning management skills and self-regulation skills (Bjork et al., 2013). Therefore, they tend to focus on low-level cognitive activities (Hong, 2014) rather than to continuously advance their conceptual understanding during collaboration. To address these challenges, it is pivotal to incorporate both the structured and idea-centered approaches to collaboration. The structured approach provides well-defined procedures that can help students regulate the group process. The idea-centered method can support learners to achieve higher levels of cognitive thinking (Hong & Chai, 2017).

However, current research focuses on either the structured (e.g., Scheuer et al., 2014) or the idea-centered method (e.g., van Aalst & Truong, 2011). There is little effort to apply both approaches to address the challenges facing learners and maximize the support for their collaboration. To fill this gap, this study aims to incorporate both the structured and the idea-centered approaches to guide the design of Scholarly Conversation. The Community of Inquiry (CoI) framework (Garrison & Anderson, 2003, pp. 27-31) is adopted to design the structured components of Scholarly Conversation. Knowledge Building pedagogy (Scardamalia & Bereiter, 2014) is used to embed the idea-centered principles into Scholarly Conversations.

Community of Inquiry Framework

The Community of Inquiry (CoI) framework has been used extensively for online collaborative learning (Halverson et al., 2014). Based on a constructivist view, the CoI framework consists of three essential elements: teaching presence, cognitive presence, and social presence (Garrison et al., 2010). Teaching presence is defined as "the design, facilitation and direction of … processes for the purpose of realizing … learning outcomes" (Anderson et al., 2001, p. 5). Cognitive presence refers to the extent to which learners are able to "construct meaning through sustained communication" (Garrison et al., 1999, p. 89). It is an inquiry process with four phases: i) triggering event — experiencing a dilemma or problem; ii) exploration — searching for relevant information or knowledge; iii) integration — making sense of information to develop a coherent idea or concept; and iv) resolution — applying an idea or developing a solution. Social presence is defined as the ability of learners to "identify with the community, communicate purposefully in a trusting environment, and develop relationships"

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