Alternate Dimensions of Cognitive Presence for Blended Learning in Higher Education

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ABSTRACT
This exploratory study sought to understand the meaning of cognitive presence for graduate students in a blended learning course. Four research questions guided the investigation, which employed a qualitative instrumental case study approach as the research design. Several data sources were used including: semi structured interviews with graduate students; a cognitive presence questionnaire; a focus group of graduate students; and a text analysis grid examining new dimensions of cognitive presence in 100 discussion posts and 20 student learning autobiographies. Findings suggest that there are alternate dimensions to understanding the concept of cognitive presence. In addition, graduate students have distinct ideas about these various dimensions and the types of pedagogical strategies that enhance cognitive development and learning outcomes. The discussion provides insights into these alternate dimensions of cognitive presence and how to help graduate students acquire higher order thinking skills in a blended learning course through the lens of adult learning.

KEYWORDS
Blended Learning Pedagogy, Cognitive Presence, Community of Inquiry, Higher Order Thinking, Learning Outcomes

INTRODUCTION
Over the past 15 years or so, the Community of Inquiry Model (CoI) has been useful in identifying design features for online learning in higher education (Garrison & Vaughn, 2008). It has also provided a robust framework for understanding the importance and inter-relatedness of social, teaching and cognitive presence in blended learning course delivery. According to Garrison, Anderson and Archer (2001), cognitive presence is defined as ‘the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry’ (p. 11). As much as this definition is relevant and has been employed in a plethora of undergraduate studies, little attention has been given to understanding cognitive presence for graduate students in a blended learning program who are often mature adult learners.

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In an attempt to understand the complex nature of cognitive presence in a Faculty of Education blended learning course, this study sought to explore the dynamics involved in the development of higher order cognitive skills for graduate students in their search for meaningful learning. Although there is a paucity of research specific to blended learning with graduate students, the article, nonetheless, begins with a focused literature review drawn from studies in various types of higher education institutions. This is followed by a brief description of the conceptual framework that was used in the study and the research questions that guided the investigation.

**LITERATURE REVIEW**

**Problems in Defining Blended Learning Pedagogy**

In its simplest form, pedagogy can be defined as the methods and activities related to teaching. However, operationalizing the term within higher education and then identifying what constitutes effective blended learning pedagogy engenders an array of questions. At the center of this argument is a definition of blended learning. An important starting point in this discussion is the work of the Allen and Seaman (2010) who have defined blended learning as courses that integrate online with traditional face to face activities in a planned pedagogical manner where a portion of face-to-face time is replaced by online activity. These researchers have also attempted to provide guidelines to differentiate between courses and programs that apply varying degrees of online education and suggest a percentage continuum in classifying fully online, face-to-face and blended learning. Based on the results of a 10-year review of online education in academic institutions, blended instruction has between 30 to 80 percent of the course content delivered online (Allen and Seaman, 2013).

Several recent studies have also endeavoured to identify successful pedagogical strategies and designs that address blended learning pedagogy in higher education. For example, through the lens of online adult learning, Moskal, Dziuban and Hartman (2010) suggest that this literature focuses mainly on learner traits, grade assessments and perceptions of satisfaction from both students and faculty in undergraduate programs. Little or no attention has been given neither to teaching methods nor to learning activities for a graduate student population. Furthermore, in a synthesis of best practices McGee and Reis (2012) maintain that one key area that continues to be the most challenging to design is the blended learning pedagogy or in other words the strategies used to support the development of knowledge by the learner. The authors found that active learning is an integral component of student engagement in blended course design. Active learning requires that students use their meta-cognitive strategies to monitor their own learning and this is most likely to occur when instructional strategies build on course learning at higher levels of thinking. What is unclear, nevertheless, is how to create this interactive environment for meta-cognition especially for graduate students who seek out higher order cognitive skills.

In addition, McGee (2014) states that focused online interactions such as discussions and purposeful peer-to-peer interactions are the most referenced form of effective practice. Such e-interactions afford the building of a deeper comprehension of course content, encourage open and critical discussion and act as a bridge between class meetings and relevant activity. Similarly, peer-to-peer online interactions helped to clarify understanding through strategies such as critical reading and study teams. These also facilitated social presence. Furthermore, the researcher suggests that when active learning is emphasized through such e-interactions a shift towards student ownership, self-regulation and self-direction occurs. As a result, blended learning becomes learner-centred and focuses on deeper learning. However, the dynamics of how this deeper learning occurs is still very vague (Taylor, Atas & Ghani, 2017). As definitional debates around what constitutes blended learning persist, it makes any systematic study of this area difficult because there is no commonly held viewpoint to use which can compare approaches, content, teaching and learning strategies, and effectiveness. Related to this confusion is the school-based definition of pedagogy.
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