

Community of Inquiry: An instructional approach to promote collaborative learning in blended learning

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Abstract: Combining online learning with traditional face-to-face learning, teacher can overcome the defects of the single learning model and create conditions for the learners to carry out collaborative learning in blended environment. However, the traditional learning mode has also been changed, and learners face many challenges to adapt to it. This study takes "Frontier of educational technology" as a case, and uses the Community of Inquiry framework as the research instrument to carry out descriptive analysis. The results show that collaborative learning is effective, but there are still some problems such as lacking of sense of belonging, lacking of teachers' help and practical knowledge. This study explains how to use the CoI framework to analyze to verify the effectiveness of learning in blended learning, which can provide some reference for the related research.

Key words: Blended learning, Collaborative Learning, Community of Inquiry framework

1. Introduction

With the development of Computer-Mediated Communication, there has been a great support for the online learning environment which based on Collaborative Learning. The blended learning is receiving more and more attention from many countries, a large number of researchers have explored it. There are many advantages of online learning, such as convenient communication, flexible interaction, breaking the boundaries of time and space. However, there is lacking of emotional communication and social intercourse between teachers and learners on single online learning. Combining online learning with traditional face-to-face learning, blended learning overcomes the defects of the single learning model and creates conditions for the learners to carry out collaborative learning.

Issues related to the effectiveness in blended learning are; whether the teachers' instructional design and organization can promote dialogue among the learners and guide learning. Will the interpersonal communication environment created by the online community, can promote the students to form a common culture, sense of identity, and belonging to the community. And whether the community members can effectively share ideas and knowledge. The Community of Inquiry Framework (CoI for short) co founded by Canadian scholars D.R.Garrison and Terry Anderson provides guidance for us on how to carry out effective collaborative learning in blended learning.

2. The Community of Inquiry framework

The Community of Inquiry framework (Garrison, Anderson, & Archer, 2000) has been widely adopted in studies of asynchronous blended and online learning (e.g., Akyol & Garrison, 2011; Shea, Li, & Pickett, 2006). It provides a collaborative-constructivist perspective to understanding the dynamics of blended learning and contains three overlapping presences – social, cognitive and teaching – that were highly interdependent. Garrison believes that the three dimensions play very important roles in shaping deeper levels of collaborative learning in blended learning (Garrison &

Anderson, 2003). Researchers can analyze the learning effectiveness of the collaborative learning by using the framework.

3. Method and Results

In this study, the course "Frontier of educational technology" was selected as a case, and questionnaire designed according to the CoI framework is used to analyze the case. The case is a frontier course for graduate students in educational technology field. The curriculum includes two learning modes: offline synchronous teaching and online asynchronous communication, which is a typical blended learning.

Based on the inquiry community framework, questionnaire adopted five-level scale and is divided into three dimensions, namely social presence, cognitive presence and teaching presence, so as to explore the three level of presence in this case and the effectiveness of the whole collaborative learning. A total of 111 students participated in the course, and 93 questionnaires were collected, accounting for 83.7% of the total number of courses. The Cronbach Alpha coefficient of the questionnaire is 0.93, which shows that the reliability of the questionnaire is good, the KMO value is 0.861, and the significant P of Bartlett spherical test is 0, which indicates that the validity of the questionnaire is good.

Table 3 presents the social presence of learners in the online discussion of "Frontier of educational technology." For teaching presence, the mean value of Design & Organization is 4.03; the data indicates that the instructional design and organization process of the case fits the learner's teaching presence. The mean values of the facilitation and direct instruction process are lower, respectively are 3.78 and 3.55, which indicate that the case suffers from lacking of necessary and timely help in the process of learning.

Table 3

Descriptive statistics of Teaching Presence

	M	SD
Design & Organization	4.03	.71
Facilitation	3.78	.64
Direct Instruction	3.55	.84

Table 4 presents the social presence of learners in the case, the mean value of three process in social presence are all low, respectively are 3.52, 3.53 and 3.65, which indicates that more than half of the students don't have sense of belonging in this course. This shows that students have limited intimacy with the learning community. To a certain extent, it will impede the realization of collaborative knowledge construction.

Table 4

Descriptive statistics of Social Presence

	M	SD
Affective expression	3.52	.81
Open communication	3.53	.91
Group cohesion	3.65	.67

The analysis of cognitive presence as shown in Table 5, the mean values of the exploration and integration process in social presence are higher than the other two processes, respectively are 3.98 and 3.92. The mean values of the triggering event and resolution respectively are 3.77 and 3.60.

This indicates that most of the learners completed the exploration of knowledge and knowledge integration in the case, but the practice of transferring knowledge and applying educational technology frontier theory to solve specific research problems is still relatively weak.

Table 5

Descriptive statistics of Cognitive Presence

	M	SD
Triggering event	3.77	.73
Exploration	3.98	.62
Integration	3.92	.59
Resolution	3.60	.83

4. Discussion

Community of Inquiry framework is an effective tool for teachers and researchers to explore the process, effectiveness and strategies of blended learning (Anderson , 2016). The learners have carried out effective collaborative learning in the course "Frontier of educational technology." However, there is still lacking of emotional communication among students, lacking of sense of belonging to communities. Teachers cannot provide effective curriculum help for students and students lack knowledge and practice.

In order to promote collaborative learning in blended learning, teachers should to create online learning community atmosphere, to promote exchanges and mutual assistance between learners in the learning process, so as to enhance the distance learners' community cohesion. In addition to the completion of the offline class, teachers should also provide help to students in the online forum. Teachers should fully mobilize the enthusiasm of the students to form effective cooperative learning. Otherwise, there will be the teachers will also affect students' what I say goes. It also affects students' participation. Due to the time limit of the course, it is not realistic to set up a practical course for students to practice after studying each theory. Therefore, teachers should pay attention to teaching students to explore the practical significance of knowledge in the course of teaching and guide students to break through theoretical explanations in the process of online discussion. Students should pay more attention to the practical application of knowledge.

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