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From 'hello' to higher-order thinking: The effect of coaching and feedback on online chats

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ABSTRACT

This exploratory study examined the effect of a coaching and feedback intervention in teaching presence and social presence on higher-order thinking in an online community of inquiry. Coaching occurred before each chat, and feedback was provided immediately afterwards. The findings suggest that over time, the frequency of higher-order thinking will increase more in a group that receives coaching and feedback than in a group that does not receive coaching and feedback. In addition, the findings suggest that the Community of Inquiry framework has benefits beyond its use in course design, facilitation, and assessment to include serving as a guide to coaching.

"Let's all spend a whole bunch of time saying hello." — Bobby

1. Introduction

After 13 exchanges of conversation by group members beginning their second online chat, Bobby expressed his frustration with their lack of progress in discussing the weekly assignment question. His small group needed to craft a posting for the class discussion board, yet it would take 51 more social and organizational exchanges before a group member offered his thoughts on the question.

Many online courses incorporate synchronous discussions that lead to shared meaning. Stein et al. (2007) suggest that individual meaning can be transformed to shared understanding during chats through questioning and collective exploration as a group. However, instructors should not to assume that learners have the necessary skills to conduct chats efficiently, integrate information, and resolve issues under discussion (Garrison & Vaughn, 2007; Wanstreet & Stein, 2011). Learners may need coaching and feedback in how to conduct chats and develop a response that improves upon what each individual group member knows about a subject (Wanstreet & Stein, 2011).

Coaching is a tool that many universities use to help students handle course content more efficiently or set goals for their education (Murphy, Mahoney, Chen, Mendoza-Diaz, & Yang, 2005; Robinson & Gahagan, 2010; Tripp, 2008). However, coaching students to improve their higher-order thinking skills online is less prevalent (Schroeder & Spannagel, 2006). In addition, feedback is perceived as a key strategy in formative assessment (Fluckiger, Tixier, Pasco, & Danielson, 2010). However, literature about electronic feedback in educational environments is sparse (Denton, Madden, Roberts, & Rowe, 2008; Tuzi, 2004). Given the importance of coaching and feedback in promoting higher-order thinking and the lack of attention in the literature to those topics in online environments, this study explored the effect of coaching and feedback in an online community of inquiry.

Because the course under study involved inquiry-based discussion, the Community of Inquiry model was chosen to provide the conceptual framework (Garrison, Anderson, & Archer, 2000). The model assumes that learning through discussion involves the interaction of three overlapping elements: teaching presence, social presence, and cognitive presence (Garrison et al.). Teaching presence involves course design and administration, discourse facilitation, and direct instruction (Anderson, Rourke, Archer, & Garrison, 2001). Social presence is the ability of learners to project their personal characteristics to others through affective language, open communication, and group cohesion (Garrison & Arbaugh, 2007; Rourke, Anderson, Garrison, & Archer, 1999). Teaching presence and social presence support the discussion group's progress in cognitive presence (Garrison et al.). Cognitive presence involves meaning-making through sustained communication that involves triggering questions, exploration of ideas, integration of information and ideas, and resolution that provides a solution to the issue under consideration (Garrison et al.).

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Integration and resolution are indicative of higher-order thinking and are the focus of this study.

Promoting higher-order learning, "becoming a critical and creative thinker," is the purpose of higher education (Garrison, 2011, p. 12). The Community of Inquiry framework suggests areas in which students may need assistance in developing the skills to move toward higher-order learning. Providing that assistance through coaching and feedback expands the use of the CoI framework as a tool to guide and assess the discussion process in a way that complements the course activities. The course under study featured two coaches: the instructor, who provided content coaching, and the researcher, who engaged in a voluntary coaching relationship on the discussion process. In this study, we are considering the effects of the voluntary coaching.

2. Coaching and feedback

2.1. Coaching

Fundamentally, coaching is a process that enables cognitive, emotional, and behavioral changes to occur (Grant, 2001) by unlocking a person's potential to perform at a maximal level (Whitmore, 1995). Brockbank (2008) identified the following four types of coaching: (1) functionalist, which is directive and advice-driven, (2) engagement, which uses a nondirective approach, (3) revolutionary, which promotes radical change, and (4) evolutionary, which uses reflective dialogue to identify and challenge the prevailing discourse. The course under study incorporated two types of coaching: functionalist and evolutionary. The content coaching provided by the instructor was evolutionary, whereas the process coaching provided by the researcher was functionalist. This study focuses on the results of process coaching; therefore, coaching is defined as the facilitation of learning and development by providing encouragement and direction with the purpose of improving performance (Bluckert, 2005; Brockbank, 2008; Murphy et al., 2005).

Coaching is not the same as prompting, which is giving hints or asking questions to elicit information nor is coaching the same as discourse facilitation, which models ways to promote discourse and critical thinking (Garrison, 2011). In the context of this study, the process coach pointed out errors and suggested particular behaviors rather than modeled those behaviors. In addition, discourse facilitation occurs during the course discussion. Process coaching occurred before the discussion, and feedback followed shortly after the discussion was complete. Coaching in the context of this study has a task-based focus that offers deliberative and motivational support to enhance learning and performance (Averweg, 2010; Bluckert, 2005; Longnecker, 2010).

Executive, business, and life and health coaches are well represented in the coaching literature (Averweg, 2010; Bluckert, 2005; Brown & Grant, 2010; Gilbert & Rosinski, 2008; Longnecker, 2010; Ward, 2008). However, studies specifically related to education are beginning to emerge (Austin, 2009; Etkina et al., 2010; Murphy et al., 2005; Robinson & Gahagan, 2010; Thalluri, Kokkinn, & O'Flaherty, 2008; Vandekerckhove, 2010). Studies that explore peer coaching among students have found that it promotes active learning and relieves the teaching load (Murphy et al.; Thalluri et al.). Other studies consider coaching part of cognitive apprenticeships, which make the thinking of experts visible to the novice (Alger & Kopcha, 2011; Collins, Brown, & Holum, 1991). Sharing advice and solutions and offering suggestions and hints are elements of coaching in cognitive apprenticeships (Alger & Kopcha, 2011; Austin, 2009). A learning environment that integrates cognitive apprenticeship, including continuous coaching, as well as formative assessment helped students become more independent and approach novel tasks as scientists would when compared to a control group (Etkina et al.).

In the course under study, coaching was conducted electronically with learners in a group. E-coaching has been characterized as a "developmental partnership" (Averweg, 2010, p. 48) that is enabled through computer-mediated communications, such as e-mail, online chat, or threaded discussion (Hernez-Broome, Boyce, & Whyman, 2007). E-coaching can be more time efficient than coaching conducted face-to-face, achieving goals more quickly and in fewer sessions (Averweg, 2010).

Group coaching is seen as a way to develop trust and support within groups, improve communication, support greater commitment, and improve knowledge transfer, among other largely anecdotal benefits (Brown & Grant, 2010). Hackman and Wageman (2005) recommend that group coaching focus on attaining specific tasks or desired outcomes. However, as Brown and Grant (2010) note, for group coaching to be effective, individuals must be willing to participate.

Although coaching has been shown to foster active learning and higher-order thinking, it is not clear how online group coaching would influence higher-order thinking and learning.

2.2. Feedback

Regarding feedback from instructors to online learners, the conventional wisdom is the more feedback the better. In this study, feedback is defined as information about the gap between the learner's performance and the reference level (Ramprasad, 1983). Ideally, the information is used by the learner to narrow the gap. While some students adhere closely to every comment, others keep feedback in the back of their minds for later use (Higgins, Hartley, & Skelton, 2002). Effective feedback indicates what learners have done well, what misconceptions they have, and what follow-up work may be required (Denton et al., 2008). Formative feedback that is "specific, simple, descriptive, and focused on the task" creates an environment where the focus is on learning rather than on grading (Fluckiger et al., 2010, p. 137). Nevertheless, students may link feedback to attaining better grades as well as to helping them focus on skills related to higher-order thinking (Higgins et al.). In addition, in classes where the focus was on grades, most students who volunteered to receive in-depth feedback on a literature review assignment and subsequently revised their drafts improved their final grade (Unsworth & Kauter, 2008).

Immediate feedback is necessary to maintain motivation (Denton et al., 2008), keep learners engaged, correct errors, and meet learner expectations that their work is noticed (Tallent-Runnels, Cooper, Lan, Thomas, & Busby, 2005). Timely and constructive feedback increases course satisfaction by changing student perspectives about the course (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). If feedback is not timely, learners may not make the effort to go back to the assignment and learn at a deeper level (Higgins et al., 2002). Feedback is also useful to keep learners on task and to provide guidance on how to navigate through an academic chat room (Stein et al., 2007). Stein and Wanstreet (2008) have suggested that in the absence of feedback, learners in a chat room will allocate their time in social, teaching, and cognitive presence in a similar way from chat to chat. Over time, without coaching or feedback, learners do not seem to change their strategy for achieving resolution; nor do learners change the pattern of how they allocate their chat time. That finding supports the notion that process feedback can facilitate performance by helping learners develop an effective task strategy (Earley, Northcraft, Lee, & Lituchy, 1990).

Loewen and Erlam (2006) varied the type of feedback in an online class on language acquisition. Feedback was either implicit (response is correct or not) or explicit (response is correct or not and the reasoning behind the correct response). The researchers found no significant difference in the performance of the groups on either oral or written examinations because of the type of feedback received. The researchers noted that feedback was not immediate due to the ways