Supporting Asynchronous Collaborative Learning: Students’ Perspective

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ABSTRACT

The presented study was conducted during a graduate course on Digital Collaboration involving theory and practice. The findings presented here deal with one aspect of students’ collaboration; the asynchronous threaded forum with instructional design to support collaborative learning within three communities. Students’ inputs consisted of several steps towards a final paper; and of feedback to other students’ inputs. The instructional intervention scheme varied for the three communities in adaptation and presentation. The authors report on students’ perceptions regarding the design of the threaded forums to support learning. Data from a post-course questionnaire is backed by additional data sources within the course to support interpretations. Findings revealed tradeoffs in design decisions for collaborative learning, and give directions for further research. The authors discuss the implications of the findings for using peer feedback for collaborative learning, for designing different schemes of instructional interventions and for other design decisions and tradeoffs.

Keywords: Asynchronous, Collaborative Learning, Digital Collaboration, Peer Feedback, Threaded Forums

INTRODUCTION

Collaborative learning supported by digital tools is widely advocated and studied (e.g., Stahl, Koschman & Suthers, 2006; Dillenbourg, Baker, Blaye, & O’Malley, 1996). Online collaboration tools provide opportunities for the development of a learning community (Lipman, 1991; Wenger 2001) that supports individual and collaborative learning. However, just providing a tool for information exchange is not enough. Groups need explicit support to realize their learning potential (Reimann, 2003; Persico and Pozzi, 2010; Pozzi, Hofmann, Persico, Stegmann, & Fischer, 2011). Two types of support can be given to online groups; structuring the collaboration or managing the collaboration (Barros & Verdejo, 2000; Jermann, Soller & Muehlenbrock, 2001). Important aspects for structuring collaboration are: allocation of participants to groups (based on gender, expertise level, or other parameters); selection and definition of tasks to work on; media selection (e.g., synchronicity considerations); and roles and information flow. Support by managing the collaboration can take different forms.
(e.g., adapted interventions), each requiring a respective data collection (Jermann et al., 2001). The selection of media and particularly the synchronicity of collaboration encourage different discourse styles for communication and collaboration. Asynchronous and synchronous mediated communication have different discourse features which may be exploited for different pedagogical purposes (Sotillo, 2000). In the digital collaboration described in our study, participants have used asynchronous collaboration. Unlike face-to-face discussions or synchronous chat, the turn-taking process in asynchronous communication is delayed. The asynchronous nature of such interaction can be educationally advantageous since it provides students with more time to reflect on the topic-at-hand and make more thoughtful contributions (Christopher, Thomas & Tallent-Runnels, 2004; Jeong & Frazier, 2008). However, in an investigation of student practices in asynchronous computer conferencing courses, Peters and Hewitt (2010) found that students appeared to equate collaboration with the process of writing responses to their classmates’ messages and extending discussion threads, and much less associated collaboration with the careful reading of other people’s work and the purposeful pursuit of shared meaning and knowledge building.

Researchers have examined various factors that relate to the success and limitations of asynchronous online discussions (e.g., Andresen, 2009). These include structure, timing, group size, instructor presence/absence, incentives, collaboration, and the online environment itself. According to Gerbic (2010), students need to be motivated to participate in online discussions by well-planned and structured learning and assessment activities. This is supported by Vonderwell, Liang and Alderman (2007), who suggest that the structure of a discussion influences student participation and subsequently how students value the assessment in the online learning environment.

Peer assessment as a form of collaborative learning has several benefits for learning and receives increasing popularity in higher education. Empirical studies show that peer assessment as an instructional approach has a great impact on student learning, and that learning is fostered by having students serve both as assessors and as assessee (Dominick, Reilly & McGourty, 1997; Zariski, 1996). Researchers illustrate how peer assessment assists students to create higher quality artifacts as a consequence of better understanding of assessment criteria, which they use when they play the role of assessors (Falchikov, 2003; Smith, Cooper & Lancaster, 2002). This in turn can promote students’ reflection on the way they apply these criteria on their own artifacts. A second benefit of peer assessment is that students get the opportunity to learn from artifacts created by their peers (Ronen & Langley, 2004). A third advantage stems from the input students receive from other learners, which in some cases complements and even exceeds the instructor’s assessment (e.g., Zariski, 1996). Kali and Ronen (2008) found that using multiple cycles of peer assessment was highly effective: learners refined their artifacts, improved their ability to provide assessment, and increased their confidence in their ability to serve as assessors. Davies (2004) suggested rewarding students for the quality of assessments they provide to their peers. Based on a case study he conducted, he concluded that awarding a ‘mark for marking’ is an appropriate means of assessment, which can even replace other means of assessing students.

Student participation can be affected by how instructors choose to participate, for example, by leading the discussion or keeping a low profile. Mazzolini and Maddison (2007) found that the more instructors posted, the fewer postings were made by students and the shorter their discussion threads on average. Instructors who attempted to increase the amount of discussion by initiating new postings did not succeed. Furthermore, they showed that intuitive measures such as the rate of student participation and the length of discussion threads are not necessarily good ways to judge the “health” of discussion forums or the quality of learning taking place. As part of this study, Mazzolini and Maddison also surveyed students directly to gain their
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