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Awareness of cognitive and social behaviour in a CSCL environment

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Abstract Most distributed and virtual online environments for and pedagogies of computer-supported collaborative learning (CSCL) neglect the social and social-emotional aspects underlying the group dynamics of learning and working in a CSCL group. These group dynamics often determine whether the group will develop into a well-performing team and whether a sound social space emerges. Using a theory-based CSCL framework, two studies evaluated whether two tools, Radar and Reflector, supported cognitive, social and socio-emotional aspects of team development, encouraging promotive interaction and group processing in the teams. While not affecting product quality, tool use did lead to groups who perceived their team as being better developed, as having higher levels of group satisfaction and lower levels of conflicts. The results support that promotive interaction and group processing was increased by using Radar and Reflector.

Keywords CSCL, group processing, promotive interaction, social interaction, social space.

Introduction

Collaborative learning is a pedagogy that usually is applied in contiguous learning groups in face-to-face settings such as classrooms. Johnson and Johnson (1999, 2009) pointed out that pedagogies for collaborative learning should take care of five conditions that should be satisfied because otherwise 'collaborative learning' will not be effective in achieving the learning goals. Johnson and Johnson on their website[1] warned that '[p]lacing people in the same room, seating them together, telling them they are a group, does not mean they will cooperate effectively. To be cooperative, to reach the full potential of the group, five essential conditions need to be carefully structured into the situation: positive interdependence, individual and group accountability, promotive interaction, appropriate use of social skills, and group processing' (Johnson & Johnson, 2004, p. 793, 2009). Indeed, some scholars (e.g., Fischer, Bruhn, Gräsel, & Mandl, 2002; Gräsel, Fischer, Bruhn, & Mandl, 2001; Hewitt, 2005; Weinberger, 2003) have found evidence that supported the claim of Johnson and Johnson in that putting individuals together in a group to work on a task is not enough to insure that the group members will work together as a team. Group processing, as described by Johnson and Johnson, requires reflecting on and regulating one's own actions (self-reflection and regulation) with respect to the needs and goals of the others in the group (co-reflection and regulation) and the group as a whole (socially shared reflection and regulation). This reflection and regulation at these three levels (Järvelä & Hadwin, 2013) are meta-cognitive skills requiring meta-cognitive evaluations: members must give feedback to each other and reflect on these to elicit which individual or group actions were helpful or unhelpful

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