



Review article

Group interaction of primary-aged students in the context of a learner-generated digital video production

Laura Palmgren-Neuvonen ^{a,*}, Riitta-Liisa Korkeamäki ^b^a Future School Research Center, University of Oulu, Finland^b Department of Educational Sciences, University of Oulu, Finland

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ABSTRACT

Recognizing the benefits of peer interactions, collaborative problem solving, and creative processing in pedagogical settings, this study aims to understand the interaction in the context of DV storyboarding, both at the individual and group levels, by looking at one mixed-gender group of fourth graders faced with frequent conflicts in negotiations on the theme, ideas, events, and character roles of a jointly produced movie. The observed and video-recorded activities occurred in naturalistic settings with no pedagogical interventions or instructions for students as to how to organize themselves in a group discussion. In a mixed-method analysis, we employed Bales's IPA method to visualize the interaction and enable comparison across individuals and sessions, and wrote qualitative summaries to describe the group interactions from the perspective of collaboration, Mercer's productive talk, and Tuckman's group development. The IPA method appeared to serve as a robust interpretive framework. The study not only reveals the complexity of the open-ended DV assignment, initially insufficient skills to negotiate and proceed in collaborative creative processing, as well as unequal participation, but also incorporates enthusiastic task-oriented discussions and self-directed development in inter-relational skills and conflict solving. The results are worth taking into account for teachers and other practitioners in order to identify potential areas of improvement, and thus enhance the educational value of group work.

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* Corresponding author at: Faculty of Education, Department of Educational Sciences and Teacher Education, P.O. Box PL 2000, FIN-90014 University of Oulu, Finland. Tel.: +358 294 483713; fax: +358 8 553 3600.

E-mail address: laura.palmgren-neuvonen@oulu.fi (L. Palmgren-Neuvonen).

Introduction

The benefits of peer relations and peer interactions for learning among ever-younger children have attracted increasing interest among researchers and practitioners. Collaborative thinking and problem-solving skills are argued to be as important as the development of children's literacy and numeracy (Littleton & Mercer, 2013). Furthermore, in emphasizing the importance of creativity and innovation in the modern knowledge economy (Drucker, 1993), Sawyer (2006) has suggested that fostering creativity in education should be one of the key missions of the school. Along with the growing interest in sociocultural practices, peer-mediated learning, and the societal need that has emerged to foster creative thinking resulting in a "revolution of creativity in education" (Craft, 2005), the significance of children's collaborative creative processing is generally acknowledged in educational settings (Hämäläinen & Vähäsantanen, 2011; Vass & Littleton, 2009).

The present study aims to understand the quality and nature of interactions among primary-aged students while planning and storyboarding fictional movies in small mixed-gender groups. This article examines young children's collaborative creative processing by looking at one group during negotiations on the theme, ideas, events, and character roles in the jointly produced movie. The empirical study contributes to the relatively under-researched field of collaborative creative processing, an area in need of further examination in order to understand individuals' behavior in group discussions, and hence identify potential areas of improvement in order to enhance the educational value of group work.

This study applies the sociocultural approach based on Vygotskian notions of learning and development (Vygotsky, 1978), suggesting that learners' thinking is shaped by social activity among peers and adults (Rogoff, 1990). However, this study focuses on more symmetrical relationships, namely primary-aged students' efforts to collaborate with each other when engaging in creative thinking. In contemporary sociocultural theorizing, the concept of collaboration is applied to represent ideal forms of peer interaction (Vass & Littleton, 2009). As noted by Dillenbourg (1999), collaborative learning is characterized by negotiation on common goals and building knowledge on each other's suggestions. As learning has shifted from rote learning controlled by single-solution tasks to collaborative creative processing employing open-ended assignments, collaboration is examined in the context of creativity. To study how the mixed-gender group learns to collaborate, this article discusses some supplemental aspects, such as group interaction (Bales, 1950a, 1950b) and group development Tuckman (1965/2001), as well as relevant analysis methods.

Social learning and collaborative creative processing

The concepts of social learning (Bandura, 1977; Rogoff, 1986, 1990) and collaborative learning (Dillenbourg, 1999) are widely discussed. Bandura (1977) conceptualized social learning as an individual process that takes place in a social context through observing and imitating others' behavior. Meanwhile, Rogoff (1986) emphasized stakeholders' active participation in the cultural activities of their community through an "apprenticeship in thinking" supported by dialogues with peers and adults, with more knowledgeable individuals supporting novices (Rogoff, 1990). According to the latter perspective, which applies the sociocultural approach, the processes of learning and cognition emerge at the group level. Knowledge and understanding are jointly created through the continuous negotiation of meaning in order to attain and maintain intersubjectivity or "common knowledge" (Mercer, 2010). Thus, social interaction and activities are crucial for learning (Lave & Wenger, 1991; Stahl, 2006).

According to Dillenbourg (1999), the key features of collaboration and collaborative learning are equality, common ground, co-regulation, and mutual commitment to a shared goal. The benefit of group work is not the number of participants, but rather the interactions that induce explanation, knowledge elicitation, or disagreement. Collaborating group members contribute to all parts of the group's task, although dynamic and horizontal task division between the participants may occur as they reason, enhance, and negotiate the joint problem in interwoven layers (Dillenbourg, 1999).

In collaboration, conflicts that promote reasoning and negotiation are considered crucial mechanisms (Azmitia & Montgomery, 1993; Dillenbourg, 1999; Kruger, 1993), since they encourage critical challenges among peers when searching for mutual understandings. Peer interaction—discussing, analyzing, negotiating, and arriving at an agreement—changes the way in which the participants make sense of the joint task, even in cases of conflicting opinions (Vass & Littleton, 2010). These ideas are consistent with the Piagetian notion of sociocognitive conflict (Doise & Mugny, 1984), suggesting that argumentation on differing perspectives promotes a child's intellectual development by prompting cognitive reorganization. Based on this, it can be argued that conflicts provide opportunities to learn to understand others' roles, thought processes, and capacities (Pahl-Wostl, Mostert, & Tåbara, 2008) and assume different perspectives (Levine, Resnick, & Higgins, 1993); in other words, conflicts stimulate learning to collaborate. Furthermore, moderate conflicts may be productive in improving the quality and creativity of decision-making (De Dreu & Weingart, 2003), commitment to fulfill joint decisions, and participation in the group (Johnson & Johnson, 1975). Whereas task-related conflicts can establish an open-minded climate of trust (Wheelan, Davidson, & Tilin, 2003) and support group cohesion, interpersonal conflicts are often harmful, increasing alienation among participants (Wheelan, 2005). Conflicts with disputational, competing talk that occur frequently during group work exercises in educational settings (Alexander, 2004) can be regarded unproductive but, particularly as they are undoubtedly present in most human interaction, may afford opportunities to learn how to manage and avoid them.

Nevertheless, social settings do not necessarily foster collaborative learning. Effective group interaction is required to share perspectives on decision-making processes, and to collaborate successfully (Määttä, Järvenoja, & Järvelä, 2012; Underwood & Underwood, 1999). Educational success, and failure, may result in part from the quality of educational dialogues rather than the mere capability of individuals or the quality of the educational elements (Littleton & Mercer, 2010; Mercer, 1995, 2000). Many

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