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Supporting Polyphonic Collaborative Learning

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ABSTRACT

The article proposes a theory based on music polyphony, which helps to understand how learners inter-animate when they participate in collaborative chats for problem solving. In polyphony, different voices jointly construct a melody (story, or solution) enabling other voices to adopt differential positions and to identify dissonances (unsound, rickety stories or solutions). The proposed theory starts from ideas of Mikhail Bakhtin, and identifies in chats several classes of patterns of inter-animation along longitudinal and transversal dimensions, similarly to musical polyphonic contrapunctus. The article also describes implemented software tools, which facilitate the visualization of the threads in a chat and the influence that an utterance has on the subsequent ones. Such tools help both teachers and learners to evaluate and enhance the learning process. By supporting polyphonic structuring, the dialogue in learning chats becomes a kind of a “thinking device.”

Keywords: Computer-supported collaborative learning, polyphony, chat summarization, inter-animation, discourse analysis

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