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INTERROGATIVE PROCESS OF INQUIRY
AND COMPUTER-SUPPORTED COLLABORATIVE LEARNING

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ABSTRACT

The purpose of the study was to analyze epistemological nature of elementary school students' knowledge-seeking inquiry in computer-supported collaborative learning. The problem addressed in the study was whether elementary school students are able to engage with an interrogative process of generating and transforming their own research questions and improve their conceptual understanding in a way that is analogous with scientific inquiry. A further aim was to examine how discourse interaction and collaboration between the students facilitated advancement of their question-driven inquiry. Conceptual tools developed by Jaakko Hintikka's interrogative model of inquiry were applied for analyzing the students' process of inquiry.

Technological infrastructure of the study was provided by the Computer-supported Intentional Learning Environments, CSILE developed by professors Marlene Scardamalia & Carl Bereiter. The study was carried out by analyzing conceptually and qualitatively written notes produced by 28 grade 5/6 students to CSILE's database. The material represented research questions, intuitive explanations and written comments generated by the students themselves and scientific information searched by them.

The analysis indicated that the CSILE students' generated systematically explanation-seeking research questions. Further, they were able to articulate a series of subordinated questions while answering for their principal research questions. Results of the study indicated that depth of inquiry, as measured by the number of subordinated questions, was closely associated with conceptual advancement. Further, the analysis revealed that discourse interaction between the students helped them to regulated their question-driven inquiry and focus on specific and manageable research questions.

The cognitive value of the questions generated by the CSILE students was confirmed by an assessment of three internationally highly regarded philosopher of science. Two out of the three experts explicitly pointed out that the CSILE students' were advancing in their inquiry through articulating more specific subordinated questions and, therefore, regarded the students' process of inquiry to be progressive in nature. The study indicated that with an appropriate pedagogical and epistemological support elementary school students are able to productively

participate in very advance forms of inquiry traditionally assumed to characterize only scientific inquiry.