

Abstract

The purpose of this study is to derive useful insights and principles for the design of the computer-supported collaboration tasks and to explore patterns of learners' interaction when working on the computer tasks. This study attempts to understand how learners react to the teacher-designed computer-supported collaborative learning tasks and how they work together with their partners.

This study adopts qualitative approach methods within the design-based research framework. First, a task-based computer program is designed as a prototype. Then 9 pairs of high-achieving junior high school students are selected to use the software. Throughout the three cycles of implementation with three pairs of students in each, qualitative data are collected through direct observations and an interview. The results are presented according to the three cycles with a separate section on the participants' interaction. In the three cycles, the participants' reactions to each task within each scene are first described, and then pedagogical issues and design adjustments for the next cycle are discussed. In the interaction section, three roles taken by the participants across three cycles are identified, with a discussion on the participants' viewpoints on their interaction. It is found in this study that the program design, the teacher's support, and the nature of the learner's interaction are the key elements affecting the outcomes of using this CSCL program.

Finally, pedagogical implications and suggestions based on obstacles that the participants encountered during the program are discussed, with the discussion on limitations of this study and suggestions for further research.