

Analysis of Collaborative Problem Solving Based on Thinking Styles

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In this study, we analyze the process of collaborative problem solving from the viewpoint of thinking styles. Thinking styles are defined as a preferred way of thinking, and here three styles, Legislative, Executive, and Judicial styles[1] are adopted. In this study, we constructed groups whose members display different thinking styles, and they solved a creative task collaboratively. The subjects were given a task to design a car using “Mindstorms” produced by LEGO Co. This task was mainly performed by three activities: Proposing, Doing, and Evaluating. Based on the theory of thinking styles[1], it is hypothesized that Legislative thinking is more active for Proposing, Executive thinking is more active for Doing, and Judicial thinking is more active for Evaluating. If each thinking style works well, it is expected that distributed collaboration is successful. The results are summarized as follows. (1) It was difficult to effect distributed collaboration based on thinking styles. If anything, dominative collaboration by Legislative thinking as the leader was observed. (2) Only with the Legislative style could we anticipate the degree of Proposing. Thus, Legislative thinker participated actively in Proposing, whereas Executive and Judicial thinkers did not do so in Doing and Evaluating, respectively.