Title	
Author(s)	,
Citation	
Issue Date	2009-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/8089
Rights	
Description	Supervisor: , ,

Japan Advanced Institute of Science and Technology

Study of a Convergent-type KJ Method: a Group Problem Solving Technique with a Mechanism of Collective Intelligence

Yutaka Kobayashi

School of Knowledge Science,
Japan Advanced Institute of Science and Technology
March 2009

In recent years, a technique of creative problem solving is expected to fruitful a group meeting. To support the meeting, a groupware for a new idea generation has been studied and the groupware especially support the KJ method that is a popular technique in Japan. The groupware realized to support the KJ method with merits of information and communication technology. Therefore, advance of the meeting requires new development of meeting technique.

Now days, the word "collective intelligence" is paid much attention on next tends of the web technology. The web essentially supports loosely coupled communication over crowds and make a success of Wikipedia that is most successful example as the collective intelligence. In the book titled "Crowds of wisdam"by J.Surowiecki explained the success of such intelligence by reduction to the four properties: variety, individuality, decentralization and convergence. A groupware technique belonging these four properties could promote a meeting toward one step.

In this research, the meeting technique with the four properties of collective intelligence is proposed to lead a fruitful meeting. The proposed meeting requires two steps of one meeting. The proposed meeting methods are the convergence-type KJ method and the collection-type KJ method. In the first step , the ordinary KJ method is carried out by more groups. In the second step , the idea data proposed from all meeting in the first step is collected. In the case of the convergence-type KJ method, the

participants used the selected idea data from the first step. In the other case of the collection-type KJ method, the participants used the all idea data from the first step. In the second step, a group , which dose not take part in the first step , can use the data from the first step.

The experiments to evaluate the effectiveness of proposed meeting methods showed the result as follows;

1) The conclusion sentence obtained with the convergent-type KJ method was better than that of the collection –type KJ method.
2) The conclusion sentence obtained with the convergent-type KJ method by the group that did not participate in the first step was better than that of the collection –type KJ method.
3) The conclusion sentence obtained with the two steps of the KJ method was better than that of the ordinary KJ method.

In future, the convergent-type KJ method will be executed with thousands of idea data by usage of the groupware interfaces with a large collaboration space. And the mechanism of the successful meeting with the collective intelligence will be explored by having many samples of the meeting.