

Title	分散環境における創造活動のモチベーションを維持するための発散的思考支援システムに関する研究
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Abstract

This dissertation describes the research on divergent thinking support tools for continuous creative activities focused on motivation for idea creation. Creativity has been defined as consisting of three components: expertise, creative-thinking skills, and motivation. Among them, motivation has been an especially important component in creative activities. This paper has conducted the research focused on the motivation in creative activities, different from conventional researches on creativity support tool that has been mainly focused on support for style of creative thinking.

Approach for maintenance of motivation in idea creation has gone through three proposed methods. First proposed method has been indicated to feedback visualization to generated ideas. We have developed and researched the distributed brainstorming support tool using feedback visualization function. Feedback visualization function has been expected to provide positive feedback by two effects: entertainment that means change the graphic of idea label based on the number of feedback, and sense of accomplishment that obtained from competitive consciousness based on sharing feedback between participants. The result of experiment has suggested that feedback visualization function has been a tendency to improve sustainability of idea creation and be higher the evaluation of originality of ideas. Furthermore, strong correlation has been confirmed between quantity of idea and count of received feedback. Consequently, it has been suggested that feedback visualization function effective to maintain motivation of idea creation.

Second proposed method has been indicated to feedback using backchannel between participants in distributed environment. We have developed and researched the distributed brainstorming support tool using backchannel function for generated ideas. Backchannel function has been implemented as simple action: select the backchannel that seems to be suitable for idea from three types prepared in advance. This function has enabled backchannel without disturbing brainstorming activities. The result of experiment has suggested that backchannel function has been a tendency to be higher the evaluation of fluency and feasibility of ideas, and effective as method to support brainstorming in distributed environment.

Third proposed method has been indicated to make gamification elements which has both features of the above two methods. Gamification is defined as technique that applies distinctive know-how of games represented by video games to problem solving in the real world. We have developed and researched the distributed brainstorming support tool with gamification elements. This tool has been characterized by two function: get card function and publicize card function. Get card function has been implemented as positive feedback to idea creation. Player receives one ticket for each posted idea, then player gets a card at random by consuming tickets. Publicize card function has implemented as competition between participants. Card that has been get by get card function have rarity and score. Player improves ourselves through other participants for ranking of total score of cards or rarity, therefore community formation between participants will occur. The result of experiment has suggested that gamification elements has been a tendency to increase quantity of idea and be higher the evaluation of fluency and originality of idea. Furthermore, it has been suggested that motivation of idea creation had been maintained for five days with gamification elements in continuous distributed brainstorming.

From these results, it has been revealed that design of the interface to support divergent thinking for continuous creative activities, furthermore it has been suggested that a model of divergent thinking support tool using gamification.

Keywords : Creativity, Brainstorming support tool, Feedback, Motivation, Gamification