

Title	アイデア連想のつながりを明示化するブレインライティング支援システム
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Citation	
Issue Date	2019-03
Type	Thesis or Dissertation
Text version	author
URL	<a href="http://hdl.handle.net/10119/15804">http://hdl.handle.net/10119/15804</a>
Rights	
Description	Supervisor: 由井 園隆也, 先端科学技術研究科, 修士 (知識科学)

# The Brainwriting Support System

## for Indicating Explicit Association between Ideas

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March 2019

**Keywords:** Brainwriting, CSCW, Groupware

In recent years, the demand for group idea generation method is increasing, because it is expected to create new ideas that is difficult to be created by oneself. Therefore, it is widely known for creative techniques to supporting group idea generation method such as brainstorming and brainwriting.

We can refer to ideas to be created by others in group when we create ideas in a group. In this case, we can refer not only to ideas but also association between ideas to create new ideas. Association between ideas are thinking process how is referred to other ideas.

These connections have kinds of information such as contents of reference ideas and the modification of ideas. These information are useful for new perspective to create ideas. But it is not possible to understand accurately association between ideas outside of the person because they are idea process. So, the others can only conjecture as to contents of them. It is necessary that the proponent explains contents of them for the others to understand association between ideas.

In addition, the association between ideas are not recorded in brainwriting though the ideas are recorded in brainwriting. Therefore, it is lost the information that is included in the association between ideas. But the information included in association between ideas could be useful if it spend a lot of time discussing the relating theme or the same theme over and over in the future. In this study, the brainwriting support System has been developed for indicating explicit association between ideas. It has two function: for brainwriting and for review the brainwriting sheets.

The two functions for brainwriting is useful for brainwriting about a theme. It is able to record the association between ideas as well as ideas. It is possible to understand how to create new ideas to refer to other ideas to connect ideas by line. We can record the icons of association between ideas during viewing the brainwriting sheets. These icons are simplified contents of association between ideas. These icons make it possible to give contents of association between ideas widely. This research wanted to see to become usable for anyone to transform the association between ideas to icons. In addition, we can record the comment to ideas. Because of this, we can add more detailed information as necessary.

This research carried out evaluation experiments with my system. The twelve students participated in evaluation experiments were divided into the groups of three people. These students participated twice in them that the association between ideas are explicit in and the association between ideas are not explicit in. After the meeting, they answered a questionnaire by these experiments. The questionnaire have five-grade evaluation and free description about each questions.

The results are analyzed the numbers of ideas and the questionnaire about the discussion used by brainwriting sheets. The result of these experiments shows that indicating explicit association between ideas is useful to create ideas.

Result1: The results are analyzed the numbers of ideas. As a result, there is not so much of a difference between the numbers of the ideas. It was possible to reduce the numbers of the ideas because of necessary operation and necessary information, but it hasn't yet. According to the results of the questionnaire survey, it is highly acclaimed that operability and availability of my system. Therefore, the association between ideas support to create ideas.

Result2: The results are analyzed the questionnaire about the discussion used by brainwriting sheets. The result of the five-grade evaluation is lower evaluation than the evaluation experiments to create ideas. According to the free description, the evaluation is likely to be caused by operability of my system. Especially, they said that the function recording comments is hard to use. On the other hand, there are some high evaluations about the function itself. Tough improvement of the user interface is necessary, my system support the discussion.

Finally, it is high evaluation kinds of icon of association between ideas. However, there are a little opinions that kinds of the icons are insufficient. Because these icons are simplified contents of thinking process about association between ideas, there is far from enough contents and kinds of icons. The improvement of kinds of icons and system design will be needed to be useful the icon.

So, it is able to show that indicating explicit association between ideas support to brainwriting.