Title
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Remembering Lectures by Connecting to Personal Experiences

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Comprehension and memory of lectures

Learning sciences emphasize the effects of preconception on learning (Bransford & Donovan, 2005) and give basis to the claim that it is important to relate what students are learning to their daily experiences. To understand how this connection aids in learning, this study compared two types of memory-training activities. One encourages use of the learner's own experiential knowledge in building a well connected network. The other directly supports comprehension by providing the main points as keywords. The training using personal experience yielded better performance, indicating that it enhanced the creation of explicit meanings.

Research Context

We offered college sophomores an extra-curricular session to enhance their memory of lectures. Thirteen students from a class of 78 volunteered to participate in this study. Two 90-min lectures on human interface and computer simulation were chosen as targets for the study.

Two types of memory support activities

We prepared two types of memory-support activities. One emphasized personalized comprehension and encouraged students to relate what they learned to their personal experiences (PE). The other directly supported lecture comprehension, by providing pre-selected keywords as cues for expanding memory (KW). We assigned six participants to the PE group and the remaining seven to the KW group.

Procedure

We tested all students twice to determine how much they could recall from the lectures. The first test of recall was collected within a week after the lecture, and the second test was four weeks after the first. The recollections were in written form, with no cues and no time limit.

Immediately after the first test, we gave the students instructions "to memorize the important contents of the lecture." We encouraged members of the PE group to relate whatever they could remember about the lecture to their personal experience. We gave them concrete examples using a non-targeted lecture, and encouraged them to mimic those. We gave keywords to the members of the KW group, and encouraged them to make sentences, using and building ideas on those keywords. Both methods required the students to produce a recalled summary three times, for different specifications.

Results and discussion

We unitized the written recollections and then categorized them by content. The content categories we focused on included "factual statements," "conclusive statements (in isolation)," and "conclusive statements with supportive evidence." The coding was obvious, so we did not need to calculate inter-coder reliability.

There was no difference among groups in the amounts of recall immediately after the lecture, although the PE group recalled slightly more. At the second test, a month later, the KW group recalled more than the PE group. The total recall of the KW group increased by nearly 30%, while that of the PE group decreased by 33%. The increase of the KW group may reflect the effect of keyword training given after the first recall. The recollections did include the keywords given in the training.

When we focused on the contents, we started to see some different effects for the support activities. In Fig. 1, while the support using the keyword mainly helped students recall statements of simple conclusions, the personal relationship resulted in more statements of conclusions with evidence. Because scientific texts generally state that conclusions should be supported by evidence, we would say the students in the PE group received better support, not just for memorizing, but for comprehension.

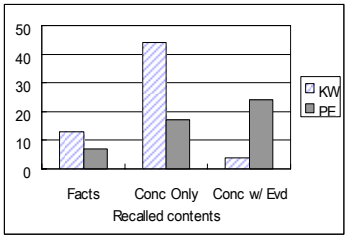

Figure 1: Number of recalls

In the post-experiment interview, some students spontaneously mentioned that at the second test, they tried to "causally relate" what they recalled about the lecture, "because that's what we did in the training." This indicates that the generation of personal connections may enhance the creation of explicit meanings, which somehow transferred to the second test. We also identified different types of personal experiences, some of which elicited more explicit statements with evidence, but we do not yet understand how this occurred. We plan further experiments to study these new questions.

Acknowledgments

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References

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