Remembering Lectures by Connecting to Personal Experiences

Comprehension and memory of lectures

Students who relate what they learn in classes to their personal experiences tend to remember the contents well. To understand how the connection helps learning, two types of training activities to support memory are compared.

Previous research: Comparing lectures with jigsaw

Conducted retrospective interviews four to six months after the completion of the two-year course. Compared what students could remember from regular lectures and from dynamic jigsaw classes.

<table>
<thead>
<tr>
<th>Class type</th>
<th># of targets</th>
<th>% recall facts + implication</th>
<th>% recall keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>11</td>
<td>2.2%</td>
<td>56.1%</td>
</tr>
<tr>
<td>Jigsaw</td>
<td>22</td>
<td>15.8%</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

Students were able to describe integrated facts with implication using their own words.

Research Context

College sophomores were offered an extra-curricular session, to enhance their memory about lectures. Out of the class of 76, thirteen volunteered and served as participants to this study. Two 90 min lectures, on human interface and computer simulation of expertise, were chosen to be the target.

Experiments

Two types of memory support activities

**“Personal Experience” (PE) Condition**
- Encouraged to relate whatever they could remember about the lecture to their personal experiences
- Given concrete examples using a non-target lecture, which they were encouraged to mimic
- Number of participants: n=6

**“Keyword” (KW) Condition**
- Given keywords, and encouraged to make sentences by using them and/or by building ideas on them
- Number of participants: n=7

Procedure

1st recall
- Collected within a week after the lecture
- With the most general prompts.

Training
- Immediately after the first recall, the students were trained “to memorize the important contents of the lecture”, by using key words (The IC condition) or by being prompted more specifically to relate to personal experiences (The PE condition).

2nd recall
- Conducted four weeks after the first recall. Free recall without cues.

Results and discussion

The written recalls were unitized, and then categorized by their contents. The content categories focused for this report include:

**Factual statements**
- e.g. “Chess experts remembered many pieces.”

**Conclusions (in isolation)**
- e.g. “Chess experts could remember more pieces than novices, implying that their knowledge structure on chess was more complex.”

**Conclusions with supportive evidence**
- e.g. “Experts’ knowledge structure on chess is more complex than that of the novices, but this is domain specific, because with numbers, they remembered just as many as the novices.”

![Graph showing recall comparison](image)

1st recall
- 1 week later
- Immediate after the 1st recall

2nd recall
- 1 month later
- Immediate after the 2nd recall

Factual & Conclusive statements vs. Conclusions w/Evidence

- PE
- KW

<table>
<thead>
<tr>
<th># of cases</th>
<th>Facts Only</th>
<th>Conclusions Only</th>
<th>Conclusions w/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st recall</td>
<td>PE</td>
<td>KW</td>
<td></td>
</tr>
<tr>
<td>2nd recall</td>
<td>PE</td>
<td>KW</td>
<td></td>
</tr>
</tbody>
</table>

The students in the PE condition appear to have received better support, not just for memorization but for comprehension. The post-experiment interview indicates that the generation of personal connections may have enhanced the explicit meaning making, which somehow transferred to the second recall.

Future Work

How generalizable is this?
We need to study how the PE based memory supports scientific understanding.
For instance, we also identified different types of personal experiences worked differently: some of them solicited more explicit statements with evidence, but we do not know yet how this worked.