Helping students to become better learners

Marcus Lithander
My first meta-memory
What I learned about learning

• Made me reflect on learning.

• How do I learn in the best way?

• Master Thesis on Learning and Metacognition
Why we learn?

Yes. The subject.

Also.

Learn how to learn!
A smart strategy.
What are the best way to study?

<table>
<thead>
<tr>
<th>Technique</th>
<th>Utility</th>
<th>Learners</th>
<th>Materials</th>
<th>Criterion tasks</th>
<th>Issues for implementation</th>
<th>Educational contexts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborative interrogation</td>
<td>Moderate</td>
<td>P-I</td>
<td>P</td>
<td>I</td>
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<tr>
<td>Self-explanation</td>
<td>Moderate</td>
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<td>P-I</td>
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<td>Summarization</td>
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<td>Highlighting</td>
<td>Low</td>
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<tr>
<td>The keyword mnemonic</td>
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<td>Q</td>
<td>P-I</td>
<td>P</td>
<td>P-I</td>
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</tbody>
</table>

Improving students learning with effective learning techniques: Promising directions from cognitive and educational psychology. Dunlosky et al. 2013
Students study in the wrong way!

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Percent who list strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rereading notes or textbook</td>
<td>83.6 (148)</td>
</tr>
<tr>
<td>2. Do practice problems</td>
<td>42.9 (76)</td>
</tr>
<tr>
<td>3. Flashcards</td>
<td>40.1 (71)</td>
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<tr>
<td>4. Rewrite notes</td>
<td>29.9 (53)</td>
</tr>
<tr>
<td>5. Study with a group of students</td>
<td>26.5 (47)</td>
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<tr>
<td>6. “Memorise”</td>
<td>18.6 (33)</td>
</tr>
<tr>
<td>7. Mnemonics (acronyms, rhymes, etc)</td>
<td>13.5 (24)</td>
</tr>
<tr>
<td>8. Make outlines or review sheets</td>
<td>12.9 (23)</td>
</tr>
<tr>
<td>9. Practise recall (self-testing)</td>
<td>10.7 (19)</td>
</tr>
<tr>
<td>10. Highlight (in notes or book)</td>
<td>6.2 (11)</td>
</tr>
<tr>
<td>11. Think of real life examples</td>
<td>4.5 (8)</td>
</tr>
</tbody>
</table>

Students beliefs about study choice should not be trusted!

We are bad!

1. Assessing our own knowledge

2. Assessing the how to study in a optimal way
Retrieval Practice
Retrieval Practice


Students prefers suboptimal strategies

Learning – Apprentissage Vs. Learning - __________

Dual effect!

Learn more.

And.

Undersand what needs to be studied further.
Wait.
This only for memorization of simple facts!

“...for kids to be able to evaluate, synthesize, and apply a concept in different setting, they’re going to be much more efficient at getting there when they have the base of knowledge and the retention...”

Improving students awareness of learning strategies

How?

• Create own quizzes while studying

• Using videoquiz

• Introduction course for students.
"Applying research on cognition to education requires focusing on the system level — on the relationship between courses, on instructional activities and requirements, and so forth—as well as on what students can and should do on their own to enhance learning."

How?

• Use low-stake testing as often as possible

• Split up the exams – Allowing students to practice retrieval

• Learn students how to study effectively in the start of their education

• High school pedagogical courses should also focus on learning strategies for students.
New study on improving student learning

• Learning to learn before courses

• Both online and classroom based

• Join us!

• Mlit@kth.se
It’s quiz time!
kahoot.it
Questions

Is this effect from feedback?

Does this work in different context?

Doesn't this strategy only support ”memorization-learning”
Join new study

Mail mlit@kth.se

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