Learn More in Less Time: Applying Memory Theories to Personalize Fact Learning

Florian Sense & Hedderik van Rijn
f.sense@rug.nl  d.h.van.rijn@rug.nl

Personalized Fact Learning

Fact learning is crucial in any education. Students use flashcards for fact learning.

We can use our understanding of human memory to build personalized learning systems that adapt to the learner:

Adaptive method results in higher scores on a test three days later:

Adaptation is based on estimating the rate of forgetting based on response times.

Thus, less words are forgotten over time:

Predicting Test Performance

Estimated parameters predict test performance three days later:

Conclusions

By adapting to individual characteristics of learners,
✓ learning produces better results;
✓ learning becomes more time-effective;
✓ learning is more pleasant;
✓ more stable representations are formed;
✓ we can accurately predict future test performance.

References