



## *From Neuroscience to the Classroom*

Symposium at the Swedish Collegium for Advanced Study (SCAS), Uppsala  
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*Encoding-retrieval Interactions in Long-term Memory: Importance for Durable Learning*

### Abstract:

A classic observation is that repeated learning/encoding serves to strengthen memory representations. Accumulating evidence also point to a critical role for repeated testing in strengthening memory representations, and in particular to support retention over longer intervals. In this presentation I will focus on this so-called "testing-effect". Findings from experimental and more applied settings will be reviewed, including discussion of the role of feedback/reward for the effect. Data from brain-imaging studies will also be discussed. Such data contribute to our understanding of the neurobiological basis of the testing effect. It will be concluded that testing has a vital role in educational settings to foster durable learning.

### About:

Lars Nyberg serves as Professor of Psychology and Neurosciences at Umeå University, Sweden. He has been active in the field of functional neuroimaging of memory for more than two decades. He is the director of Umeå Center for Functional Brain Imaging (UFBI), and a principal investigator of the Betula longitudinal project on aging, memory and dementia. Since 2008 he is a member of the Royal Swedish Academy of Sciences. Nyberg's research is currently focused on the identification of genetic, brain, and life-style predictors of heterogeneity in cognitive-aging profiles.