

## Understanding and Improving Memory: From Theory to Practice

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Unfortunately, we're often poor at formal learning because we ...

- Think that "reading" is same as "studying"
- Reward wrong type of study behaviour
- Spend more time trying to *memorise* than trying to *understand*
- Allow our moods to determine when we study
- Don't know how to concentrate - not taught in school



## Memory

A mental system which stores our knowledge, skills and experience over time so they are available to us later when required

Vital to our lives - without it, we would not

- know **who** or **where** we were ...
- be **capable of learning** anything



Is memory a box, DVD recorder or computer?

Memory *not* like a container as it **never fills up** - in fact, it actually **expands** to accommodate new info.

- **The more you know about a topic, the more you can remember**

Your knowledge (esp about things you like - e.g., music, films, sport) provides mental 'scaffolding' on which to 'hang' new info



Memory *not* like a DVD recorder as mind does *not* record what actually happened - but what we **THINK** happened

- However, in recent US survey, 63% of over 1,800 people said they believed strongly that memory works like a video camera (Jarrett, 2012)
- But memory is a creative, highly fallible process that is easily distorted ...



Some similarities between our memory and that of computer - but lots of differences (e.g. **we search our memories differently**)

- What is Shakespeare's phone no?
- We don't look up all our knowledge of "phone nos" & "Shakespeare" to answer this question. Instead, we import **relevant general knowledge** to decide that question is silly
- Research shows that our brains *speed up* with more knowledge but computer *slows down* with more info



Memory not a single system...

- **Sensory memory** (brief, unconscious but vital for seeing movement; see "rubbery pencil" effect)
- **Working memory** (brief, fragile and conscious workbench of the mind - used for memorising sentences and for giving and receiving directions)
- **Long-term memory** (a mental system for storing vast amounts of info indefinitely - no known capacity limits)



Three useful memory strategies

- **Look** - pay more attention to the material in first place
- **Organise** - try to find or impose a pattern in the info you wish to learn
- **Connect** - make an effort to link new material with something you already know



### What is “studying”?

A form of active learning in which we try to obtain specific answers to specific questions

- Studying is not just reading - it’s reading with a purpose: To obtain specific answers to specific questions



### (i) Develop a learning habit

Condition yourself to learn by studying at the same time in the same place every day

- Study routines work by reducing distractions and “displacement activity” (e.g. tackling another job, making phone call)



### (ii) Study regularly and briefly

It’s better to study regularly and briefly than to “cram” at last minute

- Study in blocks of about 3 periods of 45 minutes, followed by a 5 minute review of what you have learned
- Check that you can remember 2-3 key ideas



### (iii) Write down your study questions

Before you open your textbook or notes, write down 2-3 specific study questions ...

- What is inflation and how can it be measured?
- What is photosynthesis?
- Why do students look left/right in exams?



### Benefits of questioning

- Focuses your concentration
- Makes you think about what you are reading: is the info relevant to my question or not?
- Activates any prior knowledge on topic: “How does new info relate to what I already know?”



### Where do study questions come from?

- Your own interests
- Comments from teachers
- Previous years' exam papers
- Chapter titles turned into questions



### (iv) Make summary sheets

Learning is best when you summarise info that is relevant to your questions on “summary sheets”

- Making summaries forces you to THINK - because you have to distinguish between relevant and irrelevant info.



### (v) Reward yourself

If you find it difficult to motivate yourself, use rewards (e.g. coffee, TV, visit friend) for successful completion of study tasks/questions

- Activities that are followed by rewarding consequences tend to become rewarding in themselves



### (vi) Check your progress

How can you check your progress?

- Seek feedback from tutors/staff during their office hours
- Test yourself to see what you can recall of your summary sheets under exam-like conditions



### (vii) Best to study in silence

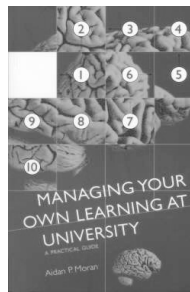
Studying with music in the background does not affect what goes into your mind - but it does affect the conditions under which this info comes OUT of your mind!

- Best to study in silence because you will be examined under silent conditions
- But what about your concentration skills?



### Further information: Book

Moran, A. (2000). *Managing Your Own Learning at University: A Practical Guide*. Dublin: UCD Press.



### Further information: CDs

Moran, A. (2010). *Learn To Study for Success at College and University*.

Moran, A. (2010). *Learn to concentrate*. <http://www.mindcoolproductions.com/products/study/>

