

Remembering

From the Skills Team, University of Hull

This booklet contains information and activities that will help you to:

- Consider what remembering involves
- Analyse your current difficulties
- Consider your current memorising strategies
- Think about new strategies for remembering

What does "remembering" really mean?

Write down your own definition of "remembering".

The Collins Concise Dictionary gives several definitions, the most relevant being:

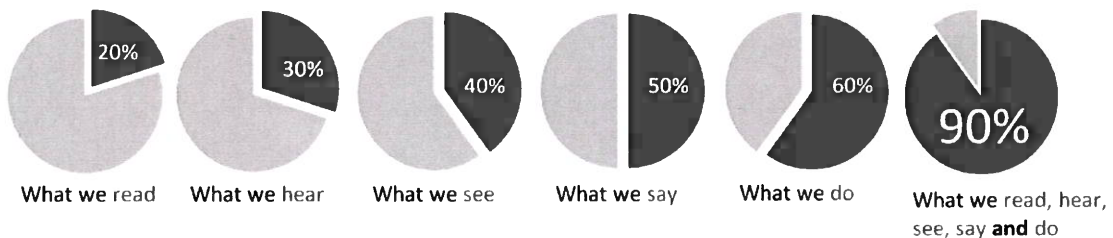
1. To become aware of (something forgotten) again
2. To keep (an idea, intention) in one's mind

The first of these sounds a bit negative - something *forgotten* - but the second has a more positive ring, which is encouraging. Was your definition *negative*?

We all tend to focus on what we forget and actually underestimate the power of our memory. Knowing more about how the memory works will help you to make better use of it. You can work on techniques to remember *what* you need to remember *when* you need to remember it.

What do we remember?

Flanagan, (1997) claims we remember the following percentages of information:



While this may be hard to prove, the fact remains, that the more **active** we are in our memorising the more likely we are to remember successfully.

What are the stages involved in memorisation?

There are 4 main stages in the process of memorisation



1. Taking in information

Our existing knowledge clearly has a bearing on what we notice as we listen or read and this in turn affects what we remember. To take in information effectively you need to:

- Focus, but not in a tense fashion
- Be attentive and purposeful
- Take regular breaks or change activity to maintain "relaxed attention"
- Link information to existing knowledge
- Label and categorise information
- Arrange and adapt information so it stands out for you

2. Retaining information

You need to hold on to information long enough to make sense of it so it can then be encoded for longer term retention.

3. Encoding information

Encoding allows the brain to represent new information in the memory. Various codes can be used:

- auditory, oral, visual, kinaesthetic (associated with touch)
- verbal, semantic (associated with meaning)
- emotional
- motor (associated with muscle movement)

Consciously opting for a multiple encoding, or a **multi-sensory** approach, means you can increase your chances of remembering.

4. Recalling Information

This is obviously closely linked to how you encoded it in the first place. For exams, you may need to "overlearn", that is learn **actively**, use techniques discussed in this guide and check back repeatedly on what you've learnt.

How can your brain help?

Have you ever thought about how your brain could help with remembering? As you are probably aware, the brain is divided into 2 hemispheres:

Left Hemisphere

Associated with logical, analytic thinking – sequencing, language, naming, reasoning, sense of time.



Right Hemisphere

Specialised in creativity – seeing the whole (Gestalt thinking), imagination, emotion, pattern recognition, tune and rhythm.

The two sides are linked, working in conjunction with one another and it is claimed that a **whole-brained** approach to learning can facilitate recall.

Would you consider yourself to be **left-brained** or **right-brained**? Which side dominates generally? Take a while to think about this and the consequences it might have.

If you are left-brained, you will naturally tend to do the following:	If you are right-brained, you will tend to:
Write lists	Personalise information
Write out information by hand	Make use of colour-coding
Sequence information, using numbers or letters	Highlight and organise information visually
Use headings and sub-headings	Draw diagrams to show the links between information
Create flow diagrams	Move about as you learn - recalling information on your way to the campus or when preparing a meal etc.
Start with details and work up to the whole picture	Chant or sing the information you need to learn

To optimise your remembering, the **whole-brained approach** will mean consciously trying to use strategies from *both* sides of the brain so that they complement one another, doing the opposite of what comes naturally. For example a left-brained thinker could produce a flow diagram and add colour to it to highlight patterns and the overall picture or a right-brained thinker could add a numbering system to show priority in patterned notes.

What are your current memorising strategies? How do you remember?

Try to recall the items below? Note down *how* you remembered (from Cottrell, 1999)

Question	Answer	How did you remember?
1. What is your best friend's phone number?		
2. What was your first day at secondary school like?		
3. How do you use a hole-punch?		
4. Where are your "best" clothes now?		
5. What did you eat for lunch yesterday?		
6. How do you get to the nearest bank?		




You'll probably find you used different strategies according to what you were remembering. You may have used some of the following but if not, try them out:

1. Quickly writing down the number
2. Using your fingers to show the movements needed to dial a number or use a stapler
3. Drawing the digits with your finger or sketching a map
4. Visualising the number, your wardrobe, plate etc.
5. Imagining yourself doing something
6. Hearing your voice or someone else's voice saying the number
7. Feeling the emotion linked to a situation
8. Chanting the rhythm of a number or date
9. Repeating instructions to reach a certain place
10. Smelling and tasting the food
11. Noting any pattern in the number such as repetition (8686), a sequence (3579) or reversible number (5115)
12. Noting smaller numbers with special significance contained in the number, such as a friend's house number.
13. A combination of strategies

The strategy you naturally choose will probably reflect your preferred learning style so an active learner will gravitate towards the first three strategies above when it comes to remembering facts while learner who prefers visual stimuli will favour the fourth and fifth.

You may well be thinking that it's all very well having to remember "easy" items like those above but the same underlying principles can be applied to whatever remembering we have to do. To think more about *how* you remember, try the following activity.

Below, you will find 40 words. Colour or highlight 10 of them. Look at the page for 2 minutes, turn it over and then write down as many words as you can remember.

apple	computer	chair 	forget
saucer	abstract	BLUE	insert
maybe	Fred	electrician	jog
write	Italy	squidgy	MARK
square	student	box 	dog
whisper	folder	holder	desk
arrow →	bottle	this	tree
is	the	middle	concrete
transparent	violent	RAIN	holiday
sun	clarity	essay	books 

As you check them, read the section on the next page and tick the strategies which you used - possibly subconsciously.

Primacy effect	Remembering best the words you learnt first.
Recency effect	Remembering best the words you learnt last.
Place (locus)	You may have made an association between a word and a place you know.
Real names	You may be particularly good at remembering names, possibly associating them with someone you know who has the same name.
Sound	You may have remembered rhyming words, words starting with the same sound, strange-sounding words.
Musical association	You may have tried singing or chanting the words.
Visual association	You may have remembered words by linking them with actual or mental images.
Visual features	You may have paid particular attention to words in CAPITALS or those which have illustrations.
Visual arrangement	You may have remembered where on the page particular words occurred. (This may mean you are good at recalling flow-charts or mind-maps.)
Stories	You may well have remembered words that made sense to you in some way, possibly linking them into a "story" e.g. The <i>apple computer</i> was next to a <i>chair</i> with an <i>abstract design blue cover</i> on it. <i>Maybe</i> it belonged to <i>Fred the electrician</i> and he was going to <i>write</i> to his friend in <i>Italy</i> . (This strategy can be useful for remembering difficult spellings e.g. A <i>para</i> should never be separated from his <i>chute</i> .)
Bizarre or humorous	You may have remembered "squidgy" for this reason. (If you did, it may help you to link ordinary facts with bizarre or comical images.)
Semantic associations	You may remember words that you can group by meaning, such as chair, desk, computer, books.
Colour and activity	You may have remembered most of the words <i>you</i> coloured in, either because you are sensitive to colour or because you benefit from actually doing something with information.

You should now have a few ideas about your memory style. These will probably reflect your general learning style.

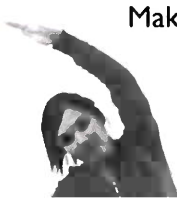
Thinking about (new) strategies for remembering

Being aware of how you *already* remember can help you to be more effective in memorisation. The strategies below may well be of some use now.

Repetition	Association	Active listening	Writing things down	Having fun	Personalising what you are learning
... is something you probably already do and it's essential. It's suggested that you'll need at least 3 repetitions and little and often seems to be the most effective method	... that is making links between what you already know and what you want to remember will help with understanding and later recall	... particularly if you are an auditory learner, will be beneficial. Try discussing with friends, recording your voice (naturally or with exaggeration or an accent)	Doing this repeatedly, in your own words will assist, especially for active learners	Relaxing and playing about with information will make it more memorable - either on your own or with a "study-buddy"	Making it relate to you personally in some way - does it remind you of someone you know, some event you've experienced etc.?

Some practical examples of memorising strategies

Try creating **associations with your surroundings**. You could associate particular items of furniture with particular topics and stick post-it notes to them. You could also think about how you feel about those items e.g. hideous or warm and comfortable. Similarly you could associate items of clothing with topics you are studying – different coloured stripes on a shirt could represent different stages in a process or buttons could be associated with particular quotations. Your own body can even be used. Associating the left hand with negative features of a topic and each finger with a specific disadvantage and the right hand for positive features and advantages could help you with writing an essay in an exam!



Make use of your **motor memory** by associating each movement in an exercise sequence with a particular item you want to remember. To recall the items, run through the exercises in your mind. Activities like writing, drawing and speaking also use the motor memory so you can capitalise on these.

Taping, chanting, and singing (using the **auditory memory**) have already been mentioned and to this can be added reading aloud and talking about a topic with a friend or even to the cat/dog/houseplant.

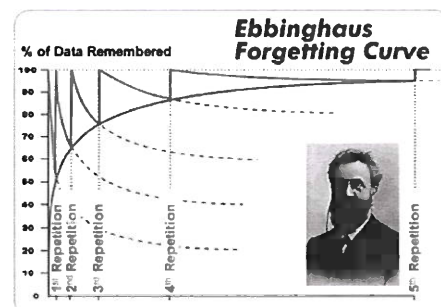


You can bring your **visual memory** into play by colour-coding notes; making notes visually attractive – possibly mind-mapping; imagining your material is a film or story which can be viewed in the mind's eye (this could be especially helpful for facts which have to be in a sequence); labelling a picture with salient points or using scale to distinguish potentially confusing information.

Verbal memory is encouraged by using your own key words and organising information. (See below). **Semantic memory** is brought in when you think about the implications of what you are studying – what could this information mean beyond the very obvious. Changing the words you have used to express your ideas differently is another instance as is looking for similarities between subject areas.

Reviewing notes (reading, thinking, writing or talking about them) on a regular basis at the end of the day, allowing about 10 mins. for each hour of new material, will help you to retain information. Research has shown (the Curve of Forgetting, Ebbinghaus, 1885) that unless you review or recall what you've learnt on a given day, within 24 hours, you'll forget 50-80% of it!

Reviewing or recalling at the end of a week, allowing 5 mins. per hour and at the end of a month, allowing 2-4 mins., also aids recall. It's much easier to keep information fresh in your mind than have to relearn it later.



Organisation and association

Organisation and association are words that keep cropping up when talking about memory. To demonstrate the power of these, try the activity on the next page (adapted from Cottrell, 1999)

Read the following list of words for 15 seconds only and then cover it. Count to 50 so you can't rehearse it and then write down the words you remember. Note your score.

List 1

orange	finger	door	bear
dog	roof	cow	pear
leg	grape	arm	window
stair	face	horse	banana

Now do the same for the second list, including the underlined words

List 2

<u>Body</u>	<u>Fruit</u>	<u>Animal</u>	<u>House</u>
finger	orange	bear	door
leg	pear	cow	roof
arm	grape	dog	window
face	banana	horse	stair

The chances are you performed much better with the second list. This will be for several reasons:

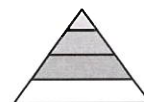
- many of the items in list 2 were **familiar** from list 1
- the act of **grouping** helps recall
- group **headings** aid recall
- seeing there were only 4 categories of information gives the task **manageable boundaries** and makes it less daunting

Again these are techniques that can be applied to the academic context. As we've already seen, familiarity, through repetition, aids recall and **organising or grouping** material makes it more memorable.

Ways of organising/associating information

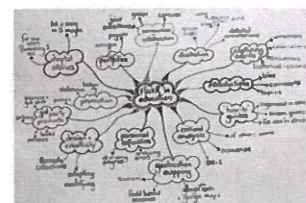
Hierarchy

Organising information in a hierarchy can increase clarity and therefore make recall easier. A pyramid structure may help.



Patterned notes/mindmaps

These can aid recall, especially as they involve whole brain thinking and can be visually memorable.



Chunking

Another technique is the “**chunking**” of information.

It's been shown that the short-term memory can generally cope with five items or chunks of information at a time and the size of that chunk is not significant.

Read the list of small chunks, cover it and see how many chunks you remember. Then do the same for the longer chunks. The number of chunks will probably be about the same (adapted from Stella Cottrell's “The Study Skills Handbook”).

Small chunks (2 words)

Good luck
Water bottle
Tower Bridge
Note taking
Chocolate biscuit
Personal computer

Longer chunks (7-10 word sentences)

Do not lean out of the window.
Many hands make light work.
I hope you'll soon be feeling better.
To be or not to be, that is the question.
The rain in Spain falls mainly on the plain.
Please replace all books after use.

You can use the “chunking” principle to help with long-term memory for exams. If, for example, you have a topic with a certain number of references to remember, you can “chunk” them into one “story” (see earlier).

References

Cottrell, S. (1999) *The Study Skills Handbook*, London: Macmillan Press Ltd.

Ebbinghaus, H. (1885) *Memory: A Contribution to Experimental Psychology*, Classics in the History of Psychology [online] Available at <http://psychclassics.yorku.ca/Ebbinghaus/index.htm> (Accessed 22nd October 2012)

Flanagan, K. (1997) *Maximum Points, Minimum Panic: the essential guide to surviving exams*, 2nd ed., Dublin: Marino

Mindmap image from flickr.com by Robynejay

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All web addresses in this leaflet were correct at the time of publication.

The information in this leaflet can be made available in an alternative format on request. Email skills@hull.ac.uk