

Effective study strategies



Making the most of your revision time

What doesn't work?

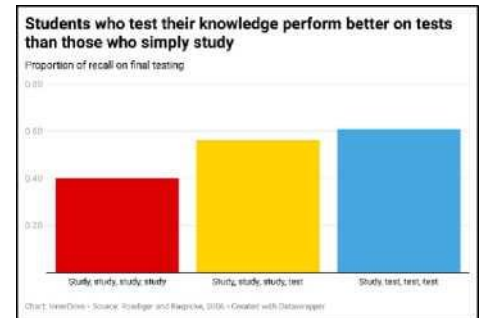


Re-reading notes and highlighting key points

According to research, 84% of students admit to using this technique to revise, and 55% claim it is their favourite technique. But is it really effective? Reading a whole chapter of a textbook, or reading through 3 previous essays, is quite a lot of work, so surely it's beneficial? But how much do you actually remember the next day, next week, next month?

What does the research say?

A study in 2006 (*Roediger and Karpicke*) compared the learning of three groups who used a combination of re-reading and retrieval practice to prepare for a test. When asked, those who just relied on re-reading *believed* it was an effective strategy for learning and felt really confident about the final test. The results said the opposite, though - those who used retrieval practice did at least 30% better in the final test.



Another study in 2016 (*Smith et al*) took similar groups and subjected half of them to stressful environments before testing how much they could remember. Students who had just re-read their notes performed 32% worse in stressful situations, whereas students who had used retrieval practice were not negatively affected by increased stress. This is clearly beneficial in exam situations.

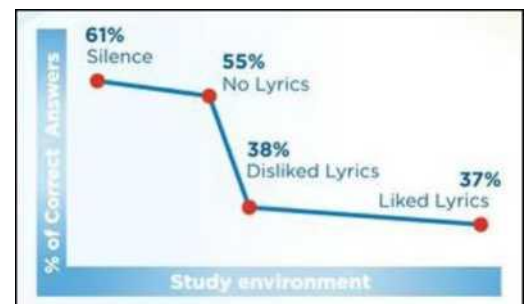


Listening to music when revising

Music can be beneficial for certain tasks - it can improve our mood, boost our motivation and increase creativity. But is it helpful when revising? According to research, 47% of students believe music helps them concentrate and 29% claim it keeps them calm.

What does the research say?

A 2014 study (*Perham and Currie*) compared four study groups: one group working in silence; another revising to songs they liked; a third group revising to songs they didn't like; the final group listening to music without lyrics. Those revising in silence performed significantly better than those listening to songs with lyrics, and it made no difference if they liked the songs!



Despite what many students think, listening to your favourite songs is not the best way to revise; music takes up processing space in the brain, leaving less space to process revision materials.

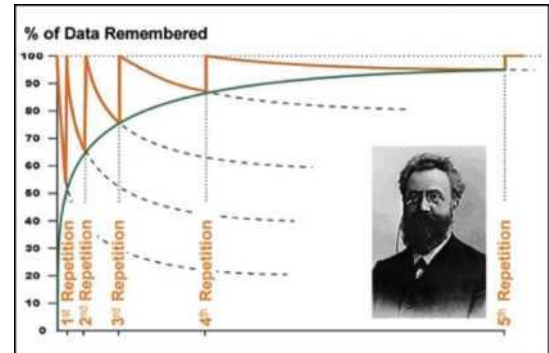
What does work?

Retrieval practice

Retrieval is trying to remember information you have previously learned, so you can access it easily at a later date. When we are asked a question, our brain makes connections to other things we know. By repeating the question regularly, those connections are strengthened, and eventually the information transfers to our long term memory.

What does the research say?

This is one of the most extensively researched areas of learning - dating back to Ebbinghaus in 1885. If we only learn something once, we are more than likely to forget it; we need to force ourselves to remember and re-learn the information if we want to cement it in our long term memory. Look back at the study on the previous page - those students who self-tested 3 times before the exam were far more successful than those who just re-read the text.

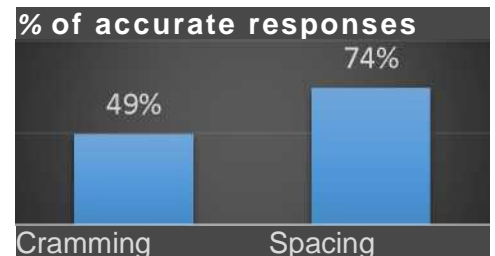


How can you make it even more effective?



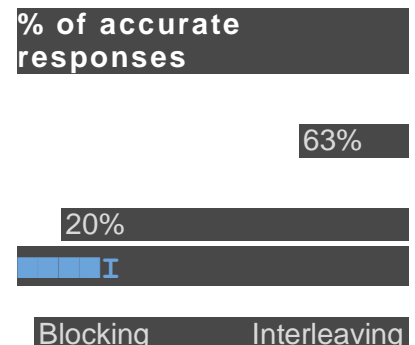
Spacing

Cutting up your revision into smaller chunks and spacing them out over a period of time is much more beneficial than cramming an entire subject in a day. An hour of Physics each day for 5 days is much more effective than 5 hours in one day.



Interleaving

To improve your results further, also consider interleaving. This is where you mix up the subjects and topics you revise: 30 minutes of Shakespeare, 30 minutes of algebra, 30 minutes of Poetry, 30 minutes of Ratio - rather than an hour of English and an hour of Maths.



A 2007 study (*Rohrer and Taylor*) found that students who spaced out their revision over a week, compared to one sitting, achieved a much higher average mark in their final exams. In a second study, students were given a mock test after blocking or interleaving and another test a week later. Even though blocking was effective in the mock test the next day, the students who used interleaving did considerably better a week later in the final exam.

Need some examples of effective retrieval strategies?

Read on...

Retrieval strategies



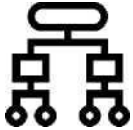
Brain dump

Choose a topic and write down as much as you can remember, without referring to your notes. Check your notes and see what you missed then try to fill the gaps without the notes. Check your notes a third time and add the missing information.



Flash cards

Write flashcards for each topic, in all subjects, then mix them up for the most effective revision. Check out the Leitner System for effective spacing and interleaving. Keep your flashcards simple - one question, one answer per card.



Map it out

Take an essay question or writing question and map out your answer, without writing a full response. Look at the mark scheme and decide if your plan meets the criteria. Do this for a number of questions, then choose one and write the full response.



Past papers

Ask your teacher for practice questions or exam papers. Complete them without notes in exam conditions, then check your answers and identify the gaps in your knowledge, so you can target your revision.



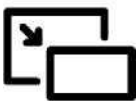
Quizzes

Write a set of questions and answers and ask someone else to test you. It's important to either write or say your answers aloud. Reading through quizzes in your head can give you a false sense of security.



Practise introductions

For essay subjects, take a past exam question and practise writing effective introductions and conclusions. Look back at your notes and remind yourself of the important things to remember. Practise for different topics, texts and papers.



Thinking hard: reduce

Read a section of your notes then put them aside and reduce what you read to 3 bullet points, each one no more than 10 words. Look back at the notes and decide if you missed anything important. Hide the notes and write a fourth bullet point.

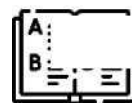
Thinking hard: transform

Read a paragraph from your notes or a text book and transform it into a diagram, chart or sketch - no words allowed. Look at a diagram in Science, for example, and transform it into a paragraph of explanation.



Thinking hard: connect

For each subject, consider the exam papers and group together questions that require the same technique to answer. Write down the requirements of each type. Find a previous example you've completed and identify where you've met the criteria.



Key vocabulary

For a particular topic, make a list of key vocabulary, then do the following: define each word; use each term in a sentence; create a question where the key word is the answer; identify other words which connect to each of the words in your list.

Simple study plan

5

Step Study Plan

It's never too late to plan your revision¹



1. Make a list

√= What do you need to know⁷ Break it down into topics and units. When you can retrieve it without effort, cross it off the list. It might help with motivation and organisation to have a 'to do' and 'have done' list.



2. Timetable a spaced schedule

Look back at the notes about spacing and interleaving. Study each topic little and often and mix up subjects and topics so you are revising a mixture each day. Be sure to leave yourself enough time to cover everything.



3. Use effective study strategies

Keep re-reading and highlighting to a minimum. Highlight what you need to learn - but that won't make you learn it. Test yourself, using retrieval strategies. Think twice before loading up your favourite playlist!



4. Identify the gaps in your knowledge

Having used the retrieval strategies, where are the gaps? What are you confident with? What do you need to go back to? What do you need to study more? Be honest with yourself - don't just focus on what you *do* know.

5. Close the gaps

Repeat the third and fourth steps of the plan until you are confident with everything. Some parts will be difficult, but don't give up. The harder you have to think, the more likely you are to remember in the end. 'Memory is the residue of thought.' (*Dan Willingham*)



What else helps?



Get some sleep

How many hours of sleep do you get each night? On average, teenagers claim to get 6-7 hours a night, when they should really be aiming for 9-10 hours. If you are only getting 6-7, you are depriving yourself of over 1000 hours of sleep each year. You must be exhausted!

What does the research say?

Put very simply, we experience two types of sleep: deep sleep, which helps our body to recover; and REM, which helps restore our mind. Without enough REM sleep, you are much more prone to anxiety, stress, lack of concentration, mood swings and poor decision making.

A 2009 study (*van der Helm and Walker*) found a 40% reduction in memory when sleep deprived. Not only that, but you are more likely to forget positive memories when tired, just recalling and retaining negative memories. Excessive sleep loss therefore impacts on our mental health and stress levels.



Limit your screen time

Mobile phones can be great tools for learning but are they having a negative impact on your learning? Catching up with friends, social media, movies and box sets is great - but when is the best time to do these things?

What does the research say?

A 2014 study (*Thornton et al*) found that just **having a mobile phone nearby can lead to a 20% reduction in attention, concentration and performance.**

Another study in 2013 (*Wood et al*) found that the glare from phones and iPads tricks our brain into thinking it is daytime, therefore stopping melatonin (the sleep hormone) being triggered. Two hours on your phone or iPad at night results in 20% less melatonin being released. At the very least, dim your screen prior to bedtime - or better still, don't use it at all.



Look after yourself

Being kind to yourself each day can have a big impact on your performance during revision and exams. Take a break and get some exercise. Aim to start the day with cereal or toast - but be sure to treat yourself later on in the day. Find time to do the things you love. Reward yourself for your hard work.

What does the research say?

A range of studies in 2016 (*Miller and Krizen*) found that students who took a 12 minute walk reported a 20% increase in happiness, attentiveness and confidence, compared to those who spent that time sitting down. Even taking a 5 minute walk resulted in similar benefits. Break up your study sessions with a quick stroll and see for yourself.

