Keeping Learned Knowledge Alive

Let’s take a look at a common student scenario:

You attend school and you are exposed to new materials.

You then spend significant amounts of time completing homework, which reinforces and extends on what you have learned at school.

You then spend significant amounts of time studying for your school based assessments. Some of you do well, others do not, but one thing that most of you have in common is that once a topic has been completed, you may push those materials to the side, only revisiting these in the weeks leading up to the examinations.

You then pick up previously learned materials, only to find that you have forgotten most of what you had previously learned! So you go through the learning process once again! Does this sound familiar?

Although some of the previously learned materials come back quite quickly (memory trace), you will spend up to 85% of the time initially invested in learning new materials to re-learn this same content in the lead up to the examinations. This means that if a student invested 45 hours learning a new topic at the beginning of the year, he/she will be required to spend up to 36 hours to re-learn materials for the examinations!

Do students really have that amount of free time?

You had learned the examinable materials earlier in the year, so why are you wasting all this precious time re-learning it when the hard work was previously done?????

If simple reviews had been conducted throughout the year, there would be very little to learn before the examinations. Students could then dedicate the pre-examination period consolidating what they have learned, practising past examination questions and exposing themselves to additional resources, and performing to a much higher standard in the examinations.

In addition, these students would be suffering from significantly less stress and anxiety than their peers as the time spent reviewing materials on a regular basis would be significantly lower than re-learning materials before the exams.

In order to cut down on how much work is required in the lead up to the exams (and maximise examination scores), it is critical that students keep any recently learned materials or any new knowledge acquired ALIVE by engaging in regular reviews.

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“We don’t always get what we want, but we always get what we need”.  
Author Unknown
The Curve of Forgetting

The **Curve of Forgetting** (in black) describes how much knowledge is retained after a one-hour lecture that addressed **new materials**.

![Graph of the Curve of Forgetting](image)

We enter such a lecture knowing nothing, or 0%. At the end of the lecture, we “know” 100% of what we remembered.

In general, if we have done nothing with the information we learned (e.g. thought about what was learned, read through summary notes, worked through questions etc.), we will have lost 50%-80% of what we learned within 24 hours! By Day 30, we retain between 2%-20% of the information that was presented across the hour lecture!

A series of simple, well structured reviews can, however, keep information stored in long term memory for extended periods of time, as illustrated by the tan coloured graph in the diagram above.

- **Within 24 hours of learning – Spend 10 minutes per learning hour reviewing learned materials.**

  Re-read your notes or work through select questions or past examination papers. Alternatively, you may choose to write summary notes or summary cards.

  This will raise the knowledge retention curve back up to almost 100% and keep the information in your long-term memory for about a week.

  **Note:** Some information (particularly the harder concepts or the materials that are completely brand new) must be reviewed the next day if you need this information to remain in long term memory. Some materials (such as the easier concepts or the materials that are heavily based on information that has already been committed to long term memory) can wait as long as a month before they need to be reviewed! In general, the harder or the more different the materials are, the sooner these materials should be reviewed.

- **Review materials 1 week after learning.**

  It will only take you 5 minutes to reactivate the knowledge learned across the one hour lecture! This review will keep the information in your long-term memory for about one month.

  Read through your summaries and/or work through the questions that you found challenging or got wrong, or work through select past/potential examination questions.

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• **Review materials 1 month after learning.**

It will only take you 2-4 minutes to reactivate the knowledge learned across the one hour lecture. This review will keep the information in your long-term memory for about 6 months.

Read through your summaries and/or work through the questions that you found challenging or got wrong, or work through select past/potential examination questions.

**Important Notes:**

• There will be times, when despite the best intentions, students will struggle to adopt the suggested reviews. If you are struggling with time, simply implement a review as soon as you possibly can. You will, however, need to spend a little more time than that described to raise the knowledge curve back to almost 100%.

• The first review is the most critical (the one within 24 hours) where new and/or difficult materials are concerned. If you need to cut back on the number of reviews, the review at the 1 week mark is the least damaging review to skip.

• The more frequently you review materials, the more firmly information becomes ingrained into long-term memory, and the better your performance in tests and examinations!

• Once a topic has been learned well (e.g. for a test), keep learned knowledge alive by investing a few hours each term holiday working through exam style questions and reading through notes/summaries. This will significantly decrease workloads in the lead up to the major examinations.

Regards,
The Team at TSFX.