

Strategy	Effective?	Time-intensive?
<p>Summarizing – Identify the main point and exclude unnecessary material. Often students copy-paste the most important things from a text into a document. While this might be appealing, this is very passive and has little effect on your learning performance. Summarizing can be very effective when done actively:</p> <ul style="list-style-type: none"> Recall what you remember ('practice testing') of a chapter or tutorial meeting, then check your notes/literature and edit your summary. The Cornell method: Leave some space on the right or left side of your summary and write down your practice questions and key words for each paragraph. When finished, don't reread your summary but focus on answering the questions and explaining the key words instead. 	Yes, but only when done actively	Yes, but saves time when reviewing it at a later time
<p>Practice testing – Test yourself with questions. You can do this by:</p> <ul style="list-style-type: none"> Using flashcards (psychical or digital) Finding practice exams Making your own questions and sharing them with peers Writing all you know about a topic on a white page and checking afterwards if you missed things Drawing a picture or process of something you are learning and trying to explain on your own Combining practice testing with the summarizing strategy using the 'Cornell method' (see Summarizing). Answering sample questions after the end of reading a textbook chapter 	Yes, highly effective	Yes, but worth it
<p>Distributed practice – Have multiple shorter study sessions. For example, studying six hours spread out over two weeks instead of six hours in one day. Set aside at least 15 minutes of each study session to review your previous session. While this might feel difficult, forgetting and then retrieving information strengthens your memory and makes this strategy so effective.</p>	Yes, highly effective	No, invested time is just more spread out
<p>Elaboration – Link new information to what you already know. You can do this easily when reading by asking yourself questions such as 'Why?', 'Does this make sense?', 'Is this really true?' and 'How does this relate to what I have previously learned?'.</p>	Moderately, depends on prior knowledge	No, takes little extra time if you already have to read text
<p>Interleaved practice – Alternate similar topics in one study session. Take for example four different types of math problems. Instead of practicing one type of problem for your whole study session, you could intermix the four types. For this strategy it's important that you do take enough time to understand one topic before moving on to the next. If you are restudying material, try to do it in a different order to see the differences and similarities.</p>	Moderately, mostly when topics are similar	No, takes little extra time in your study session
<p>Visualization – Visualize what you are learning by creating an image. If your sole purpose is to remember your created image by heart, this technique is not very effective. A better way to use visualization is to structure knowledge by</p> <ul style="list-style-type: none"> Drawing a process Making a mind map or infographic on similar or contrasting ideas Creating diagrams or graphs Making a timeline Or even drawing a cartoon <p>You can combine visualization with other strategies like 'Practice testing' and/or 'Elaboration' to make the technique more effective. This is called 'dual-coding': when studying a visual, try to explain (elaborate) it in your words; when reading a text, draw a visual from memory (retrieval).</p>	Only when combined with 'Practice testing' or 'Retrieval'	Yes
<p>Highlighting – Reading a text and marking (by coloring or underlining) the things you think are important. While this technique is widely used, it does not improve the learning performance. Underlining has shown to be ineffective regardless of topic and text length. Highlighting might be useful when you first start studying a text/topic, but only if you combine it with other study strategies such as turning highlighted concepts into flashcards or self-tests.</p>	Not really	No, simple and quick
<p>Rereading – Studying a text by reading it again. This strategy is not very useful if your goal is long-term learning/understanding. It gives many students a false sense of confidence: by rereading a text many times, it will feel more familiar, like you know it well. But students are barely able to explain the text a couple days later. Rereading can become more effective for long-term learning when you combine it with 'Elaboration'.</p>	Not really	No, simple and quick