Recommendation 1: **Space learning over time**
- Long-term memory is stronger if you distribute your practice over time.
- Begin studying in advance, cramming only produces short-term memory gains.
- Gradually increase time between review sessions (see Wikipedia on the Leitner method)

Recommendation 2: **Incorporate both worked example solutions and problem-solving exercises**
- If you are having difficulty solving problems, consider studying examples.
- Examples of solved problems are good to study if you are stuck on a similar problem.
- Worked examples show the structure of the solution, how it should be done.

Recommendation 3: **Combine images with verbal descriptions**
- Create images to help understand written material, consider pictures, graphs, etc.
- Images may also be used to organize (e.g. periodic table or biological taxonomy).
- Images add to verbal learning rather than being redundant.

Recommendation 4: **Connect and integrate abstract and concrete representations of concepts**
- It is typically appropriate to begin learning by using concrete examples.
- Once concrete examples are understood, introduce abstract concepts, connecting the examples to the concept to increase understanding.
- Integrating both perspectives can maximize learning and test performance.

Recommendation 5: **Use quizzes to practice learned information**
- Quizzing yourself repeatedly (ex. 1-2 times per week) causes information to become stored in long term memory.
- Continue to quiz items until after you succeed several times with spacing in between.

Recommendation 6: **Use tests and quizzes to identify content that needs to be learned**
- Incorrectly answered questions reveal content that needs additional practice.
- Focus future practice on items that are confusing or forgotten.

Recommendation 7: **Help build explanations by asking and answering deep questions**
- Testing yourself also works with essay questions. Even if you don’t write them down, answering essay questions in your head will help you to gain deeper understanding.
- Explain things to yourself in the same way as you might explain things to another person.
- Self-explanation can be difficult, but when it succeeds it strengthens deep knowledge and when it fails it helps you to identify where you need to study and learn more.