

Use an Interleaving Strategy to Study

Your challenge when you are studying a subject that requires you to solve problems, such as a math, chemistry, criminology, or an accounting exam, is finding a strategy that will enhance your learning, retention, and retrieval of information.

In this learning aid, you will try out a technique called interleaving which, when incorporated into your study strategies, can enhance your test performance when doing problem-based exams.

When you are attending a problem-based course you will be using a textbook and you often encounter one new type of problem each week. When you study, you will find yourself working on the same type of problem until you master it, before moving on to another problem type as the semester progresses. Using only this method, you may feel that you are mastering the problems well, but later find the exam more challenging than you expected.

Why is this? On the exam there will be a mix of problems in a seemingly random order.

Effective Study for Problem Based Questions and Exams

When you apply your knowledge in practical situations (in class, homework, or tests), you will be faced with a variety of problems, presented in an order that is often different from the text. Your first challenge is to determine **what the problem type is**, before moving on to finding a solution. Studying problems only in textbook order is typically not effective to develop this skill. What works better?

Use Interleaving

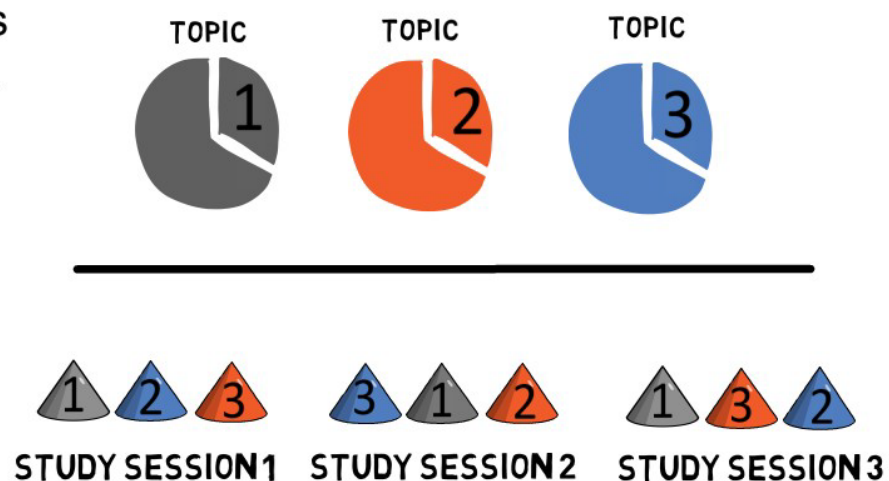
Interleaving is a study technique with two characteristics:

1. You space out your study of different problem types over time; and
2. You intentionally mix up the problem types you study in a single session.

Switch between topics during a study session. Don't study one topic for too long.



Go back over these topics in a different order to strengthen your understanding.



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Let's apply this concept to a basic example. When you learned basic arithmetic, you learned to add, subtract, multiply, and divide. You could practice these skills one by one. However, in the real world, you may need any one of these four skills at any point. You need to identify which operation is the right one to solve your problem, and then use it to solve the problem at hand.

Apply Interleaving Principles

How would this apply to your study for a test or exam? First, you will want to organize multiple, short study sessions rather than one longer session. This is called distributed practice, and it has been shown to be a more effective way to learn material in a way that will stay with you in the long term. Second, you will want to intentionally practice different problem types in the same study session. For example, if your book has practice problems, you will choose a few from each of a few different chapters or topics to practice at the same time. If you study with a study group, you may wish to create practice tests for each other that intersperse different types of questions – as you would experience on an exam.

What if it Feels Awkward?

When you first begin using interleaving, you may initially feel that your study process is harder, and that you aren't learning as quickly. Stick with the process. One key study has demonstrated that while practicing the same problems in sequence initially helps you do them faster, this practice is less effective in helping you be successful in test or exam situations.

If you persevere through the challenge of interleaving, you will be strengthening your learning in the long run, allowing you to retain the material for your exams, and preparing you to use the material throughout your future learning and career.

Incorporating interleaving into your study is a proven strategy to enhance your preparation for problem-based exams. Adding to and shifting your study in this small way can lead to significant positive change in your results.

Expanding your Practice

Interleaving means varying the order of a set of examples, whereby each item is immediately followed and preceded by an example of a different category/concept rather than appearing in blocks of the same type of item repeatedly (which is termed a 'blocked' arrangement).

Now you can also vary subjects areas. When you're studying for multiple exams or courses, work with interleaving the subjects within your study sessions. For example, you would spend some time studying history, followed by chemistry, and then English. This is effective to build your access to the information that you are learning. It can also help reduce boredom and promote active engagement with the material in positive ways.

References:

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