7-1: Why memorizing is (often) a losing strategy

In this series of video, we're going to go over pneumonic. The pneumonic you may have heard it before, their way of memorizing information with few repetitions. So if you've been using flash card or just re reading and re reading the materials, pneumonic can be a faster way of cheating them. Now I have to warn you because a lot of students like the idea of pneumonic because they are straight forward to apply and they don't require a lot of deep mental thinking. This is a trick that you can use over and over again but the disadvantage of pneumonic is they don't replicate the deep structure of ideas. So if you're understanding mathematics formula by pneumonic system them you're not going to really understand what the formula means or how it works in a detailed way. Metaphors, visualization, diagrams, these are all tempt to replicate the deep structures of ideas. And so going again with the 2nd rule of the principal of this course, never memorize what needs to be understood. I would say that 95% of the time you need to understand, don't just need to memorize. And these include situations where you do have to memorize or remember a lot of trivia. So if you have to remember a lot of details but those details are connected in some framework. They're not just arbitral, they are connected to each other and there's actually structure to how they are related to each other. You wanted to be using metaphors, diagrams, visualization from the earlier part of the course, you don't want to use pneumonic.

Where do you wanted to use pneumonic? Sometimes you wanted to use pneumonic when there is a lot of information then you have to remember but you are not going to be able to look up that information in a textbook or on formula sheet or on list of notes in the actual exam situation. So for example you're taking up biology class and you have to memorize all 20 amino acids and their properties but you're not going to be given any information, you're not going to given a table showing their chemical structures, you're not going to give a list, just even listing their names. Then this might be the situation where pneumonic system can help. Now remembering 20 pneumonic, remembering 20 amino acids using metaphor, visualization is a little bit slower than pneumonic but it's probably not worth developing the entire system for that. However if you do the same approach where you memorizing the same kind of thing but hundred and thousands of times, then metaphor, visualization, diagrams and this holistic technique are just going to be too slow. And so you are going to need to use some combination of row repetition, flash card style review in combination with the pneumonic system. Now so if you wanted to remember let's say thousand of vocabulary word from a language that you don't rarely speak and you want to remember them faster. Then this is the good example where a pneumonic system can be useful.

So while I explain this system I want you to just present, this is a caviar, don't abuse them. They are useful but in a narrow contents. So if you have any doubts of whether this information you did understand or whether this information just needs to be memorize Always lean and default words to understanding. Because even it takes slightly longer, you have much more security on your knowledge because you understood it in a deeply connected way so that when you are exposed to it on a test or problem set or in a situation different from how you studied it you will still have useful knowledge where as pneumonic system they tend to failing that regard because the knowledge was very inflexible. So keep that in mind, we're going to this tactics. They can be extremely useful in these narrow situations where they apply, when you need to remember lists, when you need to remember numbers, when you need to memorize hundreds or thousands of facts or trivia which are only very loosely associated with each other