Applying Learning Strategies

Learning to Think in a New Way by Rewiring the Brain

This course asks you to do less calculating and more thinking, reading, and writing about ideas. Many people find this way of learning statistics difficult at first, but that's normal and expected. Learning to think in a whole new way is challenging for everyone, and learning to think in a *statistical* way is exactly what this class is about.

When students find out that the goal of this class is to learn to think statistically, some worry that they will have to work harder in order to pass. And they probably *will* have to work harder, at least until they learn the right strategies for succeeding in this class. Other students have a different kind of worry. They worry that they won't *ever* be able to succeed in the class because they're "not a math person."

Fortunately, scientific research shows that the brain literally changes and adapts when we practice new ways of thinking. It shows that *everyone* can learn to think in new ways and can strengthen their brains. It also reveals some of the specific strategies that you can use in this course.

The Brain Gets Stronger

Everyone knows that when you lift weights, you get stronger. A person who cannot lift 20 pounds can become strong enough to lift 100 pounds after working out for a long time. That's because muscles become larger and stronger with exercise. When you stop exercising, your muscles shrink and you get weaker. It's just as the saying goes: "Use it or lose it!"

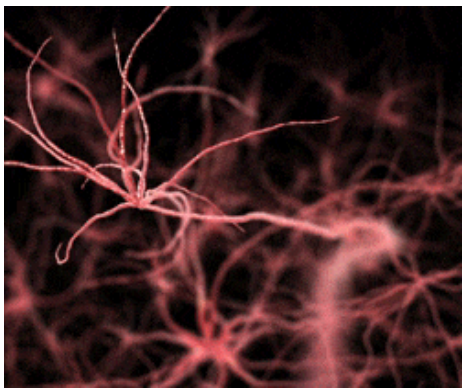
But most people don't know that when they practice and learn new things, parts of the brain change and become stronger, a lot like muscles do. This is true for babies, teenagers, and adults. **Everyone can improve their abilities significantly as long as they practice and use good strategies.**

Intelligence Is about Connections

The outside layer of the brain is made up of billions of nerve cells called neurons. These cells connect to each other in a complex network, and communication between these cells is what enables us to think and solve problems.

When you learn new things, the connections between these neurons actually multiply and get stronger. The more you challenge your mind to learn, the more your brain cells connect to each other and the stronger those connections become.

Therefore, tasks that once seemed hard or even impossible, such as doing statistics or becoming a good writer, become easier. The result is a stronger, smarter brain.



Invent Your Own Strategy (1/1 point)

You have seen how pushing your brain to make sense of what you are reading is the key to learning deeply.In the box below, try to invent your own study strategy that you can use to actively challenge your brain in this course, and give it a memorable name.

Your Answer:

FREAKING COMMIT

Thank you
Thank you for your response

Resubmit Reset

How to Succeed

So far, we have learned that

- This course is about getting the meaning of statistics, not just following steps to get an answer.
- Achieving this understanding is possible because our brains can get stronger and can change to learn new information.

So how do you do it? How do you actually grow your brain and succeed in this kind of course? We asked some former students to tell us their advice for success. They said it was most important to

- Do the Did I Get This? and Learn By Doing questions in the course.
- Ask questions.
- Study your mistakes.
- Explain the ideas to yourself in different ways until they are clear.

From a former student #1:

In my old math classes, I used to just skim a chapter, copy the equations down, and use the equations to solve the problems. It saved me time, and I could still pass. But when I tried that in this class, I started failing because they set up the problems a different way. You really have to pay attention and think about them to get them right. It was harder, but I think I ended up learning a lot more.

So you can't just read things and expect to pass. You have to do the practice problems. There are these questions in the course that say "Did I Get This?". And it was tempting to just skip them, but that's how I almost failed. Those Did I Get This? questions were like little speed bumps that slowed me down and made me understand what I was reading.

From a former student #2:

One thing that helped me get a good grade was fixing my mistakes before they count for points. It's like, everyone makes mistakes, but are you going to find them when you're reading, or are they going to bite you on the homework? I want to catch them early. The questions in the module were good to catch and fix my mistakes before they counted for points. They aren't graded, but they definitely help your grade.

From a former student #3:

This course is different than other math classes I've taken. You have to really understand the material if you want to pass. But they give you help to do that. The practice problems are definitely helpful, and also talking to the teacher is really good. The teacher's job is to help you when you're confused… so yeah, don't be afraid to ask lots of questions!

Summary

As you have read, previous students made suggestions such as the following:

- Do the practice problems.
- Look carefully at your mistakes.
- Ask lots of questions.

What do these practices have in common? They are all ways of challenging your brain to get active, think deeply, and make new connections.

You might think "that sounds like more work"... and you're right. Easy strategies like skimming the book might work in other classes. But this class is different. *You will need to learn new things to pass this class, and you should expect it to feel hard as your brain gets stronger.* The feeling of struggling is a normal part of how your brain gets stronger when it learns things.

Think about it this way: *Strategies that feel easy, such as skipping the practice problems and only reading and listening, are kind of like going to the gym and lifting balloons instead of weights.* Even if you spend a lot of time doing it, you won't get stronger. The harder strategies are like real weights. They're a lot harder to lift, and it might feel like you're struggling, but they pay off.

We'd like your help explaining what you have just learned in your own words. We will use your responses to help explain these ideas to future students in this class.

In the box below, please explain, in your own words, what you have learned about how to pass this class. You might talk about

- What we know on how the brain can get stronger and what that means for students in this class
- Your own ideas about how to actively engage with what you are learning instead of just passively reading

Advice to Another Student (1/1 point)

Don't worry about writing a perfect final draft. We just want to know how you would convey your advice to another student in your own words.

Your Answer:

Don't do the course to pass; do the course to learn and understand!

Thank you

Thank you for your response.

Resubmit Reset