Welcome to me helping you learn more and test better. The two main things we're going to push on here, one, better ways of learning. Certain approach to getting information in your head that's probably a better way than you're used to; and then how to get it from your head on to the paper, exam stress management. My experience is the big impediment to getting what students know onto an exam is stress, and so I'll address that. First a little bit about me. As it says, I'm with the department of management. I've been here for I'm sure longer than any of you have been on the planet. I've risen through the ranks and what got me started on this was many years of students coming to my office saying I'm not doing good in your class. What can I do to do better? And we started talking about things and I'd find sort of the same pattern. And I worked up a diagnostic to run through. Well, tell me how you do this, that, the other thing. And it all seemed to work. And I wanted to do that with all of my students but I couldn't do a half hour with everybody, so I wrote it up. And I'll tell you later, in fact, where you can get your own personal copy of it. And then I was asked by the student learning center [skip] to a workshop that we have here. What we're going to see is based on something I wrote that you can get more details on it if you want to look at it later.
Do you get frustrated that all of your hard work preparing for exams -- reading, studying, reviewing, etc. -- doesn't pay off? Anybody feel that way? Do you often finish exam, walk out of the classroom and then have the answers pop into your head? Oh, that's the answer to number 4! What am I doing! Do you want to learn how to be more successful in your college courses and in your career(s) after college? I hope so. Because what we're going to be talking about here is not just how to take exams and, you know, learn stuff better in the class right now. What we're going to be talking about is just how people learn. And learning is going to be important for the rest of your life out of here. In fact, it's going to be more critical. You know, you get a D on a test. Oh, it's a big horrible thing at the time. But in the large scheme of things, you're at your work. Depending on what you're doing, you haven't learned something properly, it wastes money; it can cost lives; it can cost you. Being able to learn well is an important thing. Being able to learn quickly and retaining it will put you ahead of the curve, the learning curve.
Now, there's sort of two ways of getting a university education. One, learn only what's going to be on the test; two, learn what's in the course and then have that knowledge sampled via testing.
And guess which is the right way and guess which is the wrong way, at least from a faculty member's point of view, right? We want you to learn something here you can take with you. That's the point. You don't want to spend, you know, 4, 6 years here at Chico State and go off and not really have the value of your education. We want you to learn to take it with. And I realize that you've got strategies for learning. I mean, you've been through a lot of schooling to get this far. My experience is and most of you have not been taught good strategies of learning. We're going to be talking about a skill, skill of a different way of learning things. As with anything, it might look hard to begin with. But you develop skills. Through practice, you can make your skill better. So even if [inaudible] doesn't sound very intuitive or looks hard, it's going to take a lot of time, it might at first. But, as you practice it, as you get better at it, you're going to find it's going to be easier.
How our brain recalls things. That's at least how mine's working these days, except the phone doesn't work all that well, to tell you the truth.
We're going to talk about learning how to learn. Two basic steps into how to learn. One is you want to develop a knowledge structure. You want to build a foundation for the material. You're going to create a little structure in your head to which new information will be able to adhere. And then it's a matter of energizing, reenergizing the knowledge structure. Expand on that foundation, learning the details by getting your brain actively involved. So you're going to develop this knowledge structure and you're going to do it by having your brain in gear while you do it. And, again, you don't worry too much about getting a lot of notes off of this; because I'll show you where you can get access to the fuller paper a bit later.
Then once that stuff's in your head, you want to keep it there, keep reenergizing the knowledge structure. Make it so the information you get to begin with doesn't just sort of dissipate. Then, as I mentioned, sort of the second part of today is about reducing stress. So you get what you know from the inside of your head down onto the exam's answer sheet. Have any questions or comments so far?
Developing a knowledge structure. I use kind of a tree analogy. And I'm going to hope the pen works and that it doesn't go through to the wall. Not much of an artist. Those are leaves. Here's the ground. These leaves represent detailed bits of knowledge that you're trying to learn for a class, what's going to be on the test, right? Now, if you just try to cram these little bits of knowledge, these little new facts into your head without something to adhere it to, what's going to happen to these leaves? Right. Gone.
What we want to do is first build the basis of a tree in your head. It's kind of general knowledge structure, this idea, the lay of the land. And once you get that, now you can start attaching these leaves to the tree and they're going to stick. So we've got to build our tree first. And once we build the tree as we get the details down.
So how do we start building that tree. How do you read? So let's say chapter 97 of some class's textbook is due Monday. How do you approach chapter 97? What do you do? First off, when would you read it? It's due Monday. When do you look at it? You can be honest. Sorry? A few days before you get the assignment? Anybody like Sunday night, Wednesday morning following the Monday? So at least you're starting sometime before the class. That's good. You open up the book, page 1 of chapter 97. What do you do then? How do you read it? Kind of skim through it? What are you looking at as you skim through it?

[ Inaudible response ] Okay. And then, once you've skimmed through the chapter, what do you do?

[ Inaudible response ] Very good. That's part of point one here. We usually start with the first page when you read and the second page and the third and you go on to the end. That's how we read books, right? Any of you -- textbooks are all highly structured these days. You've got, you know, probably learning goals at the beginning and then learning goals at the end. Any of you look at those things to begin with? Do you? Okay. They're highly structured and you've got big section headings and other section headings and important words in bold over on the side. Do you really pay attention to those section headings or just [inaudible]? Okay. So some of you looks like already have a good basis for doing this. To build this knowledge structure, you want to get a sense of where the authors want to take you. You want to give yourself an understanding of what the chapter's about before trying to remember everything in the chapter, and you're starting to grow your tree without being concerned about the leaves yet.
So let's take all these kinds of practices you were talking about and put them together. You open the chapter you read the goals, okay. Maybe go back to the end and see if there's a summary or conclusion what they think they've told you, what they hope you -- what they hope you picked up as you do this. And then go through and read those headings. Read maybe the first couple sentences after each general heading. Pay attention to some of the words. Don't really worry about memorizing the words. But sort of see what the terms are like when you go through it. Like you were saying, sort of skimming, you sort of get a sense for what it's about. Because once you have a sense for what it's about, we're starting to build the trunk and the branches here. I'm going to read to you a short paragraph. And I want you to see how well you can remember it, all right? There'll be a quiz on this later. I'll read you the paragraph and see how well you can memorize the paragraph. The procedure's actually quite simple. First we arrange things into different groups. Of course, one pile may be sufficient, depending on how much there is to do. If you have to go somewhere else due to lack of facilities, that's the next step; otherwise, you're pretty well set. It's important not to overdo things, that is, it's better to do too few things at once than too many. In the short run, this may seem important; but complications can easily arise. The state can be expensive, as well. At first, the whole procedure will seem complicated. Soon, however, it will become just another facet of life. It's difficult to foresee any end of the necessity of this task in the immediate future; but, then, one can never tell. After the procedure is completed, one arranges the materials into different groups again. Then they can be put into their appropriate places. Eventually, they will be used once more and the whole cycle will then [skip]. However, that's part of life. Anyone want to venture as to what you heard? You want me to read back the paragraph? How many find this [skip]? You got a few words?
Sounds like a factory? Okay. Okay. So can you give it a try with what I read? Okay. Anybody remember any more about the paragraph? No. What if I told you this is about doing laundry. This is about doing laundry. The procedure's actually quite simple. First you arrange things into different groups. Of course, one pile may be sufficient, depending on how much there is to do. Now that you know it's about laundry, you're going to remember a lot more than this. What helps you remember stuff is you sort of started with, oh, it sounded like a factory. Now I've got -- so you're initial structure is factory, and some of the stuff then starts to make sense with what you know a factory is like. You all know what laundry is like. That means you've already skimmed the chapter. You know what laundry is like; now it's going to be a lot easier to remember those details. That's what we're going to try to do with everything new you're approaching. Can you first get this? Then we'll start working on the details.
As you read, think about what you're reading. The more you force your brain to process the information, the more you are going to remember it. So then it's not even a matter of I'm going to skim the chapter and get a sense, I'm going to go back and read page 1 of chapter 97 and 2 and 3 and 4. How often have you ended up, you've read five pages and you pause and what did I read? You look at -- I know I did five pages because it's later, right? Get your brain actively engaged. Find ways -- we're going to talk about ways -- actively engaged so these things have a chance to stick.
So here's the little technique. You've already done your overview. You've already got an idea of where they're going. The books are highly structured. They're in these nice little compartments. So take a compartment. They're usually maybe a couple paragraphs, right? Read that part of the chapter. Close the book. Write down in your own words what you just read. It's not a matter of trying to memorize what the author just wrote. You get the idea. You read a couple of paragraphs. What did I just read? Okay. Open the book; see how well you did; fix your notes. You're forcing your brain to be actively engaged here. You know that you're going to stop in a couple paragraphs. You're going to have to write a note to yourselves about what it was. You're going to go back and compare. Your brain's engaged again. You're fixing your notes. Your brain's engaged again. You're already now improving the odds that these leaves are going to stick because your brain is active in putting it together. I'm guessing this sounds real different already. Think about how you take notes on what you read. How many of you just highlight the book? How many of you buy used books and it looks like a Christmas tree, all these different colors, right? And so you've got to try to guess, was the person who used yellow the A student? Is that what I've got to pay attention to? Now, sometimes highlighting can be useful if you really are getting really key passages you want to go back to. But it's not very useful in terms of really learning some of the detail you want to get that you want to take with you. How many of you outline the chapter? Anybody outline the chapter? When you outline it, do you kind of go, okay. There it is in the book. Put it here. There's it in the book and I put it there. Or do you sort of put it in your own words? Okay. At least if it's in your own words, you're processing it a little bit better. I've seen students come up with beautiful outlines they remember nothing about, because it goes in one sensory apparatus; goes out one motor apparatus; and doesn't include the brain at all. Get it engaged. And even if you're doing an outline, if you've got your brain engaged, it will increase the odds that you're going to remember stuff.
Do it on time. Be prepared to learn the material during the lecture. When most of us teach is we hope you've done the reading beforehand so we can build on it. If you haven't done that beforehand, we're tossing out more leaves or more ideas about how to connect the leaves; and it's not going to do you any good, because your tree isn't there to begin with. It's important to read ahead of time so the lecture now has got something to connect to. Think of how the lecture material you've read adds new ideas or is completely confusing. Your brain's engaged again. I've read the chapter. I've got my notes on the chapter. Oh, there's something the professor's just saying what was in the book and I see, yeah, it was in the book. I got that reinforced. Saying, ooh. Something new. That wasn't in the book. That goes beyond. I need to amend. That is not at all what I thought I read. We love questions like that. I don't get it. I thought the chapter said this. Great. Someone's paying attention. You know how rare that is? Someone's paying attention. Love those questions! And then help clarify. Your brain's engaged. You're connecting these leaves. You are reinforcing what's going on. This is just more energizing. More keeping this alive. Another kind of analogy besides the trees you're probably familiar with the neural network or web of information, right, how the brain works? You keep reinforcing that, and that's what keep the information there. Questions so far?
Now, something else about while you're reading, talked about kind of active reading. Having skimmed the chapter, having a sense for where they're going, that gives you your initial thing here. And you start attaching leaves. It's still kind of weak. Can you connect the leaves to another tree in the forest, an existing tree? Now, in anybody's forest -- follow the analogy -- what tree of yours is the big, luscious, most beautiful, detailed tree in your forest? What's it about? You've got a tree for your management course; you've got a tree for your physics course, wilting and dying, whatever. Which tree is the biggest tree in your forest? Everybody's forest? Even bigger. You. You. The biggest tree in anybody's forest is themselves. That's the most important thing, right? What's the most important thing in my world? It's the biggest tree. If you can start connecting these leaves to the biggest tree you've got, it'll stick more. Even better. Start really thinking about the forest. If you can connect the leaf kind of to a couple trees at a time where the trees start holding the leaves together, those leaves are going to stick. They're not going to fall down onto the forest floor. Can you relate something you're reading to a personal experience? Can you relate it to something you've read recently? Can you relate it to something you learned in a different class, something that happened to Uncle Fred? If you can connect the new material to existing knowledge, that helps it to stick.
And it's all part of being an active reader, getting the knowledge in your head, and keeping it energized. That's the first part of how people learn. Brains remember things that are connected to other things. The other way brains learn, retain information is through repetition.
Keep going over your notes as often as possible. Don't wait till just before the exam. This is probably another big difference in how most of you have been trained how to learn. What is the natural way of doing this stuff? You read the stuff maybe before the class, maybe not, certainly two days before the exam and you only look at your notes again at the exam, right? I'm guessing those of you who take notes, do your outlines, whatnot, I'm guessing you don't actually look at those again until maybe a day or two before. Any of you ever review it in between? Now, this sounds like a lot of work and a lot of time, doesn't it? My gosh. I'm reviewing this silly chapter, then I've got to go back and I pause and write and look and I correct and I read some more and argh and hours and hours and I've got to look at my notes over and over and over. It will be to begin with. It's a new way this for most of you. It's going to take more time. But it won't as you get better at it. I guarantee you. If you are currently cramming a lot of time before an exam and doing okay, so you're putting in at least that much time in, once you get good at this new way of learning, all you're going to do is take that amount of time and spread it throughout the semester and get more use of it. The total time is not going to change to your investing time now. But you will invest it differently and more wisely. You will get more bang for your buck, if you will. My advice, you look at all your notes twice a week. Maybe not the same night. Maybe one night is, you know, management review night and the next night is physics review night or whatever. [Inaudible] think about it. If you follow this approach of taking notes, you are really invested in these notes. They're already pretty well in your head, right? How long is it going to take you to review those notes a second time? In fact, pretty much like the third time. The first night's going to be like the third night you're looking at these things. Not long. The next chapter comes along. Okay. These notes, you're not going to look at for the fourth or fifth time.
The next chapter you're looking at for the third time. The next time around, you're looking at these for like the fifth, sixth, or seventh time. How long does it take you to review notes that you've reviewed before seven times?

[Snap] Right? You know why it doesn't take long? Because you've already learned it. And by keeping that knowledge structure energized, just keep reviewing it, keep going through it, just keep doing it, keep doing it, when the exam comes and you know it. When I was an undergrad, my philosophy was if I was doing my job right, the night before an exam was just like any other review night. No big deal. I open my notes. I do the same review I did maybe three nights ago. Walk in; take the test; do well; ta da. Something else that does, reduces stress. What better stress reducer is there for a test walking in knowing you know the material? I guarantee you once you've invested some time and effort to learning the system, it will come naturally and will pay off for you. I've had students, when they pay attention to this, one student actually went on the next exam to 100 percent. Now, I can't guarantee those results for everybody. But everybody who has done it, their scores have gone like this. It's not because they're finding tricks to taking tests. It's because they actually know the material. And that curve would continue out to future semesters in other courses because they get better at the learning routine. And, yeah. They'll come in and say, Man! That took me hours to read that chapter! That was horrible! But you know what? Come the exam, they'll also tell you that really paid off. And it's not taking them hours per chapter anymore. This will be difficult. This will be weird. This will take some getting used to. But once you get used to it, it's a skill you develop and it will serve you well. It will not take more time. You will learn things. And there's a little truism about learning. The longer it takes you to learn something, the longer it takes you to forget it. So for those of you who are really good at cramming before an exam and doing okay on an exam, how much do you remember two days later?
This system, you're going to remember it. Again, that's our goal. Another thing I've noticed students over the years, you become really good at coping skills. By coping skills I mean how to prepare for a test and do okay on a test with all the other pressure facing you, all the other classes, all the other exams and the papers and the work and the family and the fun and the everything, lots of pressure, lots of time, it just makes sense to find a certain way of approaching taking exams, studying and taking exams doesn't take a whole lot of resources. It makes a lot of sense. Personally, I credit our K-12 system, mandatory standardized testing high stakes where the focus is on learn, hit that exam, and then who cares? We're now going to learn to hit that next exam. I don't blame any of you guys for taking this as how you've been trained how to learn. That's not how to learn. It's just how to take a test and not do too poorly. I want you guys to learn. Before we go into the next part of this, which is the reducing stress, any questions about what I've been saying in terms of learning how to learn? So you've been diligent. You've been spending the time to try to learn, move up the learning skill curve on learning skills. You've got the stuff in your head better. How do you get it down? How many of you just get nervous with the thought of an exam? I see student in my classes all the time. All I've got to do is mentioned the word quiz, I mean, not give a quiz or anything. I just say quiz. Aahh! All right. Well, we're trained to that. People don't recall stuff when they're under stress. When you are stressed, your brain narrows. It doesn't recall information very well. It doesn't think very creatively. And, therefore, you not only fail to bring up information you know like for a multiple choice question, you won't be able to think very clearly for more complex work like an essay question. That's why, when you walk out of the exam, when you do that, the stress is gone. And suddenly your brain [choo!] recalls what's in there, right? The information didn't leave your head and suddenly come back to you after the exam. It was there.
How come you didn't get it? Because of the stress you were under during the exam. So let's talk about ways to reduce that stress. Here's an exam. Ta da. Don't panic. Here's an exam. There's some multiple choice questions and then there's some essay questions. Where do you start? How do you approach the exam? What do you do? Why?

[ Inaudible ] The important thing is that you know for yourself which kind of testing you're better at so you know how to guide the use of your resources. Like maybe you want to start with the harder stuff because I know I'm going to have to focus on that more. Maybe I'm going to start on the easier stuff, get that out of the way so I then know how much time I have for the harder stuff. Whatever your approach is, as long as you know. Because [skip] more skills, by the way. And they offer workshops here, how to take a multiple choice test, how to take an essay test. There's skill components to that. Okay. So let's start -- let's say the multiple choice part. Okay. There are 50 multiple choice questions. What do you do? How do you approach it? It starts with question 1, okay? What if you don't know question 1? What do you do? What if you don't know question 2? Good. All right. Part of what you want to do is build on success. You want to start with success. So you don't know 1, don't even worry about it much. Don't worry. Go to number 2. And I know 3. Oh, I know 3. Cool. Three. Four, yeah. I know 4. Five, okay. One. Ah. The answer to one suddenly popped in my head. Why? Because I'm a little less stressed because I'm having success here now. Go back to 1. Build on success. You start with the essay, great. That will be your success element. Now you've got a success under your belt to go back and approach the multiple choice. You ever have friends, you have friends who start with number 1 and they'll just sit there and panic if they don't know number 1 or they sit there and just waste 20 minutes thinking about number 1? Oh, man. They're just [inaudible] it's just horrible. You don't know 1, forget it. You don't know 2, forget it. Go till -- maybe it's number 42 out of 50. If that's the one you're solid about, go to 42. Answer it. Oh, I know one. Build on that success.
Taking an exam, you ever become aware of a little voice in your head saying, Oh, you idiot. You're going to fail this test. You didn't prepare properly. You're not good at this stuff. You should have answered number 1 by now. You ever hear that little voice? It's death. Pretend instead you are sitting next to your best friend. Your best friend is taking the test; you aren't. But you can talk to your best friend. It's okay. What would you tell your best friend? Would you sit there saying, Hey, you idiot, you moron. You didn't study enough. Would you tell your best friend that? What would you say during the best friend's exam? Yeah. You can do it. You're smart. You studied this stuff. You've been going for 5 minutes. That's better than not, right? You're going to do it! Shutting off that little voice is hard. It's really hard to shut up the little voices in our head. Maybe with lots of money and lots of psychotherapy eventually, but you have the little things telling you stuff. What happens, what tends to happen, if you push at it, it just pushes back harder, right? So change the channel. Forget about getting rid of the voice. Go to a different voice. Instead of telling yourself all this bad stuff, start telling yourself all this good stuff. I can do it. I studied the material. I've done okay on exams before. I've got the time. I'm going to relax. I'm going to go build on success. Tell yourself the stuff you'd be telling your best friend, not the stuff you'd be telling your worst enemy.
That's easier to switch than just trying to shut up the voice. Now, it's still hard to do. It's still going to take some practice. Positive self talk. You probably heard the phrase positive self talk before? That's all this is. It's another way of starting to reduce stress. Stress is not just psychological; stress is physiological. When you're under stress, your body goes through physiologic changes. Well, you can address the physiology as well as you can address the psychology. So here's a simple one you're probably familiar with. We're going to try a little deep breathing, okay? So when I say go, I want you to inhale deeply. Just hold it a moment whenever you're comfortable and then exhale, okay? Ready? Go ahead. Try a deep breath. Hold it for a moment and then release. Okay. Now we're going to do it differently. I'm going to sit down here. Okay. Both feet flat on the floor. I'm going to give you some imagery to use here. It's going to be kind of strange for some of you. Some are going to get it easily. But focus on this. We're going to take another deep breath. But this time I want you to breathe in and out through your feet. You're going to breathe in through your feet. You're going to hold it a moment and you're going to breathe out through your feet, okay? Ready? Breathe in through your feet, hold it a moment, and breathe out through your feet. Now, did that feel different than the first one? How did it feel different? What was different about the second breath?
[Inaudible audience response] Most of us when we think about taking a deep breath -- and I'm always watching torsos when we do this. You breathe here. I saw everybody's chest rise [breathing loudly]. That's not going to change everything. Imagery of breathing through your feet, you breathe from the diaphragm [breathing loudly]. That's a good, deep breath. That changes your physiology. Don't do more than two of those at a time or you could hyperventilate. I'm not kidding. [Breathing deeply] That felt different. You breathe from here. Any of you ever like play a wind instrument or sing in the choir, anything like that? You already know how to breathe from here, right? You just have to remember to do it. So when you find yourself stressing out, pause a moment, take one or two real, cleansing breaths. It starts to change the physiology. It works backwards. It makes you feel less stress. And probably the biggest tip I have is stop. Remember you've got a little [inaudible] as you're going through the test taking. Am I hearing my negative voice? Am I feeling stressed in the first place, right? Am I focusing on what I don't know of question 10? It just creates a downward spiral, a death spiral of stress from your exam. When you sense yourself doing that, just stop, stop, stop!
During the exam will work, by the way. Center yourself, do a little positive self talk, breathe in, breathe out, think about the correct answers you've already given. Okay. I'm ready. Now I'm going to go back in. It takes a minute at most. Don't worry about how much time is left for the exam. What would you rather do, complete the whole exam and do 25 percent correct because you're under stress; or finish 90 percent of the exam but get 80 percent of that correct because you reduced the stress? Don't worry about the time. It just takes a moment to recenter and get rid of some of that stress. It's going to pay off in your ability to do the exam well. And even if, for some reason, you don't do well on the exam, you don't walk out all wiped out from the exam, right? Pay attention to you as you're doing this. You'll do better for you. You'll do better in terms of getting a score. Because remember we're starting with you've done better learning the material. It's going to be in there to go out on the paper if you let yourselves do it by reducing that exam stress. Now, these are just sort of the biggest bang for your buck tips. I like telling students there are a million of them. If some of these don't appeal to you -- I don't get it. It doesn't really work for me, whatever, go to another, you know, stress reduction workshop. Go get a book out of the library. Go on the web. Stress reduction stuff all over the place. Find something that does work for you. Find something short, useful you can remember you know how to do during a test situation. Those tend to work. Doesn't work for you? Fine. This you've got to remember. Because if you don't stop the downward spiral, you're never going to have a chance to let that antistress stuff work, whatever tips works for you. Any questions?
This is where the source document for the workshop comes from. It looks like this. It's a standard PDF file. It's 15 pages long. This is standard university notation for our web sites. So Chico.edu tilde first initial last name professor; and this is magic.pdf. Magically improve your learning, retention, and exam scores without using any magic. It goes into more detail about everything I just talked about today. So, again, how do you do better on exams? You do better by learning the material better to begin with. How do you do that? Well, you just follow how brains work. Brains work better when you have a knowledge structure for information to stick to. Brains keep that knowledge structure by constantly reinforcing it. That's just how information stays in our heads. Actively think about what's going on and do it frequently. It's going to be weird. It's going to take time. But once you get used to it, it's not going to take that much time and it's going to work. Once you get it in your head, what do you do? Make sure you're your own best friend in taking that exam. You know when you get into a stress death spiral and you can short circuit it. So your brain opens up. You're better able to remember stuff. You're better able to construct a nice essay for the essay questions. Thank you for coming. Appreciate it. Hope you got something useful from it.