



a podcast about how we learn, how we teach, and how they overlap

Episode 20: Guest Episode with Gretchen Wegner, M.Ed.

Adam: Hi, I'm Adam Sanford. I'm an academic life coach and professor in Los Angeles.

Dinur: I'm Dinur Blum. I'm a college professor in Los Angeles.

And this is Learning Made Easier, a podcast where we discuss how we learn, and how we teach, and how they overlap.

Adam: Welcome back to Learning Made Easier. This is Episode 20 - and remember, this is a 10th episode! So every 10th episode is going to be a guest episode, where we interview someone who promotes good learning for college and college prep students.

In today's episode, Gretchen Wegner, who is a Master of Education, and is the founder of the Anti-Boring Approach to Powerful Studying, is going to sit down with us to talk about the Study Cycle and the Study Senses, which are the study-skills model she's developed, based on the research of how the brain learns. So hi, Gretchen! Good to see you.

Gretchen Wegner: Hi everyone! Hi Adam, hi Dinur, hi listeners!

Adam: So why don't you... before we really get started into the methods that you've created here, and the models that you've created - I can't be the only one who's really curious. How did you come to put all this together? I mean, what prompted taking all of this science about how the brain works and putting it into these usable models? What brought you to that?

Gretchen Wegner: I think... accident may be the first answer! (laughs). Maybe the second answer is just that I'm insanely curious, and so, in my initial - I'm a problem solver. So when I first became an academic coach - I had been a teacher - I was encountering problems that students were just having a really hard time solving.

And so I would go out and read books, or I would go to a conference. And I love neuroscience, and so I - like, I call myself an amateur neuroscientist - that's probably too much, because I'm not sure I know the neuroscience really well enough for that - but what I would do is, I would either read a book, or I would get a little nugget from the conference. And I'm such a verbal processor!

So I would show up at my sessions the next week, a problem would show up with my high school client, and I'm like, "Hey, I just learned this thing! Could I teach it to you? Could we figure out together if it's even useful for you?"

And then, over maybe a year or two, I just heard myself starting to say the exact same things in the exact same ways to students. I was like, "Oh, I guess I've honed this one little nugget that I learned about the brain," and I figured out how to communicate it to students in a way that really makes them take action. And actually, the

students help me figure it out too!

And so, eventually I got bored of saying the same thing over and over again, and so I turned them into videos, and that - one day I called it "The Anti-Boring Approach to Powerful Studying." I don't know where that came from. Here we are. (laughs)

Adam: All the really good names come out of the ether. They just descend on you and you're like, "Oh, that's a really good name! I'm going to call it that!"

So, just by accident, as all good discoveries really are.

So the reason that I asked you to be on this podcast is that you're one of the main reasons that I'm doing this podcast, because I know that you work mostly with kids in the K-12 group, and Dinur and I work mostly with kids in the, well, basically "grade 13 and up" group, you know - the college students.

And what I found that is really fascinating, is that when I've taught your Study Cycle and your Study Senses to my college students, is that they respond just as well as, say, a 7th grader or a 5th grader.

I remember having a conversation recently on a blog - I want to say it was probably TeachThought or KQED, you know, one of those blogs that is aimed at teaching K-12, and they were saying, "Well, this wouldn't work for college students."

And I'm all, "Why would we think that learning process has changed just because the kids reach some arbitrary age or some arbitrary stage in life? Learning is learning. It doesn't matter whether you're 6 or 16 or 60 - there are processes that don't change."

Gretchen Wegner: Right.

Adam: And I - it's really just fascinating, how you've isolated them and said, "Here are the processes. Here's how they work." And they work with everybody! And it doesn't matter what you're studying; it doesn't matter what you're trying to learn; it doesn't matter how old you are; it doesn't matter what gender you are, it doesn't matter... none of that matters! Even having been an underprepared student, you can still use the tools... you know, people can still use the tools that you've created, and learn.

And I've had students call it a miracle.

Gretchen Wegner: (laughs) It does feel that way, doesn't it?

Adam: I've had students write to me who've said... I've had emails: "The Study Cycle is a miracle! tell Miss Gretchen that this has saved my life! This has saved my school career," so...

Gretchen Wegner: And I'll add, just briefly, that yes - it's absolutely true for college students! And I am learning, as I now also teach educators in the Art of Inspiring Students course, that it's imperative for educators too. Because one of my biggest things I've learned - I know this podcast is for both groups of people. Teachers - this is going to be a big statement I'm about to make; people might disagree with me - but I would say teachers have forgotten what it's like to learn.

Dinur: Yeah.

Adam: Oh, yeah.

Gretchen Wegner: Yeah, and so, as I watch them struggle with the Study Cycle in their own learning of my material, I'm seeing them have to really learn how hard it is to be a learner, how much the brain just wants to

freeze when it's got new information or new skills in front of it. And so this is just a human thing, that we happen to be talking about student, because that where the greatest palpable need is right now.

Adam: Yeah, Brooke Castillo, she talks about the - and I can't remember her name for it, but she gave it a name - and she said, "Your brain wants to do three things. It wants to find things that are pleasurable; it wants to avoid pain; and it wants to reserve as much energy as it can."

Gretchen Wegner: Mm-hmm!

And when we ask somebody to learn a new way, we're violating all 3 of those things.

And so, you know, I mention her a lot to students, because they say "well, can't I just do this easier?"

And I'm like, "Well, there is no shortcut, sorry," you know.

But there is a better way. There is a better process - and so that gets us right into.. let's talk about your Study Cycle, because you first mentioned in the notes that we're looking here the big mistake that teachers make, that parents make. So, can we go over that first, can we hear about that?

Gretchen Wegner: Yeah, and so I think about the biggest mistake we all make is we use the word "study." And, like, parents tell kids to study, teachers tell kids to study, students tell themselves to study if they're writing in their planners - which many students do not, but if they do, the most common thing I see written is "study for a test." But that word doesn't seem to have any meaning. It doesn't seem that anybody is actually communicating anything when we say "hey, did you study for that test?" because we haven't actually defined what, exactly, it means to study.

And so that's where I think our mistake is. It's where we're using these words, without actually teaching specific strategies for what it looks like.

Adam: Mm-hmm. I tell my students because they say - before we see the Study Cycle, I say "how many of you know what it means to study?" and hands go up, and I say, "OK, what does it mean?"

They say, "I read the book, and then I read it again, and then I read it again." Some of them will mention highlighting the book, or they will say, "I read my notes that I wrote down in class," but only a few of them say that.

And when I try to give them sort of a basic definition of "study" - and I honestly don't know if I got it from you, so if I did then, you know, then I can edit that out -

Gretchen Wegner: So, what are you saying? (laughs)

Adam: - But what I tell them is, "any time you interact with the material you're studying."

So it doesn't matter whether you are reading the book, or taking notes on the book, or taking notes on a lecture, or creating flash cards, or using them - any time you're interacting with material, you're studying.

And a lot of them look at me like I've just poleaxed them: "What are you talking about? The only way to study is to read the book!"

No, no, we have to move beyond that now, children. And I call them children even if they're adults, because they're my kids, you know, they're my students.

Dinur: So, I do like that you say that we kind of use "study" as this umbrella term that means nothing, because

no one knows exactly what it means to “study.” We're all familiar with students, if anything, reading and then maybe underlining or highlighting the book, giving it maybe two read-throughs at most, but what are some of the other concrete steps that you tell your students to do, instead of saying “Just study?”

Gretchen Wegner: Yeah, so this is when I introduce the Study Cycle. And in fact, I was just introducing it to a client just yesterday, a junior in high school. And so usually, what I do is go into what I call a “mini-lecture.” So educators who take my courses learn these, like, eight to ten mini-lectures that I have. So the Study Cycle is the center of them all.

And so I tell a student: in all of my research, like, learning is complex, there's a lot of stuff going on. But I have figured out that there are three specific things that we need to do in a specific order, and when we learn how to do that, we learn anything, guaranteed. So it's those three steps that I'll share with you now, and - you want me to just kind of launch into how I've taught the Study Cycle?

Dinur: Go for it.

Adam: Go right ahead.

Gretchen Wegner: So I know that you all are going to have an image on the show notes that you can look at if you want something visual. I find it's very important, I think to teach these sorts of things with lots of different what I call senses - and we're going to talk about that later, too - but for now, you might imagine a whiteboard. And on the bottom of the whiteboard is a little basket that I call The Basket of Knowledge and Skills. That's like everything you need to know for this particular test.

And I've even started - this may be new for you, Adam - but one of the things that I've learned to do, through the amazing educators who have taken my course, is ask students, like, “On this particular test that you're taking, what's in the basket of knowledge and skills right now, and how do you know? Is that all of the information from the textbook? Is that all the information? Is it all the information from the lectures and notes?” And so we make a little list next to the basket, so that we kind of know what's in it. So this is everything you need to know.

And then, at the top of the whiteboard, I draw a person's head and brain. And so, step number one, quite obviously, is that we just need to get the information from that Basket of Knowledge and Skills into the brain. This is the first exposure. This is the first time you've learned something.

And so then, I discuss with students: “How do you get that?” Some have first exposure reading the textbook as the assignment before the lecture. Some have their first exposure in the lecture. It really depends, and so we talk that through.

But regardless, I draw that arrow up, and I call it - the fancy brain term for that is “encoding.” We need to turn it into code in the brain. But you call - so you just could call it “teaching,” like “you need to teach yourself” or “somebody needs to teach”... you need to teach your brain the information. So that's step number one.

Adam: And when I teach that to my students, I don't say “encode,” because I've actually had students go, “what does encode mean?” and they then they envision the brain as a computer. So I just say “This is the ‘learn’ step. This is what you're learning. It's going in the brain now.”

Gretchen Wegner: Yes, exactly. I really like to use brain terminology, because I really like students to know that this is science that we're doing. But I too have found that when I have them reteach me the Study Cycle afterwards, they're like, “Oh yeah... what was that word?” So I still use it, but I also encourage them to find their own words for it.

So and what you all were just saying, like the highlighting and the reading, that's an example, I would say, of

the encoding process.

And so then I tell students, “that’s where most students stop.” There are two other things to do in the Study Cycle, but most students end right here. And then I ask them to guess: “What do you think the next thing is?”

And they’re looking at the visual on the whiteboard, so they can see that there’s a big arrow on the left-hand side, but on the right-hand side, there isn’t anything. And we talk about, well, the next thing you need to do is actually see what’s up there, see what’s up in your brain. How do you do that? You have to test yourself.

Most students wait for teachers to test them, and they don’t realize that actually, they can test themselves to see what they know, and what they don’t know. So the fancy brain term for that is “retrieval” or “retrieval practice.” But you can just call it “testing.” So the encoding side is, as you said, the learning or the teaching side, and then the retrieval side is the testing or quizzing side.

Adam: And I also use the word “check.” I’m like, “check what you know,” and the students say, “I’m supposed to check myself?”

And I say, “Well, we don’t tell you that, but research -” this is the other thing, and I’m sure you’re aware of the research, Gretchen “- research has shown that self-quizzing is far and away the thing that separates the kids who succeed from the kids who don’t.” And that’s from kindergarten all the way through grad school! If you quiz yourself, you do better.

And a lot of students go, “But why?”

And I’m like, “They don’t know, but they just know that it does.”

Gretchen Wegner: Yeah, and what I find fascinating, too, is the research shows that you don’t even have to assess yourself. You don’t even have to double-check whether you are right or wrong - that the act of quizzing, the act of retrieval itself, is helpful.

Now, I tell that to students, but then I also say, “but you might go faster if you do assess yourself.”

So the right-hand side, step two is test and assess yourself.

And then what you learn? Two things - and then I draw a check mark and an X. You learn if you have... like if you have the information and skills right, or you learn if you have them wrong after you assess yourself.

And many students need to be taught how to accurately assess themselves. Many do not know how to do it. They just look for what feels right, but they actually don’t know how to be methodical: Do I go back to the textbook and check? Do I actually go back to my quizzes, where I actually wrote the correct answers next to things, so that I have it as an assessment tool?

So, for some students we need to do some skill-building around how to even assess themselves in the first place.

Adam: Mm-hmm. I just wrote a - I actually just wrote a blog on the idea of, basically, self-quizzing, where I’ve said: in several blogs, and you know, I’ve referred to you, too - I’ve said you’ve got to self-quiz, quiz yourself - but I realize I’ve never told how.

So I literally... this was my last, most recent blog post, is “Here are the ways to write questions if you have multiple-choice stuff coming up, if you have true/false coming up, here are the tricks to know how to write these questions and write them well.” And that is what they’re going to see on the tests, so they learn how to do it - and a lot of students don’t know.

I mean, I had one student show me their flash cards. Oh, my God, they were awful. They didn't have any questions on them at all. They had, like, a term and then a definition on the back.

And it's like, "OK, but how are you going to use this if you have a true/false question?"

"Well, I'll just remember the term and its definition!"

Uh, that's not going to help you. It's what you say about - you've got to practice in the form of the test, and if you don't practice in the form of the test, you're not practicing what you need to know for the test. It's not just the nuggets of information anymore. You're going to be asked things like "interpret" or "here's a situation - which one of these things goes with it?"

And a lot of students don't realize that.

So yeah, I do agree with you that we do need to find a way to teach students how to quiz themselves, because a lot of them have no clue.

Gretchen Wegner: Yeah, yeah, and that's part of it - in my Anti-Boring Approach to Powerful Studying, in my course, there is a section on quizability so that we can look at some of the different techniques. I mean there's so many! There are hundreds of different techniques in the world for any of this.

So my hope is to teach students as, you know, we did when we were in the course together, just a few little, like, "what are the building blocks that you can start mixing and matching, so that you have different ways to quiz yourself, or different ways to encode the information?"

And speaking of that, shall we get to the third and final?

Dinur: Absolutely.

Gretchen Wegner: So once you know what you know and you don't know, everything that you know can leave the Study Cycle for right now. We'll come back to it later, but for right now, it can leave.

And what you don't know goes back into that basket. We still have some things in the basket. And what you need to do - and this is that number three, so we're back over on the left hand side - and it's to encode, because it's the encoding side, but to encode in a new way.

And most students don't have a lot of different encoding tools. So they just will, as you all said, re-read or highlight, or they'll do those same things. But if you didn't learn it the first time, you may not learn it the second time if you're doing it in the same way.

And so having a nice big toolkit for how you can actually encode in interesting ways, so you don't bore yourself tears, is another toolkit. I talk about the different toolkits that students need.

And so, once you're done encoding in a new way, then there's a cycle. It's called the Study Cycle. So then, what do we do?

Adam: We encode, we retrieve. We encode, we retrieve. We encode, we retrieve...

Gretchen Wegner: Exactly! And how do we know are ready for the test? So, we know when there is nothing left in the Basket of Knowledge and Skills, because we have successfully proven to ourselves that we know everything.

Adam: And what I've done for the toolkit - because as you said, a lot of students don't have a toolkit - is that I would put the Study Cycle on the board, and I will make the students say, "here are different ways to learn it," and I'll have them brainstorm with me, "OK, well, what are different ways to retrieve?"

I have students ask, "Do you need to change up the way you retrieve every time?" and I said, "Not necessarily, because we're not testing the way in which you're retrieving, we're testing what you're retrieving," right? So, I will say: use flash cards, maybe you use quizzes, maybe you teach it to someone, you know? For me, teaching it to someone is a really great retrieval tool, because when I realize "I can't define that term," I know exactly what I still need to learn.

Gretchen Wegner: Right.

Adam: I tripped over this? There's a hole in my notes! I call my best friend and say, "Jamie, help, I have no idea what "anomie" means - could you tell me, please?"

So - and I think that also that one of the things you said, and I think you said it in the last session that I was in when I was still training with you, was: when they are preparing for a test, start with retrieve.

Gretchen Wegner: Right.

Adam: Don't start with encode. Because they should have already encoded it all, so now, start with retrieve and then from the retrieve make a list of anything you don't know, and encode that.

Gretchen Wegner: Right, exactly, yeah. And there's another piece here, that you just alluded to here that is kind of truly, highly advanced. I don't necessarily say this for every student, but the real skill here is actually not the three steps. The real skill is learning how to build the muscle of a subtle awareness of your own learning and its effectiveness, so that you know, like, oh crap, I probably do need to retrieve this in a new way, because what I've been doing the last couple times, it's not really - I don't see myself moving forward.

Adam: It's not learning.

Gretchen Wegner: Right. Or maybe I need to encode in a new way, because I'm so frickin' bored I want to tear my hair out, and I don't have time to do that, so I need to find a new strategy. So it's developing an awareness of learning how to watch yourself learn, and having a toolkit that's big enough that you can make choices for yourself, when you do know that you need to switch it up.

Adam: Yeah, and that metacognitive development is one of the things that I really hammer on with my students - is that it's not just what you're learning, it's how you're learning and understanding how you're learning. I know that you probably have a student who says, "Well, I mean, I know everything - but I'm still feeling scared of the test," because they don't trust that they know everything, even though they've been able to pass all their own quizzes. "Well, what if the teacher asks questions, quiz questions, that are hard, that I didn't manage to get into this list of questions that I'm testing myself with?"

So one of the things that I do is I say, "All right, what is your 90 percent mark?" You know, because when you said, you know, "How do I know that I'm ready? That's when I know everything that's in the Basket of Knowledge," and that's great, but I've also had students say, "I want to make sure that I got at least 90 percent."

I had a student who was facing a cumulative exam, and they had, like, 400 flashcards from the previous semester, and so they said, "when I can get to the point where I - where I can answer 375 of them, I will feel confident about this test." So they allowed themselves some wiggle room of, "there's going to be some things that maybe I can't encode or maybe I just..." And I think that's important too, and so, again, improvement - not perfection, right?

Dinur: Yes, so we've talked about the Cycle, right? The actual process of what students go through as far as they've teaching themselves, they're quizzing themselves, then they're trying to work with whatever information hasn't stuck with them - they're trying to work in a new way. I notice you have something that you refer to as Study Senses. Adam and I have talked about things like talking out material, listening to it again, reading it to engage, you know, your eyes, your mouth, your ears - are these similar senses that you're talking about when you talk about the Study Senses?

Gretchen Wegner: Yeah, they are similar. There's one in particular that's a little different, but I'll say that the Senses were developed because, back in the day when I was a teacher, I was a big believer in learning styles, and I really loved helping students figure out what their learning style was, and then use that to help figure out how they're going to study. But I started seeing in my students - and then my clients, once I became a coach - that studying in your preferred learning style didn't necessarily mean that you were actually going to learn it better.

And so, slowly... I don't even remember how this developed - again, kind of like the name Anti-Boring Approach, voilà! It just seemed to be there! - but I always have a visual component. So what I do is, I have students draw a square, and then divide that square into 4 smaller squares. And then in one I have them draw an eye, like "how we see," and in another, I have them draw an ear, like "how we listen," and another, lips, and I say "Bonus points if, you know, you can make it look like it's talking."

And so those are the ones you mentioned, Dinur, and so, yeah, that stands for, obviously, like making information visual, or seeing information. At first, I used to think that reading counted for the eye one, because it's being taken in visually, and then, as I was experimenting with it more, I realized "no, it really does mean making information visual in some way." and maybe reading like on a scale of one to three, three being "Yeah that study sense is really there" and one being "barely there," I would say just reading a text - I mean it's slightly visual, because you're using your eyes, but I would say it's at a one or two, rather than a three.

So that's what the eye one is. The ear one is obviously, like, listening to other people and students often say "So if I talk out loud, does that count for both the mouth and the ears?" It's like "no, listening to somebody else uses your brain differently than listening to yourself, so that doesn't count."

And then obviously speaking out loud, and that's what Adam, you alluded to earlier, like when you teach it to somebody - you know it better because you're speaking, or because you're speaking and listening, because they're learning, so you're hearing their understanding of what they think they just got from you, and then you're having to rearticulate it - and so that's a really dynamic process, hearing and speaking.

But that last one, that fourth box, is: I have people draw a stick figure with very large hands, and preferably the stick figure looks like it's moving or jumping or something. And I say that the verb there is "moving" - "moving information" and "moving your body." So there are two different things you need to move in this Study Sense, and so that's why this one's a little bit different.

And certainly - moving your body, if you've been sitting for a long time, stand up! Or if you're doing flashcards and you're getting bored, like make piles in different spots around the room, so you're moving your body, so that's certainly helpful. But more important is moving or manipulating information, and taking it from the way that it was initially presented by the authority, and turning it into something that is yours - like putting it through a sieve and turning it into something uniquely yours. And that's what the manipulating word means there. And I like "manipulate," because it - "mani," you know, refers to hands, so it's like getting your hands in there, like the information is clay. That might be another way of thinking about it, and moving it around some.

Adam: I had a student ask me, when I taught them the different ways to rewrite their notes, they said, "Is this manipulating?"

I said, "Absolutely!"

Because, you know, I tell them they can rewrite their notes in one of three ways, and I said that when you're putting the information into groups that make sense to you - and I'm trying not to use your terms - if you want to learn more about this, you should take Gretchen's Anti-Boring Approach to Powerful Studying course! - but I tell them if you rewrite your notes, you're doing it in a way that makes sense to you, right? So you're moving the information around so that it looks like what you can understand.

And I had a student say, "Oh God, my history teacher! They do everything by dates, and I really just want to group it all together by, like, which battles or which people or where they happened!"

I said, "And that's totally valid!"

And they said, "Which Study Sense is that?"

And I'm all, "That's manipulation; that's moving stuff,"

And they're all, "Oh, I thought manipulation just meant getting up and doing jumping jacks while you studied."

I'm all, "No, no, that's one way, but that's not the only way. That's a good way to get the blood flowing if you're bored or if you've been sitting too long, so that's an example of manipulation."

So, yeah, and you say that this is the skill students are weakest at, could you expand on that a little bit?

Gretchen Wegner; Yeah, I mean our whole education system is based on feeding information to students and having them regurgitate it back. Like the flash cards you mentioned earlier that have a definition, like a word and a definition - that's because it's what they were taught by the expert. And so, we are really not taught how to process the information ourselves.

And I can imagine some teachers listening, going, "Oh, but I focus on critical thinking!" And I think one of the problems is, yes, you do! I mean I did too, as a teacher. But we don't - we still have trained our students to be passive direction-followers of our instructions, not how to be critical thinkers. And so, students still haven't had an opportunity to actually see, like, look at how the teacher is teaching: what encoding strategies has the teacher used today? What retrieval practices has the teacher used? Where on the Study Cycle are we? How, like, when the teacher is asking me these these different kinds of deeper thinking questions, how can I do that for myself?

And that's where manipulation comes in. Like, when we ask students to pay attention to the techniques that are already being used in classrooms, rather than just being passive followers, and then use those techniques on their own - not just because the teacher told you to, but because you recognize how it might impact your own learning.

Adam: So, that covers what you said you wanted to cover in this episode. And I do want to say that if you want to learn to use the Study Senses in more detail, including ideas for manipulation, Gretchen does have an Anti-Boring Approach to Powerful Studying course. I took it while I was training to be a coach. She gives it to students all the time. Every coach that has trained with her knows the Cycle and knows the Study Senses and many other things - there's many other tools that she's developed that we're not going to go into in this podcast. But you can go to her website at gretchenwegner.com. And she will be launching a new Study Cycle 101 in the next few months for students and teachers. you can also find the Anti-Boring Approach to Powerful Studying there.

And so, Dinur, for a minute or two, let's talk about how teachers and students can use this information - and I want to start with what Gretchen said about what is the teacher doing that is Study Cycle-esque? You know -

how are they retrieving? How are they encoding? Are they standing there with the book open while they copy it all onto the board? They're not retrieving anything are they? You know, they haven't even coded it themselves yet, so let's - you know, and I just want to do some brainstorming with Gretchen. How would you suggest teachers use this information in the classroom?

Gretchen Wegner: Do you want me to answer, or should we just all brainstorm together?

Dinur: Brainstorming together, because, my thinking is, more on the way that we as teachers do our encoding is kind of our back stage, right? We're supposed to have encoded a little bit, and learned that material before we're stepping foot into that classroom. So we're not always able to demonstrate the entire Cycle in real time simply because we're reserving that time with our students to actively cover new material. We've already gone through that Study Cycle. So it almost seems like, if you want teachers to use it, you've got to dedicate specific time to demonstrating the different steps.

Adam: And is it necessary to demonstrate you know the entire amount of what we're teaching, like all of the material that we're teaching, or is it OK to just say, "OK, this is one piece that I'm still not sure of, so I'm going to use the Study Cycle method of 'let's create some flash cards,' and then I'm going to go through the flash cards, and you guys get to test me and see: how well do I understand this information? how well did I encode this information?"

I can see myself doing that, because there's always at least one time where a student will ask me a question, I'll say, "you know, I'm not sure but that sounds like a great research paper topic!"

So how would you do that, or did you do, that when you were teaching?

Gretchen Wegner: Well, for me that's important, I mean, I certainly.... I mean, I'm a storyteller, so I'm always telling students stories about my own learning processes. And I think that's really useful.

What I'm referring to now, though, about how I think teachers could use the Study Cycle, is less to, like, encode in front of the students or to retrieve in front of the students, but more to make clear what your curricular choices are, and where on the Study Cycle you are in that process. So: "Hey guys, today I've got 20 minutes where I've got Power Point slides, and I'm going to lecture to you about medieval art. So where are we on the Study Cycle right now? Just take a moment to think about: where are you as a student, as I lecture, where are you?"

Is this an encoding strategy? is the first time you've heard us talk about medieval art? Or did you read the reading last night, if so, you might listen to me as if you're listening is a retrieval practice, to see what you know and what you don't know. So just take a moment to decide for yourself where you are on the Study Cycle, and then I'm going to get going with the lecture.

Dinur: OK.

Adam: I like that idea! And I could totally see some of my students going "yes!" and some of my students going, "Oh god, I didn't watch the video last night."

Gretchen Wegner: And if that's the case but it's great.

Dinur: Because when they go and watch that video, that's going to be the retrieval time.

Gretchen Wegner: Exactly! And often, these things collapse at the same time, right? So you're retrieving, and you're like oh yeah, oh yeah, I remember that! He just is about to say, "Oh, I bet the date is "blah blah blah, and then the name" - but you're - at the same time you're like, "Oh I didn't hear that, so that's encoding." So even though it's 3 discrete steps, they're often happening at the same time, and so I think it's useful. It can take

shame away from students, like, “Well, you didn’t do that thing, that's OK - just adjust your expectation for how you're going to listen right now, so we can be efficient with what you're choosing to do.”

Adam: And effective as well, because that's another thing - I have a lot of students tell me that what the Study Cycle’s done for them is, it's made their studying not just efficient, but effective. Where a lot of them, you know, they think that they should be able to get it all in two hours. They should be able to read two chapters of a book, and watch a half hour video, and be able to take the test on it the next day and be perfect at it - because they have this sort of idea that “efficient” and “effective” are the same thing. And when I talk about, “No, you need to encode one day, retrieve no earlier than 48 hours later, encode again, retrieve, you've got to give yourself space between” - I talk about that, and they're all, “Well, that doesn't seem very efficient!”

And I’m all, “No, but it's much more effective!”

And so we need to look at effective as well as efficient, because the whole standardized testing thing has also conditioned our students to believe that “effective” is “efficient.”

Gretchen Wegner: Right.

So then it should be fairly obvious how students can use this information: to basically, you know, use the Study Cycle! I've had students say, “Oh my God, since I started using the Study Cycle, my grades have gone up from C’s to C-pluses or B-minuses, or from B-minuses to B-pluses!” You know, they've seen incredible gains.

So again, you can find Gretchen's program at gretchenwegner.com, and she's also on the College Prep Podcast - I wish we'd had time to talk about that; she has her own YouTube page, and she sends out a newsletter with weekly video tips for students. In fact, the one that you sent out this morning, I have not yet had a chance to watch it, but it looks fascinating - this idea of micro decisions that lead to bigger procrastination, then lead to even more assignments that you have not yet got done on time, that just looks fascinating to me.

Gretchen Wegner: And that’s not mine, it's my client’s! Like, that's what I love about my work, is my clients teach me so much! It was my client, as we were investigating together - he’s in high school - he was like, “I think there are micro decisions I'm making that are getting me in trouble,” and so we just started unpacking that, and then I’m like “this is brilliant, I'm going to make a video!”

Adam: It's great when your students come up with new ideas, isn't it?

Gretchen Wegner: Yeah! Yeah, and can I tell a quick story to go out?

Dinur: Absolutely!

Adam: Sure! Love to hear it.

Gretchen Wegner: So I'm taking an acting class. And that's an example of the kind of story that I think professors or teachers could tell, even if it's not about the material that they are an expert on. So I'm taking an acting class for the first time in 25 years, and I forgot, when I registered for this class that one of the big headaches in acting is memorizing. And my brain is 25 years older than it used to be, and I'm learning that a 45-year-old brain does not memorize as simply and effectively as a 20-year-old brain. (laughs)

So I was really struggling for the first week. And then I went, “Wait a second! I’m an expert in this! I have this thing called the Study Cycle! I know how to encode, and then to retrieve, and then to encode in new ways!”

And so, for the last 3 weeks, I've been playing with my script. And it's been still maddening because it's hard, learning is hard, I hate it, I'm uncomfortable, I feel like I'm a bad actor in class, when really I'm not a bad actor, I just haven't memorized it yet.

And I think students have that feeling, like, "I'm a bad student." But, oh! you just haven't gotten to the completion process in the new process in this new skill that you're learning.

And it has been so, so humbling to watch how difficult this has been, but how much better it got when I remembered I had tools! And I started to use the tools. So the little Japanese check set, that red film and the markers - I outlined my script that way. I made a voice memo for myself, where I said the other person's lines and left gaps for myself, I'm practicing with other people, I'm making sure I do spaced retrieval, - and anyway, I am performing the scene tonight, and I feel like I will be able to be better.

Adam: Now I understand why you only had a certain amount of time! But yeah, absolutely, break a leg!

Is there anything else you want to say to students or teachers about how to use this before we go into the outro?

Gretchen Wegner: The final thing it's just to play. Just really play! And just notice for yourself, become a researcher, do some experimenting on yourself: when am I encoding, when am I retrieving? What are all the different ways I already know how to learn in different interesting ways using the Study Senses? And don't even feel like you have to apply it - just do some research on yourself, right now, to just notice how it's already happening, whether you know it or not, in your everyday life.

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