DECISION MAKING | READING TIME: 10 MINUTES

The Pursuit of Worldly Wisdom

Charlie Munger, the billionaire business partner of Warren Buffett and a major inspiration behind this site, is not only one of the best investors the world has witnessed, but he's also one of the best thinkers. A quick recap is in order.

Munger has illuminated timeless wisdom in the minds' search algorithm, Academic Economics, stretch goals, mental models, the value of thinking backward and forward, problem-solving, partnerships, and inversion among others.

> **What is elementary, worldly wisdom? Well, the first rule is that you can't really know anything if you just remember isolated facts and try and bang 'em back. If the facts don't hang together on a latticework of theory, you don't have them in a usable form.**
>
> — CHARLIE MUNGER

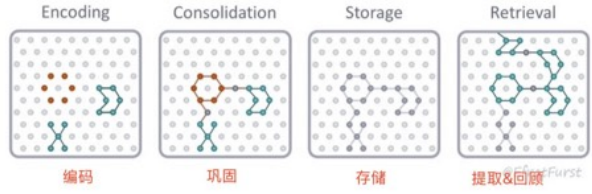
3 用回顾，持续刺激记忆

为何需要回顾过往记录

消费时代，我们对知识也很容易「喜新厌旧」。总认为学习新知，比回顾旧识更有价值。因为会认为知识就像消费品那样，新的总是好的。

但美国天文学家卡尔·萨根说：最重要的知识，并非是刚在过去一小时内被发现的知识。**新知识未必就是重要的知识，深入的研究远比肤浅的了解更有价值。**

通过回顾不断刺激我们的大脑，这样就能在找到过去存储的记录之外，还会增加许多相关的新信息。而随着我们通过主动及被动两种方式，对过往记录调用的频次变多，我们最终连通的知识网络面积就越大。



图片 by Dr. Efrat Furst

读到上面的内容
你想到了什么？
你会怎么做？

Dr. Efrat Furst

Efrat.furst@mail.huji.ac.il

Development of training, guidance, and consulting
Dr. Efrat Furst

My background is in cognitive-neuroscientific research (human learning and memory), and my expertise is in bridging the sciences of learning with teaching and learning in classrooms. I design, teach facilitate workshops and support educators in redesigning classes, courses and programs. I support educators with evidence-informed pedagogical content: what key principles underlie the learning process and how can we promote knowledge acquisition, meaningful learning and successful application for the long-term?

Google dr efrat furst encoding consolidation storage

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sites.google.com
https://sites.google.com › view › reconsolidation

Reconsolidation - EfratFurst

Encoding is the stage where incoming information from the environment is processed ... After **consolidation**, the **memory** traces are considered stabilized and ...

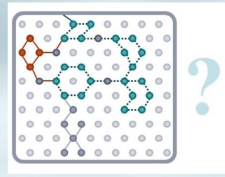
https://sites.google.com › view › learning-in-the-brain

Learning in the brain - EfratFurst

It is widely accepted on the basis of scientific findings that knowledge is **stored** in neuronal patterns. Neurons are the basic functional unit of the brain, ...

Reconsolidation

The "life" of a memory trace

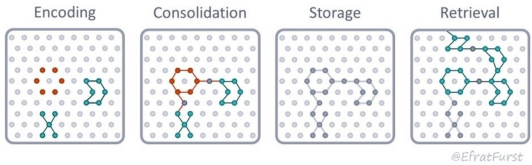


The previous posts discussed the basic processes of creating new memories and the way we can manipulate them in *Working Memory* and *Long -Term Memory* in order to create and maintain meaningful networks of useful knowledge.

Here I delve into what is known about the fate of the memory trace after it is created and stored when it is retrieved and then... what?

Learning in the brain

In this post I described and illustrated the learning process using a simplified model of dots and connectors. A similar model is used here (image below) to understand the basic processes that are involved in creating and using the memory traces. The dots represent neurons and the connectors are synapses. Grey stands for inactive state and color for the active state. The shapes are a **highly simplified** model of memory representations and the pathways between them. We explore these four stages of memory "life":



Four key stages of memory processing

Encoding is the stage where incoming information from the environment is processed in the brain. For example when you hear a new word for the first time. Neurons in the brain are activated to perceive and process the stimulus (represented by the orange dots). The incoming information is not processed by itself but rather in the context of other concepts that we already know (turquoise shapes). We make meaning of the new concept by explaining it in terms of concepts that we are already familiar with, as explained here.

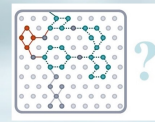
Consolidation is the stage where what we were thinking about while encoding is stabilized. It means that connections are formed among that just active components of the new representation (orange) and the new and the existing knowledge (turquoise). Representations that were active simultaneously and connected meaningfully stand a better chance to undergo consolidation (refer to the idea by Daniel Willingham: "Memory is the residue of the thought"(1) e.g. discussed here). Consolidation is dependent on a biological process that is known to take hours and even days and is further enhanced by sleep (2,3).

After consolidation, the memory traces are considered stabilized and **stored:** the connections were formed, they are in an inactive state (grey), and may be potentially reactivated in the future upon **retrieval**.

The process of **retrieval** starts with an internal or external cue, that triggers an "associative chain reaction" of activating neural representations. Eventually, we may get to the concept that is recognized as the target, or not. In any way, this is an effortful multi-staged process that is crucially dependent on the existing associations (which pathway may lead to the sought-after concept) and their strength (a weak association will probably not activate another). Hence, the value of building these pathways of associations by understanding or "making meaning" and practicing them.

Reconsolidation

The "life" of a memory trace



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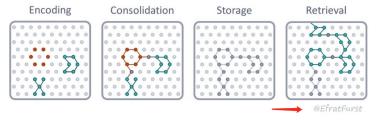
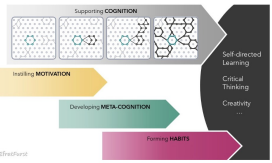
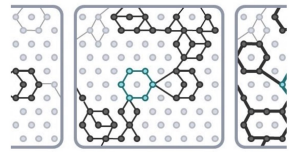


Teaching with learning in mind

Explore the science of learning, with explanations, illustrated models and concrete examples, references to scientific literature, popular literature and blogs .

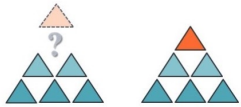


Making (even more) sense of cognitive science and education.



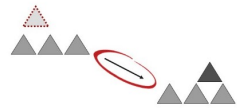
Learning in the brain

How knowledge is stored in the brain and changes over time?



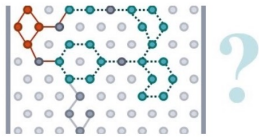
The power of prediction

What is the role of prediction in updating existing memories with new information? what is the evidence and what are the possible implications?



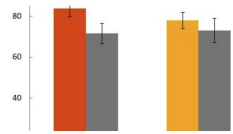
Prediction in Learning

A ResearchEd talk turned into blog, explores the research behind prediction and its applications to the classroom.



Reconsolidation: the "life" of a memory trace

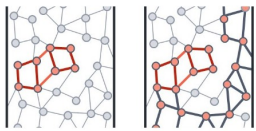
What is the difference between consolidation and reconsolidation? what are the evidence in humans and the possible implications to educations?



Successive Relearning

What is the crucial difference between 'learning to the test' and 'learning for long-term retention'?

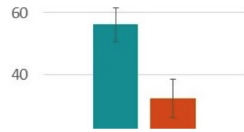
A review of a research paper by Rawson, Dunlosky, Sciartelli (2013) with implication for field-research and classroom practice.



Retrieval Practice - Paving pathways in the memory maze

The benefits of practicing by using retrieval, the barriers too.

Key points to consider , and practical examples from teachers that apply.



Testing the Testing Effect

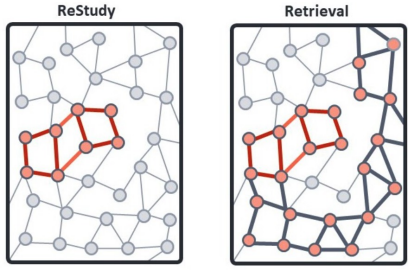
An experiment in cognitive psychology taken into the classroom for educational purposes.

Why does retrieval practice work?

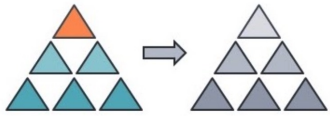
When attempting to retrieve a memory, we invest deliberate effort in reconstructing the pathway to the stored information, by reactivating a sequence of neural networks that are required in order to bring the information to mind. This pathway is represented in a simplified model on the right panel using the model that was introduced in the previous pages.

When **restudying** the focus is on the information that is already presented, and by that bypassing the pathway leading to it (left image).

When practicing by retrieval the entire pathway is rehearsed, not just the end-goal. It is obvious that our ultimate goal is to be able to retrieve the knowledge voluntarily, not just recognize it, and hence practicing this ability is the way to go. (unfortunately, this is not always in line with our intuition, as restudying is easier and immediately rewarding...)



Acquiring new knowledge



To demonstrate the conditions for acquiring new knowledge I use the pyramid model for knowledge (introduced here) where every triangle is a 'piece of knowledge'. Turquoise triangles are existing knowledge, Orange triangles are new knowledge, and the correct way to structure them one on top of the other represents meaningful connections. After learning, the structure is dependent on the process of consolidation (and reconsolidation) for long-term storage and possible future use.

The suggested conditions for the successful acquisition of new knowledge:

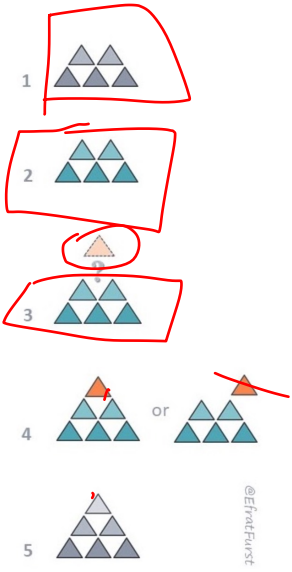
1. **Prior knowledge exists**- any new information is learned on the basis of existing knowledge. We need to make sure that the relevant prior knowledge already exists (read more).

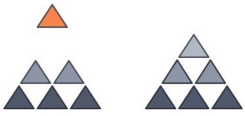
2. **Prior knowledge is active** - this study and many others clearly and directly show that the activation (i.e recalling the information) prior to learning is essential for knowledge integration. We can think about it this way: in order to build the pyramid, the bricks should be in place, not just in storage.

3. **Trigger a prediction** - while retrieving the knowledge, we should think of how we can use it and what predictions can we make. What questions can we answer, what questions are open and how new information can help us use the current knowledge more effectively. It is like considering where the new bricks can or should be placed.

4. **Make meaningful connections** - using the open questions and the focus on missing information we can now add the new information, while creating connections that make sense in light of what is already known. In the model, a new brick should be carefully placed in position, rather than wherever it falls. At times, the new information will not be aligned with predictions and may require additional construction: either teaching more information or recalling more relevant information from memory.

5. **Allow time for consolidation** - To complete the process of integration and updating the traces are dependent on consolidation and reconsolidation. It, therefore, makes more sense to check for understanding, the ability to recall the new information in terms of the existing, in the longer (days) term rather than immediately.





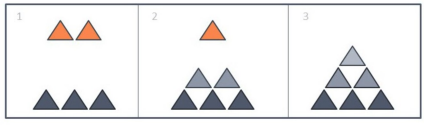
Understanding 'Understanding'

What is understanding from a "learning brain" point of view?

Visual models will help us analyze the abstract concept of 'understanding' and to explore its components. What can be applied in the classroom? and how can we help students when they don't understand?

Concrete Example

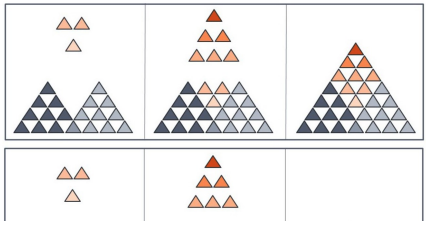
The process of constructing knowledge can be described as building a pyramid: a new piece of knowledge (orange triangle) is placed on top of the existing structure of knowledge (grey triangles), in a meaningful way (correctly aligned). The final structure is dependent on the existing layers and on the correct placement of the new one (or on all three components of understanding).



The model is introduced and explained in "Modeling the learning process"

Extending the Analogy

As more and more information is acquired meaningfully, more pyramids and larger pyramids are created with an increasing number of opportunities for higher-order learning (where a whole pyramid becomes just a brick in a new one), and interdisciplinary learning (that is supported by several other pyramids; top panel). These types of higher-order learning are impossible to attain meaningfully without the supporting lower-level structures of knowledge (bottom panel).

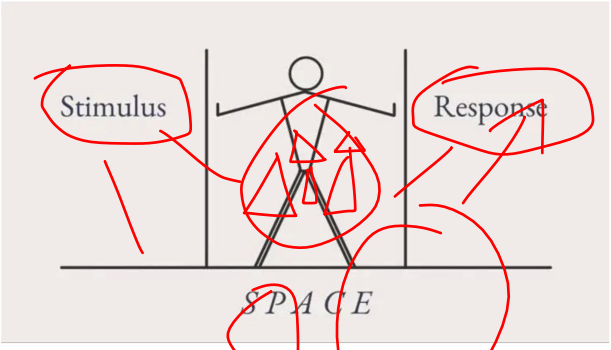


我在flomo上的随手笔记

大多数人平时什么也不写，感觉每天想了好多，但多是耗心力的胡思乱想。

抓住那些冒出来的一切，写下来。那些小情绪，小慌张，看到它们变成文字，刺激和反应之间就产生了间。

「Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom.」



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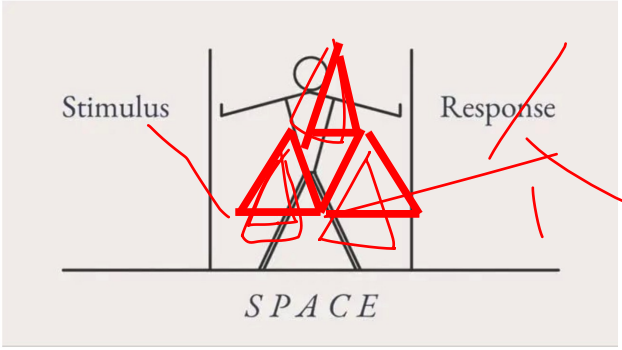

Pain is inevitable, suffering is optional.

MEMO / Think / Mind

⌘+K

#Think/Mind

共 7 条 MEMO

筛选 | 导出

#Think/Mind

- 读村上春树的What I Talk About When I Talk About Running时，印象最深的是这句「Pain is inevitable, suffering is optional.」结合 Tim Ferriss 说的 Reality is negotiable，我们只能看到我们想看的，感受想感受的，容易陷入自己的气泡里，也可以一念之间清风拂山岗。
- 脑科学中对meaning 的定义可以理解为：大脑因为这个新的概念，可能做出不同的反应。Victor E. Frankl 说：“Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom.”
- 我们通过学习和思考，让刺激和反应之间有一个缓冲，这样的结果中就有了成长和自由。人生的意义就是不是那些刺激和反应，这些都是自然的发生和结果，我们无法控制。能控制的是在反应之前多一些空间和menaing，也就是那个「修行」。

取消

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#Think/Mind

「知行合一」从字面看是「知」变成「行」。那这个「知」是什么？知识？认知？可以把它简单分为「脑知」和「心知」。脑知的核心是逻辑，心知的根本是感受，两者无缝交互作用，最后那个response就是自然的结果了。

来，夸夸我
Who doesn't need_____?
a pat on the back/thumbs-up
a round of applause
a dose of effort praise

ability

Chapter 8

Motivating

INTRODUCTION

I wrote my doctoral dissertation about the use of history in twentieth-century British novels, a topic that I still find fascinating. If you love a good work of British historical fiction, you and I would be able to sit down together over a cup of tea and have a nice long chat. But as most of us with advanced degrees know, writing a dissertation or a master's thesis can feel sometimes like trudging through a swamp: you struggle to put each foot forward, and the journey seems like it will never end. There were many times when, in spite of my love for my subject matter and for writing in general, I wanted to abandon the project and get a full-time job in a used bookstore, reading quietly at the counter and ignoring the customers with a cat purring on my lap. What kept me working was an awareness that only with my dissertation complete would I earn my Ph.D., and only with that degree in hand did I stand any chance of getting a tenure-track teaching position. And what continually drove me toward that goal was the fact my wife and I had a two-year-old daughter, and Anne was teaching at a private school in Chicago that paid her barely more than the graduate stipend I was making. We were struggling financially, in other words, and for years I had been promising my wife that one way or another I would get a job when I earned my Ph.D., even if I had to leave

academia for it. In the end I completed my dissertation, and in retrospect I can see that what got me to the finish line were both my own passion for my subject matter *and* the external motivators that nudged me forward when I couldn't stand the thought of reading or writing one more word about British historical fiction.

If you browse the research literature on motivation and learning, you will find frequent reference to a contrast between two overarching types of motivation: *intrinsic* or *internal motivation* versus *extrinsic* or *instrumental motivation*. Extrinsic motivators include the rewards that the learner expects to gain from successful learning, such as prizes or accolades or praise or even grades; in my case the prospect of a job and the desire for financial stability were powerful extrinsic motivators. Intrinsic motivators are the ones that stem from our passion for the task or the material, or perhaps a recognition of the ultimate value of the work on some broader scale (e.g., their personal or spiritual development). My interest in my subject matter, and my desire to work through the question I had posed for myself in my dissertation, were intrinsic motivators. Although there were plenty of times when the writing felt like walking through a swamp, there were other times when it felt like nothing else in the world, as I would chase down an insight or run through a series of paragraphs with a thrill of pleasure and satisfaction.

One theory about student motivation argues that the best and deepest learning takes place when it is driven by intrinsic motivators—when, in other words (and put simply), the learner cares about the learning itself or the matter to be learned rather than about some reward she will receive at the end of the learning period (Deci 1996). In my view this theory represents a simplification of the full body of research on motivation, which suggests that what really drives learners are precisely what I experienced in writing my dissertation: a mix of extrinsic and intrinsic motivators. You can see this in all areas of life. Most of us know we should

exercise, but what often inspires us to start working out are apps like Couch to 5K in which we set goals for ourselves, get rewarded with badges and stickers, and share our accomplishments on social media. I'm sure you love your job as a teacher, but I'm equally sure that you have days on which you would gladly chuck teaching, with all of its challenges and complexities, for some job which didn't require working with quite so many humans every day, with all of their unpredictable and mysterious behaviors. On those days you head back into the classroom, at least in part, because you have a job and it earns you the money you need to live. Likewise your students will have days when they find your subject matter fascinating, and other days on which they would rather do anything other than study and learn in your courses—and on those days extrinsic motivators can help nudge them forward until their intrinsic motivators kick in again.

Most educational systems are thoroughly soaked in extrinsic motivators, which take the form of grades and degrees. A vocal group of educational critics has been arguing in recent years that educators need to stop using grades for many reasons, one of which is the damage they can do to student motivation (Blum 2020). I don't fully agree with this argument; I see a role for grades to play in motivating students, in the same way that extrinsic motivators helped me finish my dissertation. An exhausted student on Tuesday morning at 8:30 in the morning in week thirteen of the semester likewise might need the prospect of a good grade in the course to get them through class that day. But I agree wholeheartedly with those educational critics that for too long we have relied on extrinsic motivators like grades as the primary or even exclusive source of motivation in education, and that we need to do a much better job of fostering intrinsic motivators in our students. Every student is different, and the right motivational recipe for each of them will be slightly different, but for most of them we are just dumping the same ingredient (grades) in the bowl in course after

course. If we really want to inspire students to learn in our courses, we need to focus more of our attention on building up intrinsic motivators, leading them to learning with the same wellsprings of desire and interest that drove us into our disciplines and teaching careers.

Helping light such fires of intrinsic motivation in our students might seem like an unbeatable candidate for the Least Likely Subject for Small Teaching award. It sounds pretty idealistic to expect that 10-minute segments of class can suddenly infuse an 18-year-old with no interest in literature with a deep and abiding love of the British novel. But it's not as complex or ambitious as you might think, because we have a very accessible lever available to us in the classroom for priming the pump of human motivation: emotions.

IN THEORY

Sarah Cavanagh is an Associate Professor of Neuroscience and Psychology at Assumption University and the author of *The Spark of Learning: Energizing the College Classroom with the Science of Emotion*, a powerful analysis of how emotions impact learning in and outside our classrooms, especially in higher education. For her book Cavanagh surveyed a large body of research that demonstrates the incredibly important role emotions play in every aspect of our lives, including in the teaching and learning process. "Emotions are likely guiding your hand in every decision you make," she concludes,

> from which three plums to select from a basket of fruit to whether to leave your spouse . . . It is not hard, then, to suppose that emotions are similarly guiding our students in every stage of their learning, from selecting which courses

> to take in a given semester to how willing they are to participate in the discussion you're trying to drum up on the Tuesday before Thanksgiving. (Cavanagh 2016, p. 5)

You know this already, whether you are drawing on your experience as a learner or a teacher. You might know it from an experience in which strong emotions interfered with your ability to concentrate on a learning task or a course or even an entire semester's worth of courses. During the semester in college I met my wife, my learning definitely took a hit—there was a lot less studying and lot more moon-eyed dreaming. And you likely know it in more positive ways as well, such as when you were toiling away in the laboratory or reading in the library and had a sudden realization and became flush with the excitement and curiosity and happiness that sparked your dissertation or an article or book project or even an idea for a new course. Or you might know it in a more mixed way, when you felt stymied or frustrated or confused by something that drove you to resolve those emotions and learn something new.

Three key elements of the research on emotions and learning seem to me ripe for exploitation by college and university faculty, so we'll focus on those—although they don't by any means tell the whole story of the connections between emotions and learning. First, and most generally, emotions can help us *capture the attention of our students*. According to Cavanagh, this connection between our emotions and attention stems from the very reasons we have emotions in the first place. Emotions originally helped draw our attention to experiences that we might want to remember for survival purposes:

> Emotions were selected for because they both influence motivation—driving us toward things that are good for survival and reproduction (high-calorie foods, attractive

> sex partners) and away from things that threaten our health or well-being (venomous spiders, rotten food)—and because they influence learning, tagging certain experiences and skills as important and thus critical to both attend to and remember. (p. 14)

As our brains were evolving, emotions directed our attention to what was important to learn and remember from the range of experiences we encountered every day. The terror we felt during an encounter with a predator hijacked and held our full attention, and as a result we remembered to avoid that particular path through the woods; likewise the pleasure experienced while eating some new fruit captured our attention and helped us better remember what that tree looked like and where we might find it again tomorrow. Our emotional brains still operate with these basic mechanisms in place: when we feel strong emotions, our attention and cognitive capacities are heightened. In the classroom, we can capture the attention of students and direct it toward learning by stirring up emotions like curiosity, wonder, joy, and more.

But one emotion in particular may play special role in motivating learning in education: *a sense of purpose, and especially self-transcendent purpose.* In 2014 a handful of researchers published a long study, wonderfully titled "Boring but Important," which explored what types of purposefulness most inspired learners to persist in learning repetitive or challenging yet essential tasks for future learning or academic success (Yeager, Henderson, Paunesku, Walton, D'Mello, Spitzer, and Duckworth 2014). The surprising result of this research was that *self-transcendent purpose* produced the strongest driver for students to persist through challenging academic tasks. Self-transcendent motivation contrasts with self-oriented motivation, which describes a desire to have a great career or enhance one's knowledge or abilities. Self-transcendent

motivation describes a desire to help other people, to change the world in some positive way, to make a difference. The superior power of self-transcendent motivation appeared first in surveys of low-income high school seniors who planned to attend college the next fall: the ones who had the highest levels of self-transcendent purpose were most likely to actually enroll. However, it also appeared in experiments in which college students who were faced with the prospect of solving or studying difficult review questions before a final exam were reminded beforehand about the self-transcendent power of their learning:

> Results showed that a self-transcendent purpose for learning increased the tendency to attempt to learn deeply from tedious academic tasks. . . Students spent twice as long on their review questions when they had just written about how truly understanding the subject area could allow them to contribute to the world beyond the self, compared to controls. (p. 571)

As long as we are thinking about how to infuse our student learning with purpose, we may be getting the largest possible bang for our buck if we can help them recognize the power of their learning to make a difference to the world: in doing so we are both helping direct their attention and giving them the motivation to persist through learning challenges.

Third and finally, emotions are *social*. Borrowing a phrase from Marjorie Keller, Cavanagh calls emotions a *contagious fire*: they can be catching. Again, let personal experience be your best example here. How often, when you are home alone watching a television sitcom or comedy film, do you find yourself laughing out loud? Far less frequently, I would wager, that you find yourself laughing out loud when you are watching a comedy with a group

of friends or watching a film in a theater. Humans are social animals, and we feed off each other's emotions. This is as true in the classroom as it is in the movie theater. The most concrete way this contagion has been analyzed in the classroom relates to the enthusiasm of the teacher and the effect that strong enthusiasm can have on student learning. For example, Cavanagh points to a study in which researchers measured markers of enthusiasm among teachers of secondary students in a Swiss school and found a startling correlation between those markers and the experiences of the students in the classroom: "The enthusiasm of the educators statistically predicted their students' ratings of enjoyment and perceived value in the subject matter" (Cavanagh 2016, p. 64). This latter finding represents the one to which we should pay special attention. The emotions that we demonstrate to students, especially our positive emotions connected to the subject matter we are teaching, can create a strong positive boost to student motivation.

The social connection between you and your students tells only part of the story, though. Of course, your students far outnumber you in the room, and it seems equally to be the case that students' emotions have a powerful potential to boost each other's motivation for learning. Dan Chambliss and Christopher Takacs demonstrated in their book *How College Works* (2014) the immense power that personal connections and relationships have on the total college experience for students, including the learning that takes place in the classroom. Their conclusions stem from a long-term study they conducted on students and alumni at their institution, based on a variety of measures, including interviews, surveys, and analyses of student work. One of the key areas in which they saw social relationships and community as playing an essential role was motivation: "Motivation is crucial. . . and emotional connections to others and to a community provide the strongest motivation" (p. 106). Students relay their levels of motivation through the amount of effort they put into their studying

and assignments, through the ways they talk about their courses, through their classroom behaviors such as speaking (or not speaking) in class or participating in group work. As they do so, they are conveying emotional signals—this subject matters to me; I am enjoying this discussion; this professor is boring me—that their fellow students will catch and respond to. I've learned from my own experience as a teacher that a few engaged and highly motivated students can energize an entire class; a few students openly displaying signs of boredom or frustration can likewise derail one. Both faculty and students play a crucial role in creating and determining the motivational power of that social process.

At this point you might be wondering whether I am going to recommend hand holding or group sing-alongs to create the best emotional climate in your classroom for learning. Don't worry—I'm not a group hand holding kind of person, and I won't recommend here (or anywhere in this book) strategies that I wouldn't be willing to try myself or that I haven't tried already. The models that follow, in fact, might not strike you as connected to emotion and motivation in obvious ways; I hope they will strike you as sensible teaching practices that might fit into your classroom even if you want to avoid thinking about the emotions of your students. These six models are designed to provide the kind of positive, activating emotional boost your students need to push through the daily and weekly challenges of your courses—and they just may inspire some of them into the kind of deep and lifelong engagement that all teachers dream about for their students.

MODELS

The following models argue both for emotions that you can activate in your students, such as curiosity and purpose, and ones that you can activate in yourself, such as enthusiasm and compassion.

All of them should help provide a motivational push toward better learning.

Open with Wonder

Peter Newbury is an astronomer and the author of a wonderful little essay entitled "You Don't Have to Wait for the Clock to Strike to Start Teaching," in which he describes an activity that leverages the minutes before class start to evoke wonder and curiosity in his students. Drawing inspiration from the "Astronomy Picture of the Day," a NASA website that posts a new and fascinating image from the cosmos every day, he suggests that instructors begin classes—even before class officially begins—by posting an image on the screen at the front of the room and asking two questions about it: What do you notice? What do you wonder? He lets the image direct the informal conversations or reflections of the students prior to the start of class, and then uses it to guide a brief discussion during the opening minutes of class. Newbury suggests that this strategy can help accomplish multiple objectives, many of which have been covered in other chapters in this book. For example, such an activity can activate students' prior knowledge, thereby helping them form connections with what they already know; it also offers wonderful opportunities for learning activities such as prediction and retrieval. Obviously you could substitute anything for the NASA picture of the day: a great sentence in a writing class; a newspaper headline in a political science class; an audio clip for a music class; or a physical object in an archeology class.

What this small teaching technique really strikes me as accomplishing is a message from the instructor that hits on several of the motivational emotions we have considered already: I find this stuff fascinating, and I think you will too. Let's wonder together about it. I can't think of a better way to begin (or pre-begin) a learning experience with your students.

Open with Stories

Once class has started, the simplest way to tap the emotions of your students is to use the method that every great orator, comedian, emcee, and preacher knows: begin with a story. Human beings are storytelling and story-loving animals. As cognitive psychologist Daniel Willingham puts it, "The human mind seems exquisitely tuned to understand and remember stories—so much so that psychologists sometimes refer to stories as 'psychologically privileged,' meaning that they are treated differently in memory than other types of material" (Willingham 2014, pp. 66–67). Willingham points to the results of experiments demonstrating that people seem to find stories as having a special power to capture and maintain interest: "Reading researchers have conducted experiments in which people read lots of different types of materials and rate each for how interesting it is. Stories are consistently rated as more interesting than other formats (for example, expository prose) even if the same information is presented" (p. 68). Willingham and other researchers posit a number of different possible reasons for this, but one clear reason to me seems to be that the best stories invoke emotions. Stories have the power to induce laughter, sorrow, puzzlement, and anger. Indeed, I would be hard-pressed to think of a great story that did not produce emotions of some kind. We learned from Sarah Cavanagh that when emotions are present, our cognitive capacities can heighten; so if we can open class by capturing the attention of our students and activating their emotions with a story, we are priming them to learn whatever comes next.

You probably have plenty of stories you tell during your lectures or discussions. Perhaps you tell the stories of how certain key discoveries were made in your discipline; perhaps you tell stories about the famous people who have been major thinkers in your field; perhaps you tell stories about experiences you have had that

connect to your course topics; perhaps you tell stories about things that you encounter in your daily reading, or in the news, or in movies or television shows you love. All these stories might appear in random points throughout your course, or perhaps you use them to illustrate certain key ideas when they crop up throughout the class period. The small teaching recommendation here is simply to be more deliberate about your use of stories. Take your best story and open with it. Ideally, you should use an opening story that will help pique the interest of your students in the material to come in that class period, in addition to activating an emotion or two. For example, on the day that I introduce Romantic literature in my British literature survey course, I have historically given a lecture about the economic disparities that existed during that time and that drove many writers to focus their writing on the poor and outcast members of society. This lecture went about as well as most of my lectures go—meh—until I discovered in my own reading a heart-wrenching newspaper story from that time period of a child chimney sweep who was beaten to death by his master, his cries echoing through the streets of London. My lecture on the economics of the Romantic period now opens with two stories: the tale of this poor chimney sweep and the tale of the coronation party of the prince regent, which was one of the most lavish affairs ever held in England at that time. These two stories, first individually and then taken together, help draw the students in and set them up for the statistics on wealth and income inequality that will follow. At the end of the semester, on the final essay exam for the course, I find that students still will remember the story of that chimney sweep and the spendthrift prince regent and will use them in their answers on the literature of the Romantic period.

Another way of thinking about the use of stories in your class would be to follow a suggestion made by Willingham and frame a class as a story: "Organizing a lesson plan like a story is an effective way to help students comprehend and remember" (p. 67). For

example, you might open class with the first half of a story, one that should leave your students puzzled and wondering what comes next. Then launch into the class, explaining that they will now need some information or ideas or theories to better understand how to resolve that puzzle. At the close of class, finish the story. Another way to think about this would be to open the class with a question, one that the class period will help the students answer. As Willingham writes, "The material I want students to learn is actually the answer to a question. *On its own the answer is almost never interesting*. But if you know the question, the answer may be quite interesting" (p. 75; italics in original). In sum, consider how you can use the opening and closing minutes of class to set students up with a fascinating question or story opener that gets resolved by the end of the class period. The bulk of what you do within the class might change very little in this model; what changes is the frame, which you tweak in classic small teaching fashion.

Invoke Purpose—Especially Self-Transcendent Purpose

Over the course of a semester, students—perhaps like instructors—are going to occasionally lose sight of the bigger picture. When they are dug in and working on a specific and thorny problem-solving exercise during the seventh week of the term, they may forget that you are ultimately teaching them skills that will help them pass the CPA exam or will enable them to become successful entrepreneurs, or will provide them with the skills they need to end world hunger. Students need regular invocations of the larger purpose of individual exercises, class periods, and course units. The authors of a large-scale study of motivation among West Point cadets both during college and throughout their army careers argue that regular invocations of purpose are essential to creating a climate that fosters and rewards deep, intrinsic motivation. Although they

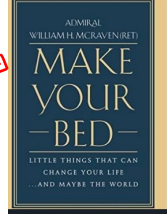
use language appropriate to business organizations, the findings translate easily into education:

> If organizations do little or nothing to emphasize their purposes, aside—for example—from earning profits, internal motives may wither while instrumental motives become ascendant. Small but regular reminders of organizational purpose can keep internal motives dominant. . . a range of meaningful consequences should be highlighted (e.g., impact on others, mastery). (Wrzesniewski 2014)

As we saw from the "Boring but Important" study (Yeager, Henderson, Paunesku, Walton, D'Mellow, Spitzer, and Duckworth 2014), the meaningful consequences that may prove most effective for your students are those that emphasize the power of your discipline to help their fellow human beings or to make a positive impact on the world in some way. You will have to begin the process of motivating students in this way by reminding yourself of the reasons that your discipline does matter—something we can lose sight of after years of teaching or in the long slog of the semester. In the middle of a composition course, I'm not always thinking about the fact that powerful pieces of writing or oratory have turned the tide against slavery, have created new nations, or have inspired people to drop everything and dedicate their lives to the poor. However, I know these things are true, and they have inspired me. They can do the same for my students.

When the authors of the West Point study spoke of small but regular reminders that invoke purpose, they were speaking the language of small teaching. Such reminders about the larger purpose of your course can and should appear in any of the following ways:

- *On your syllabus*. Tune the language of your course description to the promises that your course makes to them rather than to



Make Your Bed by William H. McRaven

Summary

10 key chapters

- Start your day with a task completed
- You can't go at it alone
- Only the size of your heart matters
- Life's not fair–drive on!
- Failure can make you stronger
- You must dare greatly
- Stand up to the bullies
- Rise to the occasion
- Give people hope
- Never, ever quit!

IF YOU WANT TO CHANGE THE WORLD....

- start off by making your bed.
- find someone to help you paddle.
- measure a person by the size of their heart.
- Get over being a sugar cookie** and keep moving forward.
- don't be afraid of The Circus*.
- slide down the obstacle head first.
- don't back down from the sharks.
- be your very best in the darkest moments.
- start singing when you're up to your neck in mud.
- don't ever, ever ring the bell.

*Navy SEAL training. "The Circus" is another two hours of additional calisthenics, combined with non-stop harassment by SEAL combat veterans who want only the strong to survive the training.

**As one of the "punishments" for failing uniform inspection, a SEAL trainee is ordered into the surf to get good, cold, and wet, and then to roll around on the beach until they are completely covered in fine white san

FINAL WORDS....

- Start each day with a task completed!
- Find that friend who will help you pull through your life.
- Life is never fair, drive on!
- You will fail often, but continue driving and pushing!
- Hope is the most powerful force in the universe
- When times are tough, step up and rise to the challenge

MOST IMPORTANTLY, NEVER EVER GIVE UP!

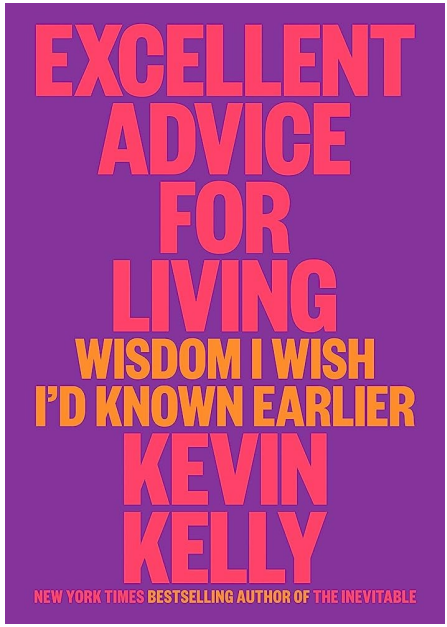
the subject material that you will be covering. What skills will students develop that will enable them to make a difference in the world? What purpose will the learning they have done serve in their lives, their futures, their careers? Invoke this language from the first day of the course.

- *On individual assignments*. Draw from that syllabus language in every assignment. Use words and phrases that tie each assignment at least one step up toward your course promises: "This paper assignment is designed to help you develop your skills in crafting a thesis and using evidence to support an argument. . .These presentations should prepare you to make effective sales pitches to organizations or groups. . ."
- *On the board, real or virtual*. The simplest way to connect individual class periods to the course purpose is to keep that connection in front of their face during class, real or virtual. Have a simple but overarching course or unit outline that you can write on the board each class period, and then note exactly where this class falls within that larger picture. This could be done on the actual board or on your course website's individual pages.
- *In the opening and closing minutes of class*. Use those coveted time periods to remind students where they have been, where you are now, where you are going, and—most important—*why*.

As long as you have made your initial case about the purpose of your course effectively, on your syllabus and in the opening weeks of the semester, you should need only small reminders to help students reconnect to that purpose throughout the term.

Share Your Enthusiasm

If you want students to care about the material, you not only have to care about it yourself—which I will take for granted that you do—but you also have to *demonstrate to them* that you care about it.



Habit is far more dependable
than inspiration.
Make progress by making habits.
Don't focus on getting into shape.
Focus on becoming the kind of person
who never misses a workout.

If you are the smartest person
in the room, you are in the wrong room.
Hang out with, and learn from
people smarter than yourself.
Even better, find smart people
who will disagree with you.

You should demand
extraordinary evidence
in order to believe extraordinary claims.

Rule of 3 in conversation:
To get to the real reason, ask a person to go
deeper than what they just said.
Then again, and then once more.
The third time's answer
is the one closest to the truth.

You can find lots and lots of research in the educational literature on the role that teacher enthusiasm plays in inspiring students to learn, and you can find plenty of grumpy responses from instructors who claim that they should not have to dance around and sing the praises of the material to inspire student learning. At one point in my career, I remember reading a bunch of the literature on this subject and having this same grumpy reaction, which stemmed from my more introverted leanings. At that time I was teaching an upper-level seminar on British literature, and the students were participating very well in our class discussions. They didn't need my enthusiasm or inspiration anymore, I reasoned. So I prepared very thoroughly for the next class but decided that I was not going to do what I normally did at that time—namely, sweeping into the classroom with lots of energy and attempting to spark their discussions with my own enthusiasm for the book we were reading. I came into class that day and sat down in the midst of the students at the long table in our seminar room, without any preliminary inspirational opening, and spoke very quietly about the book we were reading for a few minutes. Then I attempted to start a conversation. In 20 years of teaching, that class was the worst class I have ever experienced. Even though I have probably taught thousands of individual class sessions, I still remember vividly not only the horrible feeling of being in that lifeless classroom, but also the profound sense I felt afterward of being *so completely wrong*. I realized at that moment that no matter how great my students are or how well the class is going, I still have to inject some of the energy into the room. To put it in the terms of Sarah Cavanagh's book, for a contagious fire to alight in my classroom, I have to start the process by striking the match.

With that said, you still don't need to dance around and sing to demonstrate to your students that you care about this material, that it matters to some larger context (their lives, their community, the world), and that you want it to matter to them. You can

do this with occasional asides in class about the moments in your own learning that really sparked your interest or led you toward some exciting new discovery. Or you can do it by noting when the course arrives at the material that you find most interesting or important: Of all the books we are reading this semester, this one's my absolute favorite—I've read it 20 times and still find new insights in it; this particular problem never fails to fascinate me; I have been waiting all semester to get to this point because now we are facing the most intriguing challenge that most of you will confront in your careers. The small teaching recommendation here simply involves allowing the enthusiasm that you felt when you were first studying your discipline—or that you show to your peers and colleagues when you are talking about your favorite features of your discipline—show in your classroom as well. The personality that appears when I am talking to a colleague in the hallway about the most recent book from my favorite novelist should find its way into my classroom.

That can happen in lots of small ways; it takes only a deliberate decision to open that side of yourself to your students in as many class periods as possible. You'll have your dull and uninspiring days, as we all do. But I once heard a recommendation that has helped me tap into that enthusiasm more effectively. I wish I could remember and credit the individual who told me this, but it occurred at one of the many teaching conferences or workshops I have attended, and the details are lost in the recesses of my memory. What I do remember is this faculty member explaining that before every class session, they sat down in their office chair for five minutes to gather their thoughts and—more importantly—to remind themselves about what they found so fascinating about their discipline. They tried to re-capture that sense of wonder they felt when they first began learning about whatever subject matter was on the agenda for that day. That's all it took for that person to inject energy and enthusiasm into the class. Even if it's only one or

two minutes, experiment for a few weeks with pausing before you head over to class each day, disconnecting from your devices and just gathering your thoughts. Use those moments to connect with whatever you find most fascinating about that day's material, and let it rise to the surface of your mind—allowing it to remain there throughout class.

Pay Attention to Every Student

I had the opportunity to attend an event a few years ago on my campus in which we discussed how individual relationships with students can impact their learning. A colleague in psychology, Paula Fitzpatrick, offered the following fascinating contribution to this discussion. She was an introvert, she said, but she had decided that she wanted to make a more deliberate effort to connect with the students in her classroom. In the previous semester she had shown up to every class session 5–10 minutes early and—even though she found it a struggle—spent a few of those minutes approaching individuals in the class and engaging in casual conversation. She did so in a carefully planned way, ensuring that she approached every student at least once over the course of the semester: "Even that stony-faced kid sitting in the back row—I made sure I spoke to him too." When her student evaluations came in after the semester had ended, she was quite surprised to find that multiple students noted this simple practice of hers as something that contributed to the overall positive atmosphere in the classroom. What struck her about this particular experience that differed from previous semesters was that in the past she might have engaged in occasional patter with the students in the front row; this semester she made the effort to speak to each student individually at least once.

To help understand why this small gesture might matter so much to students and how it connects to their emotions, consider

one of the more fascinating findings from Chambliss and Takacs's study reported in *How College Works* (2014). In collaboration with others at their institution, the authors analyzed a massive survey of student writing at their college, trying to determine whether student writing improved over the course of a student's four years. One surprising result of this analysis was that many students demonstrated very fast gains in writing in their first year of college—sometimes within weeks or months of arriving at the college. This happens less because of any specific instruction, they concluded, than it does for the very simple reason that instructors at the college they studied make a strong commitment to responding to student papers, both in their comments and in individual student conferences. When the students see that instructors are actually reading and critiquing their work, they become motivated to work a little harder at their writing—and that harder work pays off in some immediate gains in their writing abilities. As Chambliss and Takacs explained, "What mattered from professors was the sheer fact of paying attention: she took the time; he helped me. Attention says to the student, 'Writing matters'; but more, it says, '*Your* writing matters'" (p. 112, italics in original). This suggests that the sheer fact of paying attention to student work spurs a motivational boost. In the same way, my colleague's experience suggests that paying attention to students in class made a noticeable difference in creating a positive atmosphere in her classroom and even—as she explained to us later—increased the number of students who participated in classroom discussions.

See if you can find ways to use the periphery of the class period—those minutes before class starts, or after class starts, or outside of the strict content of your online courses—to pay attention to the individual learners in your course. Chambliss and Takacs's research suggests that this very simple act can not only boost the motivation of your students, but can even improve their learning.

Warm Up Your Language

The pandemic brought a welcome new attention to the fact that our students are human beings with vulnerable bodies and complex lives outside of our courses, and that higher education faculty in general have to do a much better job of engaging in *cura personalis*, or the care of the whole person. This Latin phrase comes from the spiritual teachings of Saint Ignatius of Loyola, and has long been a feature of Jesuit education (as I learned during my years as a student at Jesuit institutions). *Cura personalis* should become part of all of our thinking about the education we offer our students. Some of the recommendations I made in the previous chapter will contribute to that care of the whole student, but I want to finish this chapter with one final strategy that you can use to demonstrate better care for your students, creating the kinds of social connections that will encourage your students to ask for help when they need it.

Over the past few years some researchers have been looking at the difference between "warm" and "cold" language in course documents like syllabi or assignment sheets. Cold language consists of neutral descriptions of policies and consequences; warm language is empathetic, compassionate, and inviting. It explains the reasons for policies, encourages students to seek help when they need it, and conveys understanding for the challenges students face. One study conducted by Regan Gurung and Noelle Galardi (2021), asked more than two hundred students to read syllabi that were written in warm and cold tones, and then surveyed them about their willingness to reach out for help to that instructor. Students reading the warm-toned syllabi reported greater willingness to ask for help in several key areas, including when they were having problems with a class assignment. Here's an example of what a warm-toned syllabus statement related to missing or late work looked like in the experiment: "Such life events are unwelcome

and because I understand how difficult these times are, . . . I will be happy to give you a make-up exam." Contrast a sentence like this with the kind of cold-toned statement that I have seen on many course syllabi: "Late work will not be accepted." Imagine yourself as a student in both of those courses: Which instructor are you going to ask for help? In which course will you see the instructors as someone who cares about you and your learning? In which course are you more likely to follow that instructor on a challenging learning journey?

When cell phones first began to make their way onto college campuses, and into our classrooms, I added a statement to my syllabus that I now recognize was ice-cold:

> PUT AWAY AND TURN OFF YOUR CELL PHONES! If your phone rings or vibrates in class, or I see you checking it or texting, you will be absent for that day.

Brrrr. Not only is there no compassion or empathy here, there are also all caps and exclamation points to drive home the inflexibility of my attitude. A dozen years later, with the research on warm-language syllabi under my belt, my policy on the use of technology in the classroom begins like this:

> We are all challenged these days by the ways in which our digital devices—including laptops, tablets, and phones—can steal our attention away from our immediate surroundings. In this class we will have a technology policy that is designed to support your attention to one another and to the course material.

And ends like this:

> If anyone has an accommodation that would make any of these policy items challenging in any way, please let me

know by e-mail prior to Wednesday's class. I will make sure I modify the policy accordingly. *I am very happy to do this*. If you have any other hesitations or concerns about the policy, for any reason at all, please let me know that as well. I want to ensure that this policy supports our work while meeting your needs as a student.

Writing this newer policy made me feel like I was working in collaboration with my students on a shared challenge, rather than acting like the prison warden laying down the rules and consequences for violators.

As your final act in support of student motivation, then, read through your syllabus before the next semester begins, and look carefully at the tone of it. Where do you see cold language? And how can you warm it up?

PRINCIPLES

Use these three basic principles to guide both your motivational strategies and your own reading on this most important of topics for teachers at any level.

Acknowledge the Emotions in the Room. They are there. You can't do anything about that. Rather than see that as a negative, instead look at the positive possibilities. You can tell stories, show film clips or images, make jokes, or do any number of things that will briefly activate the emotions of your students and prepare them to learn. You can leverage the power of emotions to heighten the cognitive capacities of your students at the opening, midway point, or closing of a course or a class period.

Show Enthusiasm. First, care about your course material. If you are not excited by what you are teaching, and if you do not care deeply about it, don't expect your students to care about it either. But they won't know that you care deeply about it unless you are willing to show that to them, however that might seem best to you. Second, care about your students' learning. That means acknowledging that they are full human beings, not cognition machines, and the noncognitive parts of them sometimes will distract them from learning tasks. Let that awareness hover in your mind as you write course materials or interact with students who are not performing as you think they should, and allow it to govern the tone of your interactions.

Evoke Purpose. We all know that the learning students do in our courses has the potential to improve their lives. A student who can produce great writing that moves audiences will be a better candidate for almost any professional career, and could also use their writing skills to have a greater impact in their chosen fields. But the pathway to that purpose from a grammar lesson on Wednesday morning in the seventh week of the semester can be a long and invisible one for students (and sometimes, frankly, for me). Think continually about the ways in which you can remind students of the ultimate purpose of their learning, first to improve their own lives—but perhaps more importantly, to make the world a better place.

SMALL TEACHING QUICK TIPS: MOTIVATING

Students bring into our courses a complex mix of backgrounds, interests, and motivations, and we can't turn every student into a passionate devotee of our discipline. We can, however, help create

better learning in our courses with attention to some small, everyday motivational practices that have the power to boost positive emotions and learning.

- Open individual class or learning sessions (and even readings) by eliciting student emotions: give them something to wonder about, tell them a story, present them with a shocking fact or statistic. Capture their attention and prepare their brains for learning.
- Consider how practitioners in your field, or the skills you are teaching them, help make a positive difference in the world; remind them continually, from the opening of the course, about the possibility that their learning can do the same.
- Show enthusiasm for your discipline, for individual texts or problems or units, and for your hope that students will find them as fascinating as you do.
- Get to class early every day and spend a few minutes getting to know your students, learning about their lives and their interests, and creating a positive social atmosphere in the room.
- Warm up the language of your course documents, starting with your syllabi. Envision a student reading the course policies on your syllabus: How approachable do you seem to them? How willing are you to give them help when they need it?

CONCLUSION

Thinking about the emotions of my students, and the role that they play in their learning, is challenging for me. I have worked for many years now with Sarah Cavanagh, whose work animated the theory section of this chapter, and she once pointed out to me that when conversations with colleagues on campus take a strong emotional turn, she can see me physically shrinking into

myself, as if I want to disappear. That observation is accurate; I have always found myself uncomfortable in the presence of strong emotions, and in general I am not all that attentive to emotions in myself or other people. Whenever I am in a faculty meeting and someone begins to show an emotion like anger or frustration, it takes me completely by surprise. I thought we were just having an interesting exchange of intellectual views, while apparently some emotional stew was bubbling under the surface of people's comments—and I had no sense of it whatsoever.

All of this is to say that for a long time I paid little attention to the emotions of my students—not because I didn't care about them, but because I don't pay all that much attention to emotions in general. But it's impossible to ignore the findings of the research on motivation and emotions. If we want to be effective teachers (and I do) than I have to pay at least some attention to the emotions in the classroom, both mine and my students. I have found that doing so has created a stronger sense of connection to my students, and I have welcomed that change. The more I get to know them and learn about their lives, the more I am amazed by their accomplishments, and the more invested I feel in their learning. Even if you share my discomfort with the idea of working with the emotions of your students, I can assure that even small investments of time and energy into this part of your teaching work can pay substantive dividends—both for you and for your students.

Chapter 9

Learning

INTRODUCTION

During my final year of graduate school, I was looking for a part-time job to supplement my university stipend. I had worked at a used bookstore throughout most of graduate school (it turns out that working at used bookstores entails more than sitting behind a counter with a cat on your lap), but my wife and I had moved to a new apartment and it didn't make much sense for me to commute 30 or 40 minutes a day through Chicago traffic to earn late-90s used bookstore wages. I saw an advertisement for a graduate fellow position at the Center for Teaching Excellence on campus, and it seemed like the number of hours was about right for me. I had no idea what a Center for Teaching Excellence was, but I sent in my application and got an interview. The director of the center at that time was Ken Bain, a historian whose powerful and influential works—still germinating at that time—include *What the Best College Teachers Do* and *What the Best College Students Do*, two best-selling accounts of the habits and practices of highly successful faculty and their students. Ken and I had a good conversation, and he offered me the job. My task would be to assist in the development of programs for graduate students, to help him continue the research he had been conducting for *What the Best College Teachers Do*, and to serve as a general factotum around the teaching center,

assisting with whatever other projects demanded our attention. I enjoyed the work so much that when I finished my dissertation the next year, I applied for a position as assistant director, and served in that position for the next three years.

What drew me into the work of studying teaching and learning in higher education were two things that Ken did for me, one specific and one more general. The specific thing that Ken did when I was first hired was point me to the bookshelves and file cabinets in the center, all of which were stuffed with monographs and articles on teaching and learning, and say, "Take some time and explore the library. Read around a little bit in the subjects that interest you." I was teaching as a graduate student at that time and struggling to get students engaged in meaningful discussions of the literature they were reading, so I immediately pounced on the articles about teaching by discussion. From that moment on, I got into the habit of addressing any teaching problem I might have by first digging into the literature in search of research and recommendations.

But beneath this specific invitation that Ken issued to me to explore the literature, he did something much more substantive. In his approach to faculty development, in the books he wrote and the talks he gave, in everything he did in this field, he communicated to me and to his audiences a fundamental idea that has animated my career ever since: helping another human being learn is a fascinating challenge, one as worthy of our scholarly attention as are the questions we pursue in our disciplines. Strange though it might seem, this had never occurred to me before. I had always walked into the classroom wondering how I was going to teach. It never occurred to me that my actual job was to help people learn. Of course, once you make this mental shift, an avalanche of questions follows. How *do* people learn? What happens in the brain when we learn something? Why does learning fail at times and succeed at other times? Why do we forget some things we learn and remember others? What inspires people to learn, and what

turns them away from learning? As in almost every scholarly field, questions like these expand and twist and multiply as you pursue them, and in my case have never stopped sending me back to the scholarship of teaching and learning in higher education, wondering how to solve the latest problem I have encountered in my classrooms.

In this final chapter, wholly reconceived for the second edition, our focus will thus turn to learning—your learning, not your students. I hope your reading of this book means that you too have an interest in the fascinating question of how to help other human beings learn, and that you intend to continue your journey as a student in this burgeoning scholarly field. And I don't use the word burgeoning lightly—the past few decades have seen an absolute explosion of new articles, books, and other resources on teaching and learning in higher education. Every author of course wants you to believe that their particular topic offers the master key for good teaching, and it's easy for anyone to get overwhelmed by the sheer volume of teaching approaches and practical tips you find in the scholarship of teaching and learning. The goal of this chapter is twofold: to acquaint you with some enduring classics in the field, and then to introduce you to some current people and resources whose work will repay your attention and produce the greatest possible dividends in your studies.

IN THEORY

I hope you don't require much convincing that you should continue to learn as a teacher—you wouldn't be reading this book if you didn't already believe that to a certain extent. Thus, I'll keep the theory section of this chapter brief, and use it to articulate the three primary reasons that have made me a lifelong devotee of the literature on teaching and learning in higher education.

First, our students are always changing. This happens at both the micro and macro level. Sometimes I am teaching two sections of the same course, in back-to-back time slots, and find that my carefully prepared teaching plans work amazingly well with one of those classes and fail miserably with the other. Each community of students has its own personality and requires continuous small adjustments to our teaching. But our students are changing throughout higher education as well, as our campuses and classrooms are opening up to an increasingly diverse student population. In addition to the growing numbers of Black and Hispanic students in higher education (U.S. Dept. of Education 2019), we are seeing more and more first-generation students, students with physical and mental health challenges, and students from across the socioeconomic spectrum (Center for First-Generation Student Success 2020; DeAngelis 2019). These are all fabulous trends that enable higher education to become a truly transformative enterprise. But these changes to our student populations mean that we have to do *the work*: we have to welcome these students to campus, build community with them, help them feel like they belong, understand the knowledge and experiences they bring to our courses, and identify the teaching strategies that will best help them build and grow from where they are now. The recommendations for inclusive teaching that I referenced in Chapter Seven represent the kind of thinking that we need to undertake continuously in light of our ever-changing student populations. The question that we have to ask ourselves each year is how we are going to teach the actual students in our courses, and not the students who were in our courses 5 or 10 years ago. That question should inspire us to continue learning.

Second, our understanding of the learning brain, like our understanding in almost every scholarly field, continues to grow and evolve. Some of the new discoveries made about the brain by neuroscientists and cognitive psychologists have clear

implications for teachers. For a long time brain research and educational practice seemed to operate in two separate spheres. But especially in the past decade research on learning and the brain has been translated into accessible forms for working faculty both by scholars in the field and by synthesizers like myself. Most of the books and websites that I will recommend in the next section come from people who either have conducted their own research and experiments on learning, or who have taken a deep dive into the literature and returned with practical recommendations for faculty. I do see teaching as both an art and a craft, and the humanities part of me sometimes cringes at the seemingly *de rigueur* phrase these days that our teaching methods have to be "evidence-based." Teaching is not a mechanical process; we can't always follow evidence directly into practice in our particular contexts. We need creativity and experimentation. But we should create and experiment with at least a basic understanding of the process of human learning in mind. Since our understanding of the learning process continues to evolve—just as our understanding of almost every scholarly field continues to evolve—we should do our best to stay on top of the most important developments. The websites that I recommend in the next section, especially Retrieval Practice and the Learning Scientists, will help you stay current with the latest research on learning and its implications for teaching.

Finally, maintaining a teaching career over the course of a few decades requires regular infusions of new energy and enthusiasm for you as a teacher. I have taught English composition and Introduction to Literature dozens of times in the last 20 years. Usually after a few iterations of a course, I have a solid grasp on what works, and could ride out my basic approach for a lifetime. But doing that would gradually wear away my passion for those courses, and I have no doubt that the erosion of my passion would have ripple effects on my students. I would much rather change

two or three things every semester, even if I know that one of them will fail, than continue to teach in the exact same way, because such changes keep me engaged. I'm a little more energetic, a little more curious, a little more off-balance on the days or semesters in which I am trying new things. When those new thing go well, I want to try them again; when they fail, I want to understand why. In both cases I'm learning new things about teaching, learning, and my students—and, as I expect is true for you as well, learning new things is one of the great pleasures in my life. We should therefore not apologize for making small, continuous changes to our teaching in service to our own professional satisfaction and enthusiasm. The more satisfied and enthusiastic I am as a teacher, the more I will bring my best self into the classroom, the one most likely to make a difference to the lives of my students.

The resources below are my trusted guides to making the kinds of small and ongoing changes to my teaching that have kept me energized for the past 20 years, and that I hope will keep me inspired for many years to come.

RESOURCES

My goal in providing these resources is to point you to some productive pathways for your future learning without overwhelming you. I have perhaps erred on the overwhelming side in the books category, but in the others I have limited myself to just a few essential entries. There are many more out there, but these give you good starting points.

Books

As you may well imagine from the fact that I am a writer of books, I prefer to get new information and ideas from books. The

following titles include both enduring classics on higher education pedagogy and some newer titles on how people learn.

- *What the Best College Teachers Do* (Bain 2004). Ken Bain's elegantly written analysis of highly effective college teachers remains for me the first book that all college teachers, new and experienced, should read at some point during their careers. In this book you can get a taste of the experience I had in my formative years working with him at the teaching center, having my eyes opened to the fascinating problem of how to help another human being learn.
- *Make It Stick: The Science of Successful Learning* (Brown, Roediger, and McDaniel 2014). An expertly researched, and well-written book on how people learn and what it means for us as teachers (and learners). Two cognitive psychologists (Roediger and McDaniel) teamed up with a novelist (Brown) to make this book an especially readable entry in the field. The book is addressed to a general audience, not just teachers, but the implications for teachers shine through pretty clearly.
- *How Learning Works: Seven Research-Based Principles for Smart Teaching* (Ambrose, Bridges, DiPietro, Lovett, and Norman 2010). The title says it all. Aimed at college and university instructors, a clear and well-researched overview of what college teachers should know about topics like learning, motivation, feedback, and student intellectual development.
- *Why Don't Students Like School?* (Willingham 2009). Although Willingham's book articulates its audience as K–12 teachers, this college instructor found in it enough useful and fascinating information about learning and teaching to merit my highly recommending it to college and university instructors as well. A new edition of this book was published in April of 2021.
- *Teach Students How to Learn: Strategies You Can Incorporate Into Any Course to Improve Student Metacognition, Study Skills, and Motivation*

(McGuire 2015). In some future edition of this book, I'm going to get around to writing a chapter about metacognition—helping students become more aware of their own learning processes and improve them. When I write that chapter, I will most certainly draw from Saundra McGuire's excellent book, which provides plenty of concrete recommendations for helping your students become better managers of their own learning and education.

- *For White Folks Who Teach in the Hood . . . and the Rest of Y'All Too* (Emdin 2016). As with Daniel Willingham's book above, the primary audience for this book is K–12 educators, but as with Willingham, I think the analyses and recommendations of Christopher Emdin translate easily to higher education. If you want a better understanding of the life experiences and cultural backgrounds of your increasingly diverse student bodies, and new approaches for teaching them effectively, Emdin provides an excellent starting point for your learning.
- *Discussion in the College Classroom: Getting Your Students Engaged and Participating in Person and Online* (Howard 2015). Sociologist Jay Howard's book analyzes the social norms that can support of interfere with student participation in your courses. I'm not sure any book on education has more radically upended my thinking about student engagement, and given me new ways to understand the classroom, than this one.
- *Minds Online: Teaching Effectively with Technology* (Miller 2014). Although the research in this area moves quickly, cognitive psychologist Michelle Miller focuses on principles and practices that are still essential reading for anyone who teaches online or uses technology in their teaching (i.e., pretty much all of us). You'll find here recommendations on everything from the use of images in your presentation slides to the design principles that should animate your online teaching.
- *Distracted: Why Students Can't Focus and What You Can Do About It* (Lang 2020). During the years following the publication of

Small Teaching, I found myself increasingly interested in the literature on attention and the role it plays in learning—and upon the ways in which digital devices in the classroom were sometimes helping and sometimes hurting the learning of my students. In this book, I argue that instructors need to recognize the challenges to attention that our students face in their learning—and that all of us face in the digital era—and I offer my perspective on the ways in which we can best support student attention in our courses.

- *Small Teaching Online: Applying Learning Science in Online Classes* (Darby, Lang 2019). When I first started giving presentations on the material in this book, people always asked me about how to apply them online. I used to joke that I was happily accepting applications for co-authors. Flower Darby approached me after one of those presentations and offered her service. *Small Teaching Online*, largely authored by Flower with some support from me, expertly applies the concept of small teaching to the online and hybrid courses that so many of us are teaching now.

Book Series

Give someone a fish, the saying goes, and you feed that person for a day; teach them to fish and you have fed them for a lifetime. The above books are all fish that should keep you sated for at least a year's worth of reading, but eventually you'll want to catch your own dinner. The publishers below are the places to search for more titles in your areas of interest.

- *West Virginia University Press*. For the past five years I have been working with WVUP's director, Derek Krissoff, to build a new list of titles on teaching and learning in higher education. We now have ten titles published and another dozen in the pipeline. You can find in our series books from higher education

heavyweights like Kevin Gannon, Sarah Cavanagh, Josh Eyler, Derek Bruff, Susan Blum, Tom Tobin, Michelle Miller, and Jessamyn Neuhaus.

- *Princeton University Press*. Former press director Peter Dougherty has been building a new list of titles called Skills for Scholars, and this series of compact books represents an impressive new entry to the field. Just a handful of titles have appeared thus far, but the books are all very high quality—and typically very concise, making for manageable reading during a busy semester.
- *Jossey-Bass*. You are holding a Jossey-Bass book in your hand, and this division of the larger publisher Wiley has long published great books for teachers. Four of the ten books in the list recommended above are Jossey-Bass titles, and you can find many more well-researched volumes in their Professional Learning series.
- *Stylus*. With the largest catalogue of books on higher education teaching and learning that I know of, Stylus has a book on just about every subject you can imagine in the field. Their enormous output means the quality can occasionally be mixed, but you can find reliably good titles in the Excellent Teacher series edited by Todd Zakrajsek.

Web Resources

When you have a teaching problem or a specific topic you want to learn more about, you probably begin with your generic search engine. You will be more likely to find resources that have been produced and vetted by leading experts in the field if you instead visit any one of the following websites and conduct your search there.

- *Vanderbilt University Center for Teaching*. The Center has done a remarkable and heroic job of creating guides to almost every imaginable aspect of teaching and learning in higher education.

The guides provide theoretical background, practical recommendations, and sources for further consideration. Simply outstanding work by director Derek Bruff and his team.

- *Carnegie Mellon University Eberly Center for Teaching Excellence and Educational Innovation*. Marsha Lovett and her colleagues at the Eberly Center have done similarly excellent and generous work in preparing an extensive set of freely available resources on teaching and learning in higher education. You can both browse through their guides or visit their "Solve a Teaching Problem" site to get immediate, directed help.
- *The Learning Scientists*. If this book has sparked your interest in the mechanics of learning, and you found yourself fascinated by the many studies I describe in the theory sections of each chapter, visit this excellent website to stay current in this area. The four women hosting the website are all early-career cognitive psychologists who highlight new research coming from the learning sciences and provide overviews and implications for teaching. On the website you can find essays, teaching guides, and a podcast. Everything is free, but they welcome (and deserve) support through Patreon.
- *RetrievalPractice.org*. Pooja Agarwal, whom you met in Chapter Two, is a cognitive psychologist whose research focuses on the powerful learning effects of retrieval practice; along with sixth-grade teacher Patrice Bain, she is the author of a book called *Powerful Teaching: Unleash the Science of Learning*, which is aimed at K–12 teachers. On this website Pooja covers much more than retrieval, and offers—in addition to overviews of research and links to other sources—teaching guides that you can download for free. As with the Learning Scientists, it's an excellent site for discovering new research on learning and its implications for teaching.
- *Inclusified*. Viji Sathy and Kelly Hogan are the authors of a forthcoming book on inclusive teaching, and their research-supported recommendations for how to make every student

feel included in your courses are eminently practical—just the kind of thing that this small teacher loves. Until their work is available in book form, visit their website to learn more about their approach to inclusive teaching (or read their outstanding guide to inclusive teaching in the *Chronicle of Higher Education*: Sathy and Hogan 2019). If you have the resources, bring them to campus to offer one of their popular workshops for faculty and staff.

Podcasts

Sometimes my life feels like a continuous battle against all of the amazing podcasts I have lined up in the queue and yet can't seem to find time to listen to. I can only run so many errands in the car or take so many walks before my wife starts to wonder whether I am leading a secret double life (I am not). Still, you'll find plenty of fodder for your own podcast battles with these three excellent sources.

- *Teaching in Higher Ed*. Bonni Stachowiak has been hosting thought leaders, authors, and innovative faculty members on her podcast for many years now; at the time of this writing; she had aired more than 350 episodes in her weekly show. I am always assured of learning something new from one of Bonni's guests, a highly diverse group of writers and educators.
- *Tea for Teaching*. I am a passionate devotee of tea in all of its many forms, so I have a soft spot for this podcast, which begins with a discussion of what tea the hosts (and guests) are drinking. The hosts are John Kane and Rebecca Mushtare, who run the Center for Excellence in Learning and Teaching at SUNY Oswego. Show times for both Teaching in Higher Ed and Tea for Teaching run in the 30–40 minute length, perfect for learning while you exercise.

- *Leading Lines*. The newest entry in this list, the Leading Lines podcast is focused on educational technology and higher education. Your host is Derek Bruff, the director of the Vanderbilt University Center for Teaching, and the author of two excellent books on teaching and technology. As with the two podcasts above, most episodes feature interviews with authors of recently published books, thought leaders in education, and creators of innovative approaches to teaching and technology.

OneHE

One of the bright spots for me in the accursed year of 2020 occurred when I was contacted by an educational start-up from the United Kingdom that was intending to build a complete resource and community site for higher education teachers based on the idea of small teaching. Their goal was to establish a place on the web which would provide not only research and resources for faculty, but also short online courses and the opportunity for faculty to engage in conversation and share with one another their problems, questions, and ideas. In all of these areas they keep their focus trained on the practical questions that I have tried to keep in front of you throughout this book: What am I doing in the classroom tomorrow? What small change could I implement to my teaching this week that would benefit my students? What design tweak could I make to the course I am teaching next semester that would re-energize both me and my students?

OneHE has done an excellent job of tapping experts from various areas of teaching and learning in higher education around the globe. A diverse range of contributors from many different disciplines is responsible for adding resources and curating the site. OneHE has been especially strong in providing resources on community building and the promotion of equity and inclusion in higher education, drawing in part on the expertise of Maha Bali

from the American University of Cairo. But as the list of contributors and curators continues to expand, the scope of the site has filled out to many other areas of teaching and learning in higher education.

Both individuals and institutions can subscribe to OneHE, and I hope it will become one of the primary sources online for the ongoing development of small teaching strategies, as well as a site for like-minded enthusiasts of small teaching to form community and share ideas with one another.

SMALL TEACHING QUICK TIPS: LEARNING

My experience speaking with faculty audiences for the past dozen years has been that most of us like our work, believe in what we do, and want to improve. As in every field, though, the sheer number of resources available to us can be overwhelming. Don't imagine you need to master this body of research; just aim to keep yourself thinking.

- Commit to reading one or two new books on teaching and learning every year.
- Add one teaching-related podcast to your regular roster.
- Sign up for the regular updates from Retrieval Practice, the Learning Scientists, or OneHE. All of them send out e-mails with new updates, but none of them at an overwhelming pace; you will not find yourself inundated with new e-mails even if you subscribe to all three.
- Attend a conference on teaching and learning in higher education to expand your vision even further. Most disciplines have dedicated teaching conferences in their fields; if your discipline does not, try one of the major general conferences such as the Lilly Conferences on College and University Teaching.

- Most easily and probably most importantly, start attending events on your campus sponsored by your local faculty development center (which might go under the name of Center for Teaching Excellence, or Center for Teaching and Learning, or some other variation). You'll find both expert help and like-minded colleagues there.

CONCLUSION

Over the past six years of promoting the gospel of small teaching, I have encountered plenty of faculty members who object to the premise of this book. Small teaching, they charge, isn't enough right now. With all of the challenges facing higher education, and all of the problems we have in our societies, we need bigger change. We need revolution. I hope they are surprised to hear me respond that I agree—I am all in favor of faculty members pushing the boundaries of higher education pedagogy, experimenting with radical new approaches, and questioning traditional structures of the academy. Ken Bain, the teacher who inspired me to start researching and writing about education, has been one of these advocates for fundamental change. His most recent book, *Super Courses: The Future of Teaching and Learning*, consists of profiles of faculty members who are creating highly innovative courses that blaze new pedagogical trails. He praises these teachers for the "profound revolution" they are fomenting, the "dramatic changes" that their work can inspire, the "new breed" of courses they are developing (Bain 2021). This language of deep change is palpable throughout the book, and I find his profiles of these transformational courses and faculty members deeply inspiring. Some of the resources I have recommended above will point you toward big-teaching pathways like the one Ken Bain invites you to walk in his important works.

By no means should you take the arguments in this book, then, as advocating for the status quo. Small teaching changes can serve as a way to keep you and your students engaged within traditional courses and structures—but they can also serve as the first steps on a journey toward more revolutionary changes. For a few years I experimented with having students in my composition courses write essays to different hypothetical audiences—a small teaching strategy I recommended in Chapter Six—explaining to them that attention to audience was a fundamental feature of good writing. But one year I realized that I could best drive home this lesson by having them write to an actual, public audience. This realization was precipitated by an event in another part of my life. For many years I have served on the advisory board of a local homeless shelter, and that year our website got hacked and needed to be completely rebuilt. As I was preparing my composition course that summer, I decided that I would change my composition course assignments from hypothetical audiences to real ones. I had my students take a field trip to the homeless shelter, meet the staff and guests, interview and write profiles of them, conduct research on homelessness and poverty, and produce materials for the website. Just like that, I was doing community service learning, an approach that has totally reenergized my teaching. Community service learning is big teaching on a significant order: it requires working with a partner in the local community, planning field trips, devising completely new and different kinds of assessments, and letting go of a certain amount of control of your course. It's both profoundly satisfying and profoundly exhausting.

Small teaching led me there—and it can ultimately lead you to such places as well. The small changes you make to your teaching as a result of reading this book could translate into a regular habit of making small changes, or they may yet seed the ground for greater transformations. You might take up community service learning (Jacoby and Howard 2014), consider alternative

approaches to grading (Blum 2020), or use game-based strategies like Reacting the Past (Carnes 2014). Or perhaps you will be like me, using big teaching strategies in some of your courses and more conventional small teaching strategies in others. In any given semester my composition students might be working together on a community service project, and at the same time I am teaching my British literature survey course in a much more conventional manner, sitting in a classroom and engaging in discussions about the meaning of nineteenth-century British poetry. I believe in the value of both of these approaches.

But whether you keep your teaching small and conventional or expand it into radical new territories, rest assured that there are resources out there to guide you in your journey. If you are ready to keep learning, you'll find plenty of excellent teachers out there to help you along the way.

Chapter 1
Surfacing Backward Design

PRINCIPLES

Helping your students see and benefit from the intentional design of your course pays off in important ways: They'll be more engaged when they know why they are doing what they're doing, and how it will benefit them in the course – and in other contexts, too. Better engagement leads to more meaningful learning. A few principles can help guide your approach.

Design with the End in Mind

This is just basic backward design: Keep your final destination squarely before you in every phase of your planning process. Articulate where you want your students to arrive. Plan a final assessment that will measure whether they got there. Then think critically about what they need along the way: readings and media content to provide information and knowledge they need to get where they are going; incremental tasks and assessments to act as signposts and to let students know whether they are making good progress; and learning activities and tasks to help them practice using and applying the new knowledge before being tested on their mastery of it. Equip your students with the necessary tools and supplies to help them reach the final destination.

Provide Frequent Reminders of the Purpose of Content and Activities

Using written instructions, video announcements, and weekly reminders, help students clearly see the purpose behind course activities and assessments. These reminders accomplish two goals.

First, they help *you* think through the purpose of classwork. You'll have lots of opportunities to remind yourself that there's a reason you've assigned various readings and tasks. Keeping your purpose in view will help you avoid giving students busy work, an accusation commonly made about online classes.

These reminders will also help your students stay engaged. Tell your students – often – that you deliberately designed tasks to help them learn and succeed in the class. When they see the relevance of coursework, the thread that ties everything together, students are more willing to complete activities and assessments in a way that promotes meaningful learning.

Point Students Back to the Core Objectives

You put a lot of careful design work into the creation of your class. Make the design overt for students to maximize the impact of your efforts. Create tasks that draw students' attention to course and module learning objectives. In many college classes, students don't even know what the objectives are. Have students read, think about, and respond to objectives as part of a syllabus review or orientation to the course. Provide module learning objectives that detail how module work supports course goals. Require an end-of-module or post-assessment reflection in which students evaluate how well they achieved module objectives, or what they might do differently next time. In your announcements, emails, even in individual feedback, reinforce the core objectives again and again. We all perform better when we know what the goal is. Encourage your students to achieve their best learning by repeatedly pointing out the learning goals for the class.

Connect the Beginning and Ending

Chapter 2
Guiding Learning Through Engagement

PRINCIPLES

Engagement doesn't happen as naturally in online classes as it does in person. Context isn't created effortlessly. Connections aren't always quite as clear. But it doesn't take much to help your students check in regularly to get a sense of how they're doing in the class. Provide multiple opportunities for engagement to monitor their progress, give them quick feedback and encouragement, and promote better learning.

Break Down Complex Tasks

Help your students pace their work and feel confident that they are performing to your expectations by chunking major assessments into manageable pieces. Provide a checklist or an overview of the entire process. Schedule deadlines such that you can give timely feedback so that students can benefit from it as they work on the next part of the task. Build confidence and self-efficacy as you guide and support student learning.

Notice and Respond to Cues

Where are there communications breakdowns? Are multiple students asking the same questions? Have online discussions gone astray – or worse, silent? Spend a few minutes in class every day, or if not every day, on several nonconsecutive days of the week. Post announcements to answer the questions you receive by email. Reply in the discussion forums to praise a strong post or correct a minor misunderstanding. Provide regular but not time-intensive signals to your class to ensure they stay engaged and productive.

Give Feedback – Frequently

Look for every opportunity to help students know how they are doing in the class. Think early and often. It's easy for online students to feel isolated and unsupported. Go out of your way to tell students they're on track, or what to change to get back on track. It truly needn't take long. A few minutes per day, multiple days per week. This small investment will frequently result in big learning gains.

Chapter 3
Using Media and Technology Tools

PRINCIPLES

Purposefully incorporating technology tools in online classes can have a significant positive impact on student learning. Follow these guiding principles to help ensure a successful addition to your teaching toolbox:

Identify the Objective

You began creating your class by writing your objectives, and those objectives should help determine your technology use. What tools will help you achieve your goals – and what tools will help you solve the problems that would prevent you from achieving those goals? You can and should certainly explore and learn all about the many technological tools that are available to online instructors, but explore with a critical eye. Which ones of them will help your students learn? Which ones align with your objectives? As you proceed throughout the semester, you will see new challenges arise, learning moments missed, and unexpected obstacles. These pain points are opportunities to explore and implement new tech tools. Having a good understanding of the problem you want to solve will help you find the best technology solution and help to ensure that you are using the technology purposefully.

First, do No Harm

The ancient Greek physician Hippocrates is popularly credited with this basic premise. In providing medical care, doctors are to abide by the overriding principle of not hurting their patients with prescribed treatment. Likewise, our teaching methods should not make things more difficult for our learners. Select technology tools that don't hinder learning. Some common barriers to ease of use include a difficult log-in process, out-of-pocket expense, nonfunctionality with keyboard use only, or levels of complexity that require learners to use all their cognitive resources to navigate the tech. These kinds of barriers will not promote student learning and success, so carefully analyze and test the usability of your tech tools to ensure that you are not making things harder for your students.

Provide Alternative Means of Access

Including media and using technology tools can do a lot to liven up online classes. But ensure that all materials and tools are accessible in multiple formats (your institution's disability or accessibility resources department can usually help with this). The principles of Universal Design for Learning tell us that an adjustment that helps make technology accessible for one student may also help many others be successful (Tobin & Behling, 2018). For example, captioning videos enables hearing-impaired students to consume the content – but it also benefits non-native English speakers by providing another way to take in what is being said. I have manually captioned my short lectures and announcements directly in YouTube. It takes me roughly four minutes per one minute of video to type the audio. Or, try the auto-captioning tool in YouTube, cleaning up the captions with quick edits after they are produced. You can also provide full-text transcripts for videos or audio recordings. Make sure all images are tagged so that a screen reader being used by a visually impaired learner has meaningful content to convey. If you choose to include a tool that is external to your LMS, check the accessibility first. In short, don't keep your students from being able to access and participate in your online class; provide

SMALL TEACHING ONLINE QUICK TIPS: USING MEDIA AND TECHNOLOGY TOOLS

Online classes can be text-heavy and static. Create more dynamic and engaging courses with the intentional use of media and purposeful technology tools.

- *Create short, three- to five-minute mini-lecture videos*. Narrate over a slideshow or record yourself talking to the camera on your computer monitor or smartphone. Use a native video recording tool in your LMS or an external tool or app.
- *Include assessments to ensure students are attentively watching your video content*. A short multiple-choice quiz or written or recorded reflection can hold students accountable for consuming – and actively engaging with – the content you provide.

Chapter 4
Building Community

PRINCIPLES

As should be clear by now, building community in an online class can be quite feasible. Demonstrate that you are a real person. You care about your students. You are there to support their success in an otherwise isolating environment. Your students will respond with greater engagement with you and with their peers. A few principles can help shape your own small teaching methods of building community:

Create Zones of Proximal Development

Intentionally structure student-to-student interactions. Design engaging and meaningful discussion forums. Build support mechanisms such as staged deadlines and grading rubrics to help busy online students stay on track. Consider implementing small groups to lead the discussion in an assigned module. With this approach, each group of students could develop expertise on one chapter or topic. They then lead their peers in a way that helps others advance further in their zone of proximal development. We can leverage the social interactions in our online classes to help our students learn from others who are further along in their development.

Establish Teaching Presence

One of the defining characteristics of an effective online class is the frequent presence and ongoing support of the instructor. Do your students ever see or hear you? In written text, do they get a sense of who you are personally and professionally? What are you doing to guide their learning throughout the semester? Many online instructors don't know how to "teach" in an online class, since the material can be canned or predetermined and set in place, like a textbook. You *can* actively teach your students online. They're hungry for your expertise, your guidance, your reacting in the moment, just as you do in the classroom when you detect confusion or a lack of understanding. Do this online through discussion posts, announcements, summary posts that highlight the week's main concepts, short videos to clarify a concept, and even through an old-fashioned phone call when warranted. You'll find that these guiding interactions are intrinsically rewarding as they increase your own satisfaction with teaching online.

Support Social Presence

Would you rather attend a professional conference or complete a self-paced online professional development module? Most of us value the opportunity to congregate with like-minded people, to network, to share ideas and interact with each other. Many students will feel the same way: They would prefer the in-person learning experience that results from attending classes on campus. But the flexibility offered by online classes is the only way that many students can earn a college degree. Appreciating that this mode of learning may not be their first choice, indeed that they may feel anxious and alone, will help you shape your approach to creating and establishing a thriving online community. Be sure to sustain your efforts: speaking from personal experience, it's easy to start out strong, and then fade away from class interactions as the semester gets busier and busier. There is no better way to squelch student engagement and learning. Develop efficient ways of interacting with your students, and *sustain those efforts* until the final week of class. The continuity of your personal engagement will help your students stay actively engaged with the course and each other as well.

Chapter 5
Giving Feedback

PRINCIPLES

Given the unique dynamic of an online class, intentional effort must be made to support students through regular and ongoing feedback. These principles can shape your way forward.

Be Timely and Responsive

At the risk of repeating this point too often, let me reinforce the importance of being available to answer questions and to help students know how well they are doing in the class. When you teach in person, students know where and when to find you, and, importantly, they have also committed to that meeting time in their schedules. The same is not true in an online class. Reduce student anxiety by being responsive to questions and returning assessments as soon as is reasonable. Explicitly state in your syllabus when students should expect you to reply to emails and return graded work. If you become unexpectedly unavailable, let them know. Explain why and when you'll be back. A little transparency goes a long way. Make yourself accessible for students. The payoff – increased student commitment and effort – will be well worthwhile.

Take Advantage of the Tech

We can do many things more effectively when teaching online than we can when teaching in person. Using technology to provide highly efficient yet powerfully meaningful feedback is one of them. Put the affordances of technology tools to work for you. Take advantage of embedded or readily available technologies such as LMS rubrics, audio- or video-recording capabilities, and even the oft-forgotten phone to communicate with both efficiency and impact. You can give individuals targeted specific input on their work. Doing so doesn't have to dominate your schedule when you apply the right tech tools to the task.

Put Yourself in Your Students' Shoes

Think of situations in which you've been anxious about your performance – such as from your own student experience, or from waiting for the peer review comments on the article you've submitted to a respected journal in your field. Perhaps in your employment, your supervisor is opaque; you don't have a sense of how you are doing or where you may need to improve. Not receiving guidance or timely answers, not having a clear sense of your standing in a situation, can increase anxiety. Equip your students for their best success by calling to mind how it feels when you lack the input you need to move forward productively. Demonstrate empathy and caring by being available to help.

Chapter 6
Fostering Student Persistence and Success

PRINCIPLES

I suppose I am so interested in helping students persist and succeed because more than the grades are at stake. Like my friend in the advertising and PR department, I have bigger goals for my students. Whatever the class I'm teaching, I want students to mature and grow in confidence. We can apply small teaching strategies to help our students pass our classes. More importantly, these approaches will help our students become more effective in their personal, professional, and civic lives.

Help Students Commit to, and Achieve, Success

As their instructor, *you* know what it takes for your students to complete your class. Help *them* to understand what it takes. Help them commit to doing the necessary work. Assign tasks that cause students to evaluate their readiness for your class. Ask students to think about what they are willing to do to get through. Have students articulate their plan of action. At strategic points of the class, check in with students. Ask them if they are meeting the goals they laid out in Week 1. Suggest ways they can continue moving forward, even if they've had a setback such as a failed exam. Help your students see how to succeed and, importantly, take action that allows them to do so.

Provide Lots of Structure

Online learners are often unaware of the level of self-direction it takes to persist and succeed in a class. Without the supports of a set class time and physical presence of the instructor in the classroom, students must create their own classwork schedules and plans for success. Guide the development of this kind of self-direction by creating strong structure. Oblige students to demonstrate mastery of foundational concepts before proceeding to more complex processes. Teach students good study habits by not allowing them to progress in your class without them. Foster a growth mindset by allowing multiple attempts on tests and papers. Help your students become better at directing their own learning by providing the framework that they may lack. Over time, we'll develop the leaders of tomorrow by holding students to account today.

Create the Personal Touch

Personal outreach from you can have a major impact on your individual students. Create minor impact on your time through small and targeted methods of contact. Develop a strategy that enables you to personally interact with students without too much demand on your time. This could be a reply to each individual's introduction post. Or comment briefly but meaningfully on a task in the first week within as short a time frame as you can. Send a personal email after the first test to anyone who did not do well. Whatever your approach, help students see you as an individual who cares about their individual success. Create person-to-person contact to motivate and guide students to succeed.

Chapter 7
Creating Autonomy

PRINCIPLES

Helping online learners develop autonomy should result in increased engagement and success in your class, and will benefit them in countless learning and workplace contexts moving forward. We can draw out a few principles to guide your process.

Offer Choice to Increase Learner Agency

When we are interested in what we're doing, we naturally invest more time and energy in the task. Take advantage of this by creating multiple ways for students to choose what they want to work on, talk about, and create to demonstrate knowledge. When they find relevance and inherent value in the task, students will be much more inclined to take ownership of their learning. Offer options wherever possible to cultivate the autonomy needed for online student success.

Foster Independence

Many college faculty today wrestle with knowing how much support to provide. At which point does this turn into spoon-feeding? We do our students no favor by coddling them. Higher education should prepare students to be self-motivated employees who don't require micro-managing. However, this way of thinking can lead to the opposite extreme, where we throw students in at the deep end with no support whatsoever. It's important to find the balance, and for online learners, it may be necessary to lean toward providing more support early in the semester. But we can gently remove the training wheels if we systematically create mechanisms that help students become more independent and take more responsibility for their learning over time.

Hold Students Accountable for Their Work

Expect – and require – only the highest-quality work. Raise the bar. Provide the support needed to help students clear it. Give students clear expectations for success, assignment criteria, rubrics, and exemplars. Don't lower your standards in the name of grading efficiency. Instead, refuse to accept junk effort. Reject work that does not demonstrate excellence. Teach students the importance of ensuring their work is on time and meets expectations. They'll benefit from this lesson for years to come.

Chapter 8
Making Connections

PRINCIPLES

As Jim writes in *Small Teaching*, "Connection exercises provide a bridge between your expert comprehension of your subject matter and the novice understanding of your students" (Lang, 2016, p. 109). I would add that connecting course material and their daily experience can also foster increased value, deep processing, and rich understanding. Enable students to develop a bigger perspective regarding key ideas, and they'll form the neural networks that will help them move toward expertise in your discipline.

Tap into Prior Experience

To prepare students for a new course or a new topic, get them thinking about what they know about the subject and what they think they know. Identify collective areas of fairly well developed understanding. Point out concepts about which the class has little knowledge or active misunderstanding. Show students how their current knowledge about the topic can prime the pump for learning new information. Then, weave references to your students' input throughout the module or course. Adjust your instruction. Remind students to pay extra attention to topics where there was a gap in collective understanding. Contextualize content within your students' frame of reference to help them see the value of their learning.

Provide Organizing Structure

As we have seen, novice learners lack the framework to understand how concepts relate to one another. Giving students an organizing structure helps them sort and connect new information with previously acquired knowledge. Scaffold the ability to organize and store key ideas to help them identify how this week's concepts relate to those learned the week before and the week before that. Make these connections explicit for your students while they learn to make them for themselves.

Foster (Unlooked-for) Connections

Helping students recognize how course material relates to lots of other things (especially surprising things) inspires and engages students in a unique way. We should absolutely help the students connect new information to content from preceding modules. But if that's all we do, we miss an important opportunity to help students situate new learning in their existing set of experiences. What better way to develop the critical and creative thinkers we need in today's society than by helping students relate concepts to things they're learning in other courses, what they experience at work, events that unfold in the news? Guide students to discover how class content extends beyond your class. You'll contribute to their lifelong ability to analyze, synthesize, create.

Chapter 9
Developing as an Online Instructor

MODELS

It's truly important to continue growing as an online instructor in order to avoid stagnating in the role. Perhaps because we don't experience the communal energy of the physical classroom, it's easy to withdraw or do the minimum. Without intending to do so, we may experience a tempering of our teaching enthusiasm. Online teaching can remain fresh, however. We can continue finding ways to make our online teaching stimulating and enjoyable. The following simple strategies can help keep us challenged, stay inspired, and find satisfaction in our work.

Take an Online Class

This strategy, like some others in this book, is so simple that it might not occur to you. Yet it is probably the most impactful action you can take in order to improve your online teaching: Take an online class. See how it feels to be a student in an online learning environment. You'll learn more about online learning in general, and online teaching changes you want to make in particular, than you will about the content itself.

Recently, I had an opportunity to live the student experience in a class setting that was completely foreign to me: the large lecture hall. For a major active learning redesign project, I attended BIO 181 with 240 freshmen during the first week of the fall semester. I was fascinated. All of my in-person teaching experience has been in seminar-style classes capped at 25 students. Being in a lecture hall with such a large number of apprehensive students proved a new and uncomfortable situation. Though I was there to do a class observation, I paid attention to my own experience sitting among the 18- and 19-year-olds in the back of the room.

Through some kind of energy osmosis, I tuned in to their anxiety. It was the first day of class, indeed the first day of the fall semester. We didn't know exactly what to expect. We couldn't quite hear the instructor at the front of the hall. The projection screens were hard to read. We weren't sure we had what it took to be successful in this challenging course in our first semester in college. We didn't know if we belonged there. Most of us in the room were nervous. Anxious. Scared.

It didn't take much imagination for me to recognize how those same emotions might occur for my online students. When we create our online classes, we know exactly where everything is in the course site. The organization, navigation, and instructions make perfect sense to us. We know when we intend to communicate with students or grade their work, so we're not worried about it. But when we put the shoe on the other foot, when we are the student in an online environment that we did not design, we have rather a different experience.

Suddenly we may be confused about the layout of the class. We may not understand the scoring system. It may not be clear where to submit an assignment or when the test will be open. We might be waiting for an answer from our instructor, with no sense of when or whether we'll hear back. We can experience a million little anxieties when we take a class online. Doing so motivates us to improve our own approach to online teaching.

There are lots of ways to take on online class. Find one for personal or professional development. I don't recommend a massive open online course (MOOC) for this purpose unless that is actually the format in which you teach. Instead, take an online foreign language or a photography course offered at your institution. Take a class in Adobe Photoshop or web design. Or, enroll in one of the many faculty professional development offerings from the Online Learning Consortium, Quality Matters, Magna Publications, or Educause, among others. You will see some great examples of new things to try, and you'll also learn what not to do.

Seek Exemplars

The 1989 film *Dead Poets Society* has inspired countless instructors to strive for the teaching excellence portrayed by Robin Williams in the role of John Keating. Who among us can forget the moving scene in which his students stand on their desktops to declare their loyalty as Keating departs? Which of us has never dreamed of hearing "O captain, my captain" from the lips of a transformed pupil?

Until we have a Hollywood movie depicting an inspiring online professor, however, we have to look closer to home. Fortunately, this is quite doable, with a little investment of time and effort.

As already noted, learning about the methods used by excellent online faculty requires intentionality. You are less likely to bump into your colleague in the hallway and strike up a conversation about online approaches than you might be to compare notes about what happened in class that day. Yet there are many small actions you can take to discover

- [illegible] approach.
- Visit your Center for Teaching and Learning. Ask if there are examples of online courses you can explore. Many institutions showcase courses from a range of disciplines to help you see different approaches that work in different subject areas.
- Seek online sources of inspiration. One example is the Teaching Online Pedagogical Repository offered by the University of Central Florida. This rich resource presents evidence-based practical strategies with examples of how to do them from real courses.

With a bit of effort, you can find numerous ways to expand your online teaching approach. Prevent stagnation by seeking inspiration. Fortunately, there are numerous ways of doing this – even without the influence of Hollywood.

Build Self-Efficacy

The premise of this book is that you can make small, incremental changes to your online teaching that have an outsized impact on student learning

PRINCIPLES

The overarching principle for this chapter is to put deliberate effort into challenging yourself to keep growing in your online teaching abilities. Find ways of impassioning yourself so that you don't become stale in your online classes.

Critically Examine Your Online Teaching Practice

Many of us accidentally fell into online teaching, or were pressed into it against our will. I suspect many faculty members view their online classes as somehow not as valid as their in-person ones. I fear some instructors put forth minimal effort, viewing their online classes as a burden to be borne or merely a source of supplemental income. We do our students a great disservice with this attitude. Embrace the challenge of becoming an excellent online instructor. Reflect on the moral obligation to help these learners succeed, earn a degree, and enjoy multiple benefits related to their well-being. Think critically about how you can get better at teaching online. Experience increased engagement and satisfaction as a result.

Make Time to Grow

It's hard to bump into a fellow online instructor in a virtual hallway somewhere and begin conversing about your online teaching challenges and solutions. It just doesn't happen as naturally as the parallel experience might in the physical world. Given the very newness of online learning, however, it's even more vital to seek to learn from others who are engaged in the same pursuit. Since this won't likely happen serendipitously, create the time to invest in your own development. Attend workshops and programs offered by your faculty development center. Request access to exemplary instructors and courses—then take the time to look around in the online class to see what's so effective. Knowing that learning doesn't just happen by accident, create time and space to cultivate your online teaching practice.

Seek to Energize Yourself

Our students struggle to feel the person-to-person energy in an online class. If we're honest, so do we. There's a call-and-response kind of energy in the physical classroom, a tangible feeling of (hopefully) positive synergy between ourselves and our students. This energy doesn't build as naturally in the online classroom. But it's still possible to create – you might just have to bring it yourself. So find ways of keeping yourself challenged, inspired, motivated. Seek new opportunities. Strive to always be improving. Invest active energy into improving your online teaching skills. Bring that renewed energy into your online class. You can positively impact the atmosphere in your online class as tangibly as you can in the classroom. It just takes a little more proactive effort.