

Chapter 2

Lesson Preparation

If you're familiar with the 2.0 version of *Teach Like a Champion*, you may notice that some of the most significant changes in this latest edition come in this chapter. While much of what I wrote about in the second edition focused on how to *plan* an effective lesson, this chapter endeavors to shine a light on the methods my team and I have observed teachers use as they *prepare* to teach their lessons, instead. Essentially, I've replaced one chapter with another based on the importance implied by the change of a single word: from “plan” to “prepare.” What's the difference, you might ask, and why the change?

First, preparation is universal. Not everyone writes their own lesson plan every day. Many teachers use a plan written by a colleague or a curriculum provider. Some reuse a plan they wrote previously. But everyone prepares (or, I argue, *should* prepare) their lesson before they teach it. If a lesson plan is a sequence of activities you intend to use, lesson preparation is a set of decisions about *how* you will teach them. Those decisions can determine the lesson's success at least as much as the sequence of activities, but because planning and preparation are readily confused, it's easy to overlook the latter and think once the plan's done, you're ready to roll.

Say you teach the same lesson twice a day: third period and fifth period. Your third-period class is verbal and eager—sometimes so eager that you have to cut off the chatter and digressions to keep them on track. Fifth period is more introverted. Pretty cerebral, actually, but they need some

prodding to speak up. You use the same lesson *plan* for both classes, but you *prepare* it differently.

“The techniques that work to support engagement with one group of learners may need to be applied differently from one classroom to the next,” notes Adeyemi Stenbridge.

“The design of highly engaging learning experiences requires a keen sense of context because human beings are a highly social species and interpersonal and cultural contexts matter.”¹

Perhaps on Tuesday, that means a bit more writing to get third period to slow down and reflect and a few more *Turn and Talks* to draw the fifth period classroom out. Perhaps a student in fifth period used a beautiful phrase to describe a passage from the novel and you want to remember to go back and ask her about it at a critical point in the lesson. Despite using the same lesson plan for both lessons, an effective process for lesson preparation has caused you to plan for crucial differences in how you'll teach each class.

The first step in preparation is to know the content of your lesson well. You can't teach at your best if you're not sure what comes next and have to read ahead when you should be listening, explaining, or observing. Managing working memory is important for teachers, not just students. I'll come back to this idea at the end of this section because there's more to it than first appears. But beyond the necessity of developing familiarity with *what* you're teaching, developing habits that can help you adapt your lesson successfully to the setting and react effectively to events as you teach is critical to a teacher's short- and long-term success. Such habits might seem like they would add to your workload, but done well they will reduce it, helping you succeed while maintaining balance and sustainability in your teaching life.

The reasons lesson preparation matters relate to cognitive science and the importance of perception, which is one of the most important skills of a teacher. “Experienced teachers develop a high level of sensitivity to students' level of interest, their involvement and their motivation,” Graham Nuthall writes in *The Hidden Lives of Learners*. They “can tell from the atmosphere of the classroom, from the look in the students' eyes, from the questions and answers, from the way they engage in activities, how much the students' minds are engaged. Effective teachers ... use these signs to tell whether they need to change what they are doing, to speed up or slow down, to introduce more or less challenge.” Some caution may be warranted—even when we think we know students are engaged (or not) it's good to remember that we can be wrong and that reviewing written student work is a critical check on our assumptions—but for the most part we succeed when and if we perceive what is happening in our classrooms accurately and we make key instructional decisions accordingly. If you do not see the relevant cues, you cannot decide reliably. You will zig when students need you to zag.

But of course it's not quite true that “experienced” teachers do this. Those who have learned most productively from their experiences do, but you could have a twenty-year veteran who still fails to read a room or a first-year teacher whose read on the class is stellar. In fact, the real question is how every teacher can accelerate and improve their process of learning to “read the signs,” as Nuthall puts it. Adeyemi Stenbridge argues that responsiveness, too, starts with perception. “We want to sharpen our perception and capacities for leveraging strategies in ways that are most beneficial to students in need of specific support,” he writes.² A key part of teaching responsively is reading the reactions and needs of our students as we teach. An

important question, then, is how we can “see” better and more fully as we teach.

It might sound like something intangible, but perception responds to preparation. To perceive well, you need to prepare for what you'll be looking for and, ideally, free as much working memory as possible to be available, unencumbered, for observation. Inattention blindness, I noted in [Chapter One](#), is the name for the phenomenon whereby people frequently fail to see what is plainly before their eyes—never mind what is hidden or concealed. We are all at constant risk of failing to notice important details, especially when they occur in a complex visual field, and the classroom is almost always that.

We have to accept this and prepare with it in mind if we want to perceive more accurately, as Chabris and Simons remind us when they write: “There is one proven way to eliminate inattention blindness: make the unexpected object or event less unexpected.” If you think through potential errors in student thinking before you teach, you'll be more likely to notice them—or any mistakes. You learn to see in part by preparing to see. If you're clear in advance about what you want to see in the end product of student work, you'll look more precisely and notice more whether students are actually doing it.

But we also know that perception is affected by the load on our working memory. Pick up your cell phone and call your spouse or partner and you become less alert to what's happening on the road around you. Try to think about what's the best answer to a question while you're listening to your students and you become less alert to what's happening around you. You'll have less cognitive bandwidth to use for perception. You are likely to miss signals. But if you think through—and write down—details of an ideal student answer to key questions—what we will call in this

chapter an “exemplar”—you can process what students say and write with less load on working memory.

Your ability to foster student engagement is another aspect of teaching that responds to preparation. If you have thought through how you're going to ask students to participate during the *Do Now*, say, and who you're going to call on to answer it, you make it more likely that you will follow through on those actions and the result will be students who feel accountable to participate and who benefit from a classroom where everyone—not just the eager hand-raisers or call-out-the-answer types—gets a fair chance to speak. Do that and your lesson is likely to crackle with engagement and energy. If you don't, you're likely to find yourself reminding students that you're seeing the same two or three hands on every question. Making a statement like that to your class should be a reminder to yourself to prepare better.

So lesson preparation is the process of going back through the lesson plan and thinking what it will look like not just in a classroom but in your fifth-period classroom tomorrow. When and how do you want to be more intentional about drawing out some of the quiet kids? Which questions should students answer in writing so you can see what they're thinking? It will be different for third period, where you'll have to watch the clock so you don't glance up and realize that a “five-minute discussion” is now entering its twenty-fifth minute. You'll need *time stamps*—if you're going to get to the demonstration of plate tectonics, you'll have to keep the *Do Now* to seven minutes, no matter how eager the waving hands. The vocabulary review gets three minutes and a stopwatch on the smartboard to make certain you don't miss the second half of the lesson.

With all this in mind, let's step into Christine Torres's fifth-grade classroom at Springfield Prep in Springfield,

Massachusetts, to understand a bit more about the connection between preparation and teaching. In the video *Christine Torres: Keystone*, you will probably notice almost immediately how dynamic her lesson is—every student locked-in to learning in the most positive way and each second used for a productive activity that causes students to think. They work hard and seem to love it. Goodness, you're thinking, if my class looked like that, I could do this job forever. We had the same response. In fact we shot this video of Christine because we'd visited her school—without our cameras, alas—a few weeks earlier and had been immediately transfixed by the joyful, energetic, thoughtful lesson Christine was teaching. We could barely drag ourselves out of her classroom, and then only because they promised we could videotape her as soon as possible.

That's the back story on where this video comes from. But one other detail is relevant from that first visit to Springfield Prep. Christine shared a copy of her packet—the place where she prepares her lesson, a copy of which is available on the website

www.wiley.com/go/teachlikeachampion3. This is the tool she used to get ready to teach a different lesson from the one you just watched, but one which reveals the process she uses for every lesson—which is interesting in and of itself. She is consistent in how she *prepares* and so her lessons are consistent in quality, engagement, and energy. Remarkably so, which is sort of the point. The first step in making your classroom look more like Christine's is to copy—or at least study and adapt—her approach to preparation.

You can see that Christine has spent time in “exemplar planning”: Before the lesson she took the time to write out the answer to each question as she hoped a top student would. This helps to focus her in discussions—to draw out the right points and hear the gaps. And she can glance at

these notes as she teaches if she needs a quick reminder, so her working memory can stay relatively free.

Christine has also written out additional reminders to herself—the number of minutes she wants an activity to take, “back-pocket questions (BPQ)” she could use to support confused students, and, crucially, notes on how students will answer. After all, she could ask the same question of two classes but ask one to respond in writing via a *Stop and Jot* and the other to go straight to a *Turn and Talk*. These processes she goes through of marking up and preparing her lesson are different from the lesson plan—these are her handwritten, game-time adaptations to the prepared sequence of activities. Both tasks are necessary. The researching and careful crafting of lesson plans like this one take time and could not be done sustainably the night before (we know; she's using lessons as part of a pilot of the Reading Reconsidered Curriculum our team wrote) but preparation adapts that carefully crafted plan to ensure success with *this* group of students, *today*, with up-to-the minute knowledge of what the best moves will be, given the detail of how students are progressing and even what happened in class the day before. Even the best plan will not succeed without effective preparation and even great preparation of a poor plan will fall short. You need both.

And you can see the results in the video. Christine appears to be making the perfect decision to maximize the level of participation by all students over and over throughout her lesson. Christine's teaching is magical, but like every great magician there's some sleight of hand involved. Her decisions are outstanding, but she only appears to be making them on the spur of the moment. She's planned out many of them, or has narrowed the choices she'd consider, in advance. If you look at her version of the student packet, where she's done her preparation, you can see that there are both decisions (“Turn and Talk here”) and options (“If

time. Show Call exemplar.”). Some people worry that too much preparation will make it harder to express themselves and connect with students, but the opposite is true here. Christine is prepared and so she is able to be fully responsive. Students feel seen and known by their teacher and as though they have her full attention. Her warmth and humor are magnified by virtue of her being calm, relaxed, and ready—and perhaps from the students' pride in their work and willingness to engage successfully with the tasks presented. Her careful planning sets a pattern in the first few minutes of class: She's clear with students about the task, they respond positively, and she can relax and express all her humor and brilliance as a teacher. They lather, rinse, and repeat all class long. It all starts with what's on her “Preparation Page.”

James Clear's *Atomic Habits* lends insight into another way to understand why the time Christine invests in preparation results in such a powerful outcome in her classroom. Clear cites a British study where three groups of people were asked to try to begin exercising. The control group received no special treatment. The second group received motivational materials. The third group received motivational material *and* was asked to complete the following sentence: “I will take 20 minutes of vigorous exercise on [DATE] in [TIME] at [PLACE].” The rates of people from the three groups who actually exercised were 35 percent, 38 percent, and 91 percent. The follow-through rates when people committed to a particular action for time and place nearly tripled over those who wanted to do those things but weren't specific in planning time and place. In Clear's words, “People who make a specific plan for when and where they will perform a new habit are more likely to follow-through. Too many people try to change habits [or apply teaching techniques] without these basic details figured out.”

Christine's notes reveal that she has done something similar to what Clear advises. Every time she jots “Cold Call here” or “Turn and Talk here,” Christine has made a specific plan for where and when she will take a particular action and thus has tripled the chances that she'll actually do these things. More specific preparation makes it more likely that we'll do the things we hope to do in teaching. It is a follow-through multiplier that helps us become the teachers we want to be.

Christine's lesson preparation habits are impressive but there isn't one universal method for Lesson Preparation. Situations are different and people are different. When your intuition and curriculum have been sharpened by years of instruction, you may be able to prepare simply—perhaps scripting the exemplar to a single critical question and then entering the classroom confidently... at least on a routine day with a lesson you've taught before. But it may take some time before you get there. Perhaps you're a teaching a new class this year. You'd probably want to increase your preparation level at the outset even if over the course of the year you began to simplify or adapt the process you used at the outset. But it's important to make it a habit. Naming the core preparation practices, making sure they're productive and useful, and committing to when you'll complete them is critical. Just as the preparation itself increases the chances you will take the actions you plan on when you teach, so too your chances of preparation will multiply if you commit to consistent time, place, and methods.

This is likely to result in stronger student achievement and a more positive and engaging experience for your students, not to mention more enjoyment of teaching for you. I will return to this idea later but as Adeyemi Stenbridge puts it, reflecting on his own lesson preparation habits in *Culturally Responsive Teaching in the Classroom*, “I always

start my planning with time to think carefully about what I want my students to understand and feel.” What students feel is critical to their sense of belonging is made up of many things. Part of it is the connection to the content and the teacher; part of it is being caught up in the flow of a lesson that moves briskly with what Mihaly Csikszentmihalyi calls “flow” and therefore moves them to another world—in Christine's case to Denmark in 1943—and fires their imaginations. The journey begins when one is made to feel included in something dynamic and engaging. An artfully crafted and executed lesson does that.

Before we define specific techniques for lesson preparation, let me return to the most basic question about preparation: How well do you know the content covered in your lesson? This might seem like a pointless question. No teacher except one thrown suddenly into emergency duty outside her subject would answer: “Oh, not very well, really.” But there is a huge range of what teachers mean when they say they know their content and it's worth asking if knowing more about the context and the facts really matters.

Research tells us that higher-order thinking relies on facts and is only possible when people are possessed of a strong body of knowledge about a given topic. Here's a demonstration of that.

Imagine that you woke up tomorrow morning and the sky was green rather than blue. In the box below, jot two possible explanations of what, from a scientific perspective, could conceivably have caused that to happen:

Well, how'd you do? Were you creative? Brilliantly analytical? Did you suggest that something would have to affect the particles in the Earth's atmosphere, causing them to absorb blue light more than it currently does, but only slightly so as to leave green, with the next shortest waves, as the most visible? Did you suggest that perhaps an increase in water droplets in the air might reflect the yellows and oranges of sunrise and combine with the natural blue of the sky, perhaps against a backdrop of clouds, to make it appear green?

Or were you unable to answer? Did you guess something implausible, maybe about the reflection of the ocean (a common misconception) and then give up on the project? Is your thinking box blank? If that's the case, then you've just been reminded of the point made in [Chapter One](#): Higher-order thinking is context-specific and knowledge-dependent. If you don't have knowledge about what causes the sky to be blue (or any other color) this exercise in creative and analytical thinking is lost on you. You can think deeply only about things you know something about—the more you know, the more deeply and creatively.

From a student learning perspective this means that we must consider our pupils' level of background knowledge in advance if we want real rigor during lessons. Preparing a lesson by noting that you will ask “probing questions” is insufficient unless you have ensured that students have knowledge to draw on as you probe and ask them “Why?” I'm actually pretty shaky on my knowledge of the atmosphere so you could have asked me a thousand probing questions about the color of the sky and not elicit much more than resentment. At some point in your asking me “... but might it have something to do with particles in the air?” I would get angry and frustrated. *I've already told you that I don't know. You can keep asking me “why” if you*

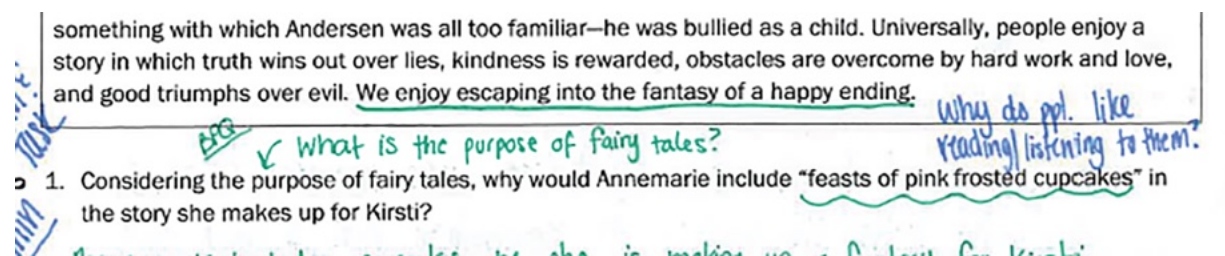
want but I still won't know, so perhaps you should stop asking.

Compare that response to how Christine's students act in her lesson: the eager hands, the vibrant burst of ideas when she offers a *Turn and Talk*. Her students engage because she has leveled the playing field for them. You can see the places where her lesson plan infuses knowledge deliberately to prepare them to think deeply—the articles about rationing, the fairy tales of Hans Christian Andersen, and the description of what a trousseau is, but Christine has also prepared to feed knowledge where necessary and made thinking about gaps in knowledge part of getting ready to teach. Notice, for example:

- The sentences she's underlined in the article about rationing because they contain key background knowledge that will allow students to better analyze the book and her note to add these to the slide.
- Her notes on ensuring that students understand that “past perfect” implies that something *was* but no longer *is*, so they can think more deeply about the unspoken fact that Annemarie's sister is deceased.

But knowledge also matters for teachers. That's the sleeper. It is also true that we can think more deeply and creatively about our lessons if we know more about them, if we have reviewed key knowledge beforehand so that it is encoded in long-term memory. Imagine trying to teach the preceding green sky lesson based only on having read the answer and brief explanation I've provided. You certainly wouldn't teach it well or flexibly. More likely you'd teach it in a way that forestalled the likelihood of getting questions from students you couldn't answer. Your unsteady knowledge would constrain your teaching moves. You'd be reluctant to ask probing “why” questions if your answer to

every student conjecture was, “Hmmm. Interesting. Maybe we can look it up later and find out.” You'd do much better to have thought through a few likely responses and ensure you were clear on why they did or did not make sense. And though that's obviously true for a lesson on the visible light spectrum, it's just as true for topics like archetypes and fairy tales, as my colleague Hannah Solomon pointed out. Without first having made sure to reflect deeply on them, your lesson might still fail. But you'd be more likely to overlook the importance of reading up on fairy tales and the like because of their familiarity. Notice, however, this screenshot from Christine's lesson. She's annotated the plan with notes of preparation that show she's been thinking about fairy tales and why they are particularly relevant to a story about life during wartime. Not only does her lesson plan provide background knowledge but her preparation shows that she's reviewed and reflected and applied what she knows to be ready to teach it.



So perhaps it's worth asking: What habits do you have as a teacher to ensure that you are always investing in your knowledge? In this chapter we'll discuss a few, but I'll also observe that several successful schools I know use the phrase “intellectual preparation” to describe a key step in lesson preparation and they build this into professional development. Teachers get together before they teach a book or unit to talk through its important questions and share and prioritize key background knowledge that will allow them to teach it. I love the idea of such a meeting.

The message is: *How much you know about what you're teaching is a key part of how you prepare.*

TECHNIQUE 1: EXEMPLAR PLANNING

Teachers and school leaders tend to have an overwhelming response to clips of Sarah Wright's teaching. The video *Sarah Wright: Tio Luis*, shot in her fifth-grade classroom at Chattanooga Prep in Chattanooga, Tennessee, shows why. The joy and purposefulness of Sarah's classroom are striking. Her students, all boys in this case, grin from ear to ear as they dive into a *Turn and Talk* in which they imagine they are the villainous character, Tio Luis, from Pam Muñoz Ryan's *Esperanza Rising*. They write eager, detailed responses. The boys delight in using—sometimes imperfectly but always enthusiastically—rich new vocabulary words and in celebrating a peer's exemplary response. All the while they are locked-in to the novel. Perhaps as you watch you hear a faint echo of Christine Torres's lesson, which we discussed in the introduction to this chapter. And in fact the echo you might hear is not a coincidence. The similarities include the way students are universally engaged in quality learning activities without a second of downtime; the way they seem to think studying this book is just about the greatest thing in the world. And there's one more parallel that's not quite as clear from watching the video but that is at least as profound as any of the other likenesses: Sarah and Christine achieve similar outcomes because they prepare similarly.³

What you see in their classrooms is a product of decisions made hours before the lesson began as much as it is a product of those made in the moment, though of course the two things are related. A prepared teacher is often a happy teacher and a poised teacher—one who can express herself more fully and who makes better decisions in the moment.

She knows where she's going and isn't anxious or worried about what's next, how to do it, and how long it will take; her working memory is free to listen to each answer or to keep a planned five-minute discussion to five minutes in real time because she knows where she wants it to go and can steer it there as gently or decisively as needed. She is a teacher who finds it easy to laugh alongside her students and celebrate their work like Sarah does. You can't be fully present unless you're prepared.

Like Christine's preparation, Sarah's is a product of habit and experience. Sarah initially prepared her lesson much like Christine did: planning her key instructional moves—her *Means of Participation*—and the mistakes she thought she might see, but her final step came that morning. “I had 45 minutes,” she told me, referring to a busy morning on the day she taught this lesson. So she went through and reviewed her exemplars.

Exemplars, you'll recall, are correct answers that you write out to your own questions. They are the answers you hope a student will give to your question. It would be easy to overlook this step or underestimate its value in planning. It seems perhaps both obvious and redundant. You might argue that you have the answer “in your head” and don't need to write it out. But this simple action might be the single most important step in preparing to teach.

To see why, let's take a look at a tiny moment from two lessons where you can see exemplars being used. First, there's the clip *Denarius Frazier: Remainder*. Check what he does at 1:12 in this lesson on dividing polynomials—you'll see the whole lesson in [Chapter Three](#), “Check for Understanding.” Explaining to a student why her work is incorrect, he quickly glances at his *exemplar*, which he's carrying with him. It helps him to diagnose what she's done wrong more quickly and accurately. “Your remainder is off

because this value right here is incorrect,” he says. He is able to spot the incorrect value quickly and easily because he has the ideal answer ready to compare it to. He doesn't have to strain to keep all of the information in his working memory. About a second is enough to remind him.

Julia Addeo does something similar in the clip *Julia Addeo: Keystone*, which I'll also discuss more fully in the “Check for Understanding” chapter. The first thirty-seven seconds show her comparing students' work to her exemplar and quickly and easily spotting their mistakes by comparing their work to the exemplar. She's able to move fast and get to multiple students. But she's also able to free more of her working memory to think about why they are making these mistakes and what she can do about it. You can see her do this. She steps back from her observations to think about how she wants to address the misconceptions she's seeing and, in so doing, glances again at her exemplar. “What should be happening to make this process go right?” she appears to be asking herself. The exemplar helps her to see that clearly.

In *The Checklist Manifesto*, the science writer Atul Gawande describes situations in which trained professionals use a similar tool—checklists—to assess the final outcome of a process. “Under conditions of complexity,” he writes, checklists “are required for success.” Good checklists “provide reminders of ... the most critical and important steps. They allow for precision and efficiency. The user can make sure the final result is thorough and preserve working memory in assessing it at the same time.” A lot like an exemplar, in other words, with the difference being that an exemplar can be narrative and each element need not be satisfied in a particular order. Both tools are valuable because they discipline the process of looking and free working memory. Interestingly, Gawande argues that checklists are most valuable in two

situations. First, they are useful when performing especially complex and sophisticated work. Surgeons use them, for example—though they resisted them for years. So do engineers who build massive skyscrapers. In each of these examples, “the volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably.” A tool to focus observations is more important for experts because they know much more than they can keep in working memory while observing! Certainly this is true for teachers, who balance a complex daily instructional plan filled with challenging content and the individual learning needs of up to thirty twelve-year-olds, for example.

The second situation when checklists are especially valuable is when you want reliable results across a large organization with a lot of autonomy—a school, for example. If everyone agrees on what *right* looks like, it can reduce variability in execution while preserving autonomy. Want to start having “intellectual preparation” meetings at your school? Writing and comparing exemplars to various key questions might be the ideal activity. When we ask students, “How is Jonas changing in this chapter?” discussing the nuances of what could or should be in your exemplar is a perfect way to discuss interpretations and insights about the text.

There's a bit of humility necessary to unlock the power of exemplar planning. It seems like such a mundane task at first, but the more you know, ironically, the more you need to organize what you're looking for. I assure you, Denarius knows his division of polynomials and Julia knows her binomials. Christine knows *Number the Stars*. Sarah knows how Tio Luis feels upon discovering Abuelita's disappearance. But they write the ideal answer out anyway and this helps them to organize and reinforce in their own

minds what they want to see and hear when their students respond.

So perhaps it's not surprising that Sarah chose, with her limited preparation time on her busy morning the day of her Esperanza lesson, to review and revise her exemplars. She went back over them and made small adaptations and additions. This helped to refresh the sequence of lesson activities in her mind, caused her to review the contents of the book so it was sharper in her memory, and ensured that she had an ideal answer to refer to as she listened to her students. It also caused her to think, with the lesson that day, of who she might call on when or how she might ask students to participate (topics I cover in the technique *Delivery Moves* further on). You can add other elements to your lesson preparation—this chapter will describe several that are immensely valuable, but when you have “one of those days,” and forty-five minutes is all you get, exemplar planning is the one task to fall back on.

Sarah is an English teacher, of course, so her process of writing out exemplars reflects that. She often focuses on key words or phrases she wants her students to use or a section she wants them to refer to in the text. Were Sarah a chemistry or math teacher, her process might include showing her work, then setting up each problem in the same format expected of students for easy reference during class. But no matter the subject the key is that the *exemplar planning must be written down*. This forces you to put your thinking into words as students must. It allows you, as Sarah did, to revise and amend as other thoughts come to you, and it makes your thinking portable, which as I noted earlier can allow you to share and discuss it with colleagues during professional development. And most of all it means you can take it with you when you teach, as we've seen Julia and Christine doing. And you can see that Sarah has hers in hand as well. She puts it down briefly to

celebrate Akheem's answer but when the clapping and celebrating is done, she picks it right back up again.

Why, you might wonder, has Sarah's exemplar plan become her right hand (and Denarius's and Julia's and Christine's, as well) as she teaches? Thinking back to our discussion of the limited capacity of working memory can help to explain it. By familiarizing herself deeply with the target answer to every question, Sarah can be thinking not "What's the answer?" when she hears or reads student work but rather "Where and how are they confused?" She is able to respond quickly and nimbly and to be fully present while teaching because far more of her working memory is allocated to perception than a comparable teacher who is also using working memory to remember things. She is calm enough to remember to smile, confident enough in her plan to celebrate greatness, to laugh at silliness, and to encourage risk-taking. Having the exemplar in hand speeds her progress around the room and helps her get to everybody.

A final point to reiterate about exemplar planning: It makes for excellent professional development in two ways. First, there are arguably few better conversations among teachers in a department than "What constitutes an outstanding answer to the following (important) question?" To discuss those things for six or eight questions would be a crucial and powerful form of intellectual preparation. It's hard to imagine a better department meeting. We review the book, but we also hear ideas that we may not have considered. A teacher saying *Oh, I'm definitely adding that to my exemplar* is a teacher expanding their knowledge of the content they teach. My colleague Paul Bambrick-Santoyo calls this process "sparring with the exemplar": You script your best answer and then sit down with colleagues and compare yours to theirs. Teachers leave intellectually prepared, with a deep understanding of the book and quite possibly differing perspectives on it. And of

course it's the ideal kind of professional development because it happens before teachers teach their lessons. It makes them better *now* rather than in some far-off sunny day next year when they teach the book again. Of course if your department doesn't offer this kind of professional development you can do it virtually, finding colleagues elsewhere with whom to spar.

For this reason the English curriculum we've developed comes with exemplar student answers in the teaching material, but our recommendation is always that teachers not read them until they have written their own. You learn more when you've thought it through in advance. That said, we also script exemplars because it helps our lesson designers to refine their questions. If they struggle to answer or don't like their answer, well, they know the question has to change—a fact we mention because for those teachers who do write their own lesson exemplar planning is an even more powerful step.

TECHNIQUE 2: PLAN FOR ERROR

In [Chapter One](#) I discussed Christopher Chabris and Daniel Simons' observations about inattentional blindness, our frequent tendency simply not to see what is right before our eyes. The one proven way to eliminate it, they write, is to “make the unexpected object or event less unexpected.”⁴ A critical step in preparing to teach is recognizing that in a complex visual environment, what we have prepared ourselves to look for is what we are likely to notice. This means that anticipating specific mistakes we think we're likely to see from students can be as valuable as exemplar planning. One of the most productive questions you can ask yourself is: *What will they get wrong?* Or perhaps *What will they misunderstand?*

Asking and answering such questions has profound effects.

First, if you have thought through the question (or task or problem) from the students' point of view and thought about what they may misunderstand, you are more likely to spot those misunderstandings when they occur. This will not only help prevent inattentional blindness—that is, students make mistakes, but you don't notice it—but it will also help you to take more productive action in at least two ways if you do observe misunderstandings.

Thinking through likely student errors in advance helps you to avoid “burying the data.” Let's say you're teaching the subtly crafted scene in *The Giver* where the narrator, Jonas, sees color for the first time but, because he doesn't understand what color is, remains confused. The scene is written to merely suggest what's happened to Jonas. It describes the flashes of red he sees from an uncomprehending point of view. It ends unresolved. Students often remain confused as well.

A teacher would want to anticipate that students might not understand this scene or its importance. But merely noticing that students get this wrong is not enough. Teachers frequently “bury the data”—that is, they recognize that students are making an error or are struggling with a misunderstanding but they fail to address it, perhaps hoping that it will resolve itself. Perhaps sometimes it will, but more often the misunderstanding compounds. Students read several chapters without realizing that they should be very attentive to the changes in Jonas's vision.

Why do we sometimes ignore the data in this way, recognizing a misunderstanding but not doing anything about it? Honestly, there are lots of reasons. Acting on the data means tearing up your lesson plan in front of thirty seventh-graders and planning an alternative on the spur of

the moment. If it works, you return to your original plan but with the timings all a mess. If it fails, well, then you're really stuck. But if you've anticipated the likely errors you're going to see you can also plan what you'd do about them. And planning that response—building some if/then contingency into your lesson (if X happens, then I will do Y) makes you more likely to take action. You've removed the disincentive of improvising live in front of thirty students.

So by planning for error you're more likely to see the error if it happens and you're more likely to act on it. To do the things teachers do successfully in the Check for Understanding chapter, that is, teachers must prepare for mistakes.

A second way planning for error helps you take more productive action is that it helps you to treat your observations like data—another topic discussed more fully in the chapter on Check for Understanding. Watch again the moment 44 seconds into the clip *Denarius Frazier, Remainder* when Denarius makes a tiny hash mark on his clipboard in response to a student's struggle to find the remainder. Denarius does not take the time to write down “remainders” or “struggling to use remainder theorem.” Why? He is able to make a hash mark because he has already written that phrase down before the lesson. On his clipboard Denarius has a list of possible errors. Now he can merely begin quantifying them when and if he sees them. There are six hash marks next to “struggling to use remainder theorem.” Denarius might have planned three potential errors his students could make. His planning allows him to see quickly which ones they're actually making and how often. Planning for errors in advance makes it much easier to turn observations into data during a lesson.

Anticipating errors in the passage from *The Giver* in which Jonas sees color reveals something else about planning for error: There are decisions to be made. Yes, the scene intimates subtly that Jonas can see color. I might want my students to focus on that. But I might decide that it's more important for them to see how disorienting what's happening is to Jonas. Something is wrong, mysterious, unexplained for the first time in his life. He repeatedly attempts to "test" his vision. He breaks the rules to take the apple home and examine it. There are two aspects of the passage that might easily be missed. It might be that students don't need to fully understand that Jonas sees color as long as they recognize how troubling and confusing whatever was happening to Jonas is.

The question of how much to emphasize each of two things students might not understand in a difficult passage might seem arcane to all but English teachers or fellow *The Giver* enthusiasts, but there is a larger point about process that's relevant to all teachers here: I realized that those were two different potential misreadings and two approaches to teaching the passage *because I was trying to think about the errors students might make*. The process of planning for error caused me to better understand the book through a student's eyes. The more I do this, the better I get at understanding the types and causes of student misunderstandings, and the better I get at designing my teaching with that in mind the first time around. It almost doesn't matter if you guess correctly about the mistakes students will make. By predicting them and then noticing whether they occur, you'll get better at seeing your lessons through a student's eyes.

But planning for error is not just identifying the mistakes that might occur. It's planning what you'd do about it too. In my example from *The Giver*, I might go back to the line: "Then [the apple] was in his hand, and he looked at it

carefully, but it was the same apple. Unchanged. The same size and shape: a perfect sphere. The same nondescript shade, about the same shade as his own tunic."

I might first draw students' attention to the words "nondescript shade." Why those words for the apple's color? What did it imply? Were apples usually noted for being nondescript in color? Why were they throwing an apple, by the way? Why not a ball? Could there be something symbolic there?

Or, depending on the group, or how much time I had, I might say, "This passage implies that Jonas is seeing color for the first time, but he doesn't know what it is because he's never seen it. Let's go back and reread this scene and I want you to tell me how Lowry communicates both the fact that he could see color but also his confusion."

Now I've developed two possible responses. I can read the room and my students and make a decision about which way to go. But in the moment I decide I won't be starting from scratch and choosing a lesson path I have considered only on the spur of the moment.

To review what we've discussed so far, planning for error means predicting errors and planning how you will respond, intentionally thinking through (and writing down) what students will misunderstand about key questions in the lesson and then planning potential corrective actions should those misunderstandings occur.

This is potentially a time-consuming process, so I think it's important to be realistic about it. Should you do it for every question you ask? I would argue not. The goal is to build a manageable and sustainable habit. Again how much depends on teacher and context: New or experienced teacher? New or familiar content? Challenging topic? As a

starting point I might recommend doing it for the most important question or two in every lesson.

Throughout this book I talk about the critical nature of perception. Teaching is a decision-making endeavor and to make the right decisions we have to approach the work in a way that maximizes our ability to see and understand what we are seeing. Planning for error increases the likelihood that we will see misunderstandings and be able to make sound decisions about what steps to use to adjust our lesson plan. And, frankly, the likelihood that we will be brave enough to act on them under duress.

But there's another aspect of perception at work here, too. Teachers are experts in their domain and this means they perceive differently from their students, who are novices. A study by Chi, Glaser, and Feltovich revealed how novices and experts perceive differently. Studying novices and experts solving physics problems, they noted that “whereas novices categorize problems by the surface structure of the problem,” experts saw “deep structure” to categorize and solve them.⁵ Novices might observe that two problems involved moving objects and try to solve them similarly, Carl Hendrick and Paul Kirschner note in discussing the study, but experts would quickly see that one was an acceleration problem and the other a constant velocity problem. “What you know determines what you see,” Hendrick and Kirschner conclude, and this represents a double challenge. First, novices don't know as much and so don't perceive things as well as experts and, second, experts are not often aware of this or at least cannot easily unsee what they notice as a result of their expertise. It takes practice to see what people who know less about a topic will not understand. The discipline of planning for error and testing those predictions is the process of investing in your ability to see beyond this expert-novice divide and into the cognitive lives of your students.

There's one final benefit to planning for error. If you practice anticipating what students will struggle with during your planning, you are also internalizing the assumption that *there will be misunderstanding and mistakes*. There is a presumption now of their inevitability, which means you are far less likely to get frustrated with students when mistakes emerge. You're less likely to blame learning gaps on students or see their struggles as signs of some flaw. When errors are inevitable and the challenge is predicting and reacting to them teaching becomes a problem-solving challenge more than a question of assigning blame, and this will help to preserve students' trust in you.

TECHNIQUE 3: DELIVERY MOVES

There is a constellation of things a typical teacher does to adapt a lesson and bring it to life for a certain group of students on a certain day. The adaptations are made in response to a variety of factors: the differences between third and fifth period (each class having its own slightly unique personality and group dynamic) or the mood on a Wednesday in October versus the last day before spring break, or how yesterday's lesson went. These actions prepare teachers to deliver a lesson uniquely and responsively to each class.

The first is Means of Participation (MOP) planning. MOP, as I discuss in [technique 36](#), is choosing not just what question you will ask but also how you will ask students to answer that question—and then clearly communicating that expectation back to them. The lesson plan tells you the question, but how it's asked and answered—via *Turn and Talk* and/or a *Cold Call*; with *Wait Time*, or via *Everybody Writes*—is just as important. The best question in the world can still not “work” from a learning perspective if everyone

doesn't answer it with their full effort and reflection. So lesson preparation should involve drafting a plan for how you will engage students in your questions with intentional decisions—a few *Cold Calls* at the outset to engage everyone. A few *Stop and Jots* to push for deeper thinking in the middle, and to give them the chance to write and rehearse their ideas. Some *Turn and Talks* to keep the energy rolling. Of course because you've planned these things doesn't mean you can't change them. It just means you start with a game plan, and, as we learned earlier from James Clear, then you're more likely to do the things you want to do instructionally.

Plan for Who: The next question after you've decided *how* students will participate is often: *who*. One of the reasons to not always take hands or let students call out is “voice equity.” The ideas of quiet students—the ones who think more deliberately, the ones who worry about how they might come across if they volunteer to speak—matter, too. So if you are *Cold Calling* or taking hands, thinking about whom you want to call on is often critical. A *Cold Call* might be a perfect tool to use at a given moment to get a little “voice equity” and ensure that everyone feels central to the discussion. But whom will you call on? Just *Cold Calling* would not solve the problem if, in the moment, you called on one of your students who always had their hand up anyway. Your decisions about the right *Means of Participation*—in this case *Cold Call*—will be much stronger if you have also thought through who would most benefit from being invited into the conversation or who might add the most to it.

When you plan whom to call on, you might think about individual students—it may be James you want to check in on or draw out—or certain characteristics of students—if a student who I think is often a reliable bellwether has got it wrong, lots of people probably do, say. Sometimes, I might

steer questions to Jabari, because he struggled on perimeter questions on the quiz but has been making great progress. I'll let him answer during class, so he feels the progress. Or my goal could be to make sure everyone speaks and is included and feels the "voice equity." I might make a note to "call on Tyson or Mary" because they are quieter, or to "call on quieter kids," because I don't know who will be quiet that day. In other words, my goals can be individual or categorical. Making a note to call on someone with an "almost there" answer is one of my favorite examples of a categorical preparation note. Seeing the note—"Show Call an almost there"—in the margin, I would then circulate around the room, glancing over students' shoulders as they worked and choosing a strong answer that was lacking a key detail (i.e. "almost there"), and starting the discussion there. "Naveen has some really provocative insights and I think we can also help her make her good work even better. Let's have a look... ."

When reviewing the lesson online, you can see that Christine has done this at the bottom of page 3 and again at the bottom of page 6. She's got a list of kids whom she might want to call on for this. You can see some cross-outs. The list is changing. She's got a list for her co-teacher Kait Smith, too, who's leading a pull-out group.

Time Stamps: How do good lessons go bad? Slowly, then all at once. Everything is going fine if a little slower than you anticipated and then you look up and realize that you are having the discussion you hoped you'd have but twenty-five minutes later in the lesson than you'd planned. Suddenly you are in trouble. There'll be no independent practice, no written reflection, no time to review for the quiz. This is why using Time Stamps is important. They push you to intentional allocation decisions about your dearest resource. How much time on the *Stop and Jot* before the discussion, how much time on the discussion,

and how much time on the written reflection afterwards. This helps you to see more quickly when you're getting behind. Time is finite so these are important trade-offs and the right decisions might change. It might be different for third period (honestly, they could use some time to slow down and think about other people's opinions) versus fifth period (they could learn to verbalize a bit more). It might be different on Wednesday than on Tuesday. It might be different Wednesday *because* of Tuesday, so if you planned on Monday you might want to go back through and update your time allocations as close to when you teach as possible.

Christine has done this on page 6 of her lesson. Next to the annotation box where students take notes on the reading, she's allocated five minutes. Next to question five she's allocated three minutes. When she says: *two minutes on the clock to write your answers*, that's because she's planned it: two minutes to write and one to hear an answer out loud. Then we move on. She gives seven minutes to the question about the fairy tales. There are going to be eager hands wanting to read their answers to question 5. The temptation will be to hear more and more of them. But Time Stamping lets Christine see that it's a trade-off between that and getting to the rest of the lesson, and she chooses the latter. She is prioritizing: The question about fairy tales is more important than some other things: more critical to understanding the book; more central to the writing they'll be doing. It's hard to prioritize when we want kids to learn everything, but even imperfect compromises made with foresight are better than the accidental prioritization of, "Whoops, we're out of time." After all, what comes last is often there because it helps us make sense of what we've done. It's likely to be important. Maybe that's why at one point Christine's notes remind herself: "Do Not need to capture all examples!" and: "Can

skip: pacing.” If she gets in trouble, that's the first question to go. One very small detail you might consider: including the actual time of day as opposed to running time of your lesson. It's easier to see when you are over time at 10:35 a.m. than “at twenty-two minutes.”

Back-Pocket Questions: Back-pocket questions are the ones you'll fall back on when students struggle with the initial question in your lesson. They're hard to think of in the moment and trying to do so slows you down. Plus you may not think of exactly the right follow-up question in the moment and there's a greater chance than normal that the question won't be perfect, so may confuse the student you're hoping to help. So sketching out a few potential back-pocket questions in the calm before you teach and writing them down where you can find them easily is a great practice. You can see examples of this in Christine's packet. You can see how she's planned to respond in case students struggle to make sense of the sentence “We enjoy escaping into the fantasy of a happy ending.” She'll ask, “Why do people like reading and listening to them?” to help students realize fairy tales are a form of pleasure that's not supposed to be realistic—they're supposed to be escapist.

Anderson has an ice creamer. He has come to a similar conclusion; people enjoy...
ins out over lies, kindness is rewarded, obstacles are overcome by hard work and love,
over evil. We enjoy escaping into the fantasy of a happy ending.

What is the purpose of fairy tales? why do ppl. like reading/listening to them?

purpose of fairy tales, why would Annemarie include “feasts of pink frosted cupcakes” in
is up for Kireti?

Segues: Part of what makes well-prepared lessons effective is that the teacher connects upcoming content to the previous task or to what's coming. Take this example from Laura Baxter's fourth-grade class in Nashville, Tennessee, in their study of *Esperanza Rising*. The class has just wrapped up the vocabulary portion of the lesson, and Laura shares that her favorite of the new words they've studied is

irritable. “Oh, wait till you see how irritable Esperanza is on this train ride,” she says, intrigue in her voice, and after a few crisp *What to Do* instructions—“Packet in the corner [of your desk], text in front of you. Ready to read on page 72,” she's reading and the chapter is underway. Her segue has students looking eagerly forward to see how irritable, in fact, Esperanza will be. Preparing a segue means looking ahead to connect content and helping students to see how the parts of a lesson fit together via a very transitional phrase. The segue becomes a through-line for students, to make the lesson feel more like a whole, and the things they do more connected.

“I almost always start our reading with a question that connects the prior day's reading to this day's,” ace literature teacher Sarah Wright told me. That form of a segue “is like a hook,” she noted. “You've got the hands going up ... and then ... every student is on the edge of his seat because you've made the connection to what they care about. The more you can make those connections, the more you are connecting the brain neurons and helping students remember and build on all of their knowledge as they are going through the text.”

By writing segue statements, you shape how students will experience the overall lesson by telling them—and yourself—the story of how the discrete pieces come together in one unified, objective-driven whole.

Rigor Checklist

A few years ago I watched a day's worth of lessons at schools in a major East Coast city school district. They had been working with a program that was using *Teach Like a Champion* to train new teachers and wanted feedback on how the teachers were doing. One classroom stayed with me more than the others. The teacher had done a lovely job of establishing productive procedures and routines and positive culture. Her students sat eagerly at their desks, ready to learn, listening expectantly. She had worked hard and done well to set the stage for an outstanding lesson. But there were crucial things missing. The lesson involved simplistic tasks—underlining a sentence in an article that was too easy. Students circled answers to multiple-choice questions but didn't do any writing. They sat at their desks, waiting for some worthy and inspiring task to begin, the brightness ebbing slowly away from their faces. This was what school was, they were learning.

The journalist Ellis Cose writes of sitting in his second- or third-grade classroom this way: “It came to me as I was sitting at my desk trying to keep myself interested as the teacher led the class, one listless word at a time, through the book I had read the first day of school, a book (and not a particularly interesting one) she would end up taking the entire semester to slow walk us through.”⁶ Alfred Tatum summarizes Cose's realization this way, noting that it applies to far more students than one: “The longer he went to school the more he was convinced that real learning would not take place.”⁷ In this way what Tatum calls “anti-intellectualism” develops in American classrooms. Students are bored when challenge, rigor, and a feeling of momentum are

lacking. Teachers read this boredom as a signal that students cannot or will not do more advanced work. They do more mundane work instead. A sort of death spiral ensues. The moments that have most frustrated my own children in school have been the moments when they have realized that lessons marked by tasks devoid of rigor were also what tomorrow and the next day would look like.⁸

Elsewhere in the school were a few classrooms led by a few masters and a shockingly large number of disorderly and chaotic classrooms where no learning happened because teachers lacked the tidy systems and carefully built expectations that the teacher I was observing had constructed. And yet here, in this promising teacher's room, an opportunity was lost. The teacher had lost sight of what a worthy lesson should look like—what its component parts should be. Perhaps her mental model was incomplete; perhaps she was just focused on other things.

At about this time I was reading about the power of checklists, “quick and simple tools aimed to buttress the skills of professionals,” as Atul Gawande puts it. A checklist is, in a sense, a reminder that ensures key aspects of the final product don't get left out. I found myself imagining a rigor checklist. A gut check teachers could use—even or perhaps especially when they were focused on other things like installing strong procedures—that would let them assess: Was this lesson worthy? Were the core things in place? Every lesson wouldn't need every piece, but over time if a teacher had to say, no, we didn't write today, no, we didn't read any challenging grade-level-or-above text, they would know they needed to make some changes.

The goal wouldn't be comprehensiveness. It would be a gut check. A quick and efficient tool to help teachers make sure they weren't consistently missing something.

Here's what I put together:

- Students write frequently and describe or reflect on at least one important idea in complete sentences (Grade 1 and above).
- Teacher consistently asks students to improve, develop, and revise initial answers both verbally or in writing.
- Teacher introduces new and advanced vocabulary and students use these words frequently to engage and discuss the content of the lesson.
- Students read challenging text (grade level or above) and text-dependent questions are used to ensure they are able to establish meaning. The discussion is not limited to the establishing of meaning but the step is not overlooked.
- Teacher achieves voice equity; almost everyone participates by speaking; everyone participates by listening. Teacher uses *Cold Call*, follow-ons, and formative writing among other tools to achieve this.
- Students use retrieval practice to encode key knowledge in long-term memory.

It's imperfect. Other people would name different things. In fact you can make your own if you don't like mine. But to me this would be a great tool to give teachers—especially when they were training on other important aspects of building an effective classroom that might distract them from the big picture—so that when

they finished preparing a lesson they could ask themselves, *In the long run, am I on the right path?*

TECHNIQUE 4: DOUBLE PLAN

Here's something possibly obvious about Christine Torres's lesson preparation—so obvious that it might be easy to overlook even though it's one of the most important things she does.

She's working from a copy of the student packet—the document they are working from throughout the lesson. It's what she holds in her hand as she teaches; it's where she makes her preparation notes. Her starting point, in other words, is a document that outlines what students will be doing at each stage of the lesson. Just the fact that there is such a document is profound. Yes, there's a lesson plan also that Christine can consult if she needs it. It contains more detail about what she will do and how. But more central to the preparation of the lesson is the document that describes what *students* will be doing each step of the way.

A lesson plan describes a series of activities you will lead or topics you will discuss, but what the teacher is talking about or doing is not the same as what students are doing. *Double Planning* describes in detail what *students* will be doing each step of the way. A lesson plan might say that a teacher should lead a discussion about a line in the text. A double-planned lesson would describe what students should be doing during the discussion: jotting down notes about insights their peers make that they find useful, for example. A packet goes a step further and gives them an actual place to do so. A lesson plan might say, “The teacher should read the passage with students.” *Double Planning* clarifies this: What should the students be doing? Is

listening sufficient? They'll be a lot more successful if you tell them what to listen for (examples of irony) and if you plan for them to be jotting notes while you read. You might even think about where they should jot those notes. Their actions while you're teaching are key drivers of how much students learn, this is to say, so it should be part of the planning process.

For teachers like Christine that often means not just planning for students to answer a given question in writing, say, but providing a specific place that communicates to students, in its design or in the directions, whether they are casually brainstorming—in which case the packet might include bullets or a box with no lines—or writing multisentence paragraphs—in which case she would surely want not only lines (and enough of them to communicate her expectations for length) but perhaps a space for outlining as well. A packet like Christine's does this. It translates her plan into a document students can work from directly to ensure efficiency and simplicity. There's space to take notes and a reminder of what to take notes about.

Do you have to have a packet, then? No. Would high school students preparing for college be better served by the experience of note-taking sometimes, often, or perhaps always? Yes. But the lesson should still be double planned, perhaps via a sort of T-chart in which the teacher's actions are described on the left side and what students should be doing on the right.

Still, don't sleep on the packet. Its value is high—a fact that's mildly ironic because some educators dismiss materials copied and given to students as “worksheets” and presume that implies banality and superficiality. A reminder then: The means by which instructional materials are reproduced and disseminated has no correlation to their quality.

Designing a lesson packet in fact is one of the most effective tools for *Double Planning*. Here are five ways well-designed packets can improve your teaching and increase students' learning.

Goal 1: Everything in One Place

A well-designed packet provides students with all (or many) of the lesson materials in one place, where they are easily accessible, and thus minimizes the need to distribute additional materials, take out new documents, and move back and forth between them. Students can read and write about a text seamlessly in one place. Christine's packet, for example, includes the nonfiction articles she'll read to illuminate the chapter from the novel as well as definitions of the vocabulary she'll teach, the *Exit Ticket*, and various places to take notes. It's all in one place and that streamlines her lesson.

Goal 2: Synergy with Pacing

The packet allows Christine to be able to manage the student experience easily and effectively: she can jump ahead and skip an activity to save a little time but still have students complete it for homework; she can have students go back and reread a passage or check the Do Now at almost no transaction cost. It reduces the time required to change tasks and activities to a minimum. She can skip passing out the vocabulary sheets or collecting notes. Although it may seem trivial, saving minutes this way each day helps her add back days of lost instructional time to each school year.

As I discuss in the chapter on pacing, one way to draw attention to mileposts (see [Chapter Six](#), “Pacing,”)—reference points inserted along the route of a journey to make the distance covered more visible to travelers—is

evident in Christine's packet. Each question or activity stands out as something new and discrete as opposed to a muddled mass of undifferentiated responses to the novel. Students can see clearly that they are moving dynamically from activity to activity.

One effective tool I've seen in some packets—particularly London's Michaela Community School—is line numbering. If you're spending a significant chunk of time discussing a passage, it's often worth copying it into your packet with line numbers added to ensure more continuity, quality, and efficiency in discussion. The following image shows the first paragraphs of Linda Sue Park's novel *A Single Shard* with line numbers added. Reading this, Carlise can easily draw the class's attention to Tree-ear's use of the phrase “later today” in line 9 rather than everyone using up their working memory searching for the spot “in the middle of the third paragraph” she's referring to. Afterwards, the teacher might draw students quickly and easily back to a different spot: “What does the narrator's reference to ‘the well-fed of the village’ in line 3 tell us?”

1 "Eh, Tree-ear! Have you hungered well today?"

Crane-man

2 called out as Tree-ear drew near the bridge.

3 The well-fed of the village greeted each other politely
by

4 saying, "Have you eaten well today?" Tree-ear and
his friend

5 turned the greeting inside out for their own little
joke.

6 Tree-ear squeezed the bulging pouch that he wore at
his waist.

7 He had meant to hold back the good news, but the
excitement

8 spilled out of him. "Crane-man! A good thing that you
greeted

9 me so just now, for later today we will have to use the
proper

10 words!" He held the bag high. Tree-ear was delighted
when

11 Crane-man's eyes widened in surprise. He knew that
Crane-man

12 would guess at once-only one thing could give a bag
that kind

13 of smooth fullness. Not carrot-tops or chicken bones,
14 which protruded in odd lumps. No, the bag was filled
with rice.

15 Crane-man raised his walking crutch in a salute.

"Come, my

16 young friend! Tell me how you came by such a

fortune—a tale
17 worth hearing, no doubt!”

Goal 3: A Clear Road Map

When you have a million things on your mind, it's easy to overlook an activity, forget a question, or neglect a topic that you intended to cover. Because *Double Plan* packets provide teachers with such a clear road map about what they and students should do at every step, teachers are less likely to let activities slip through the cracks or to shortchange important content.

On a similar note, when you script your questions into your packets, it also holds you accountable to ask them in the same form that you planned. This prevents you from unintentionally diluting the rigor of your planned questions or leading students astray with tangential prompts (for more information, see [Chapter Nine](#)). The same holds true for *What to Do* directions: The more clearly you script those into your packets, the easier it will be to ensure that students do what you planned, in the manner you intended.

Goal 4: Standardize the Format

Well-designed packets *Standardize the Format* (see [technique 8](#)). Everyone in Christine's class answers question number 6 in the same place and she can circulate quickly and easily and get a strong sense of what they are writing about because she's always looking in the same place. It makes it easier to move quickly and to compare students' written work with her exemplars, which she's written in the same place into her own packet. What they're doing is mirrored on her page. The demands on working memory are reduced and her capacity to observe accurately is increased.

Formatting the workspace for students helps in other ways too. Whether you include eight blank lines or two after a writing prompt implicitly communicates to students how extensive their answer should be; a “notes” box during a *Turn and Talk* reminds them that they should (or could) take notes on what they discuss.

Goal 5: Embedded Adaptability

Another detail of Christine's packet worth noticing: a partial answer to the ageless question of what's out there for the strivers who are done first on the *Do Now* or some other question and want to know what's next. Will their teacher have something ready? What if she doesn't see them? Will they have to sit and wait for the class to catch up? What about the kid she doesn't realize is a striver, but who wants to show her he can be? On Christine's *Do Now* there's a challenge question embedded at the end, waiting for the strivers. Strive on.

This is a reminder that better planning does not imply a loss of flexibility—the opposite, in fact. Troy Prep math teacher Bryan Belanger regularly includes more questions in his packets than his students will do in a lesson so that he can jump ahead to harder problems or double back for more review, depending on student progress. Brooklyn teacher Taryn Pritchard divides her independent practice into sections by level of challenge: “mild,” “medium,” and “spicy.” That way she and her students can adapt by adding more “mild” or “spicy” work to their diets, as a group or as individuals; thus, students can speed ahead or double back on their own. Other teachers embed “Challenge” or “Deep Thinking” questions in their packets. Individual students can try them on their own or if things are going well the teacher can use them as a class activity.

TECHNIQUE 5: KNOWLEDGE ORGANIZERS

Few schools have had as profound an impact on the education sector as London's Michaela Community School. Founded at a moment when schools were often encouraged to eschew facts and knowledge in favor of transferable “thinking skills,” tiny Michaela dissented, and set about to build a school with a true knowledge curriculum. At first, they were a lonely dissenting voice, but they were unapologetic and unwavering, and several years later their results, combined with a larger researched-based return to the recognition of the crucial role knowledge plays in thinking, have caused the world to sit up and take notice.

One of the key tools in Michaela's work was developed by then-English teacher Joe Kirby. The idea was a *Knowledge Organizer*, a one-page document that outlines the most important knowledge students need to understand to engage a unit of study. It presents that information in a format designed to make it easy to encode in memory. The idea was straightforward: Students shouldn't have to guess what it is important to remember. Make it clear to them what's most important to know; put it in one place so it's easy for them to study. Over time the idea has caught on. In thousands of schools, each unit begins with a one-page summary of critical background knowledge that allows students to think more deeply about the unit and that forms the framework of their knowledge about the topic after the unit is completed.

The version I recommend may place slightly more emphasis than Joe's on knowledge that students should know at the beginning of the unit to fill in knowledge gaps that might prevent them from understanding the unit, but either way it's both a short-term strategy—it makes students learn

from and enjoy the unit more—and a long-term strategy—it systematically gives students a wide-ranging knowledge of critical facts. Either way you frame it, given how much we now know about the profound importance of background knowledge in higher-order thinking, the idea is powerful.

As Joe envisioned them, *Knowledge Organizers* should be one-page documents (or, occasionally, one page with two sides, if it's heavy with things like maps). The organization—the categories—are often nearly as important as the knowledge. Categories like key terms, important figures, and a timeline of important events communicate what sorts of things are important to know when exploring a topic.

If you set out to design a *Knowledge Organizer* for *Number the Stars*, the book Christine is reading, for example, you might include a timeline of key events in World War II. You might also want to include key historical figures and terms: It's hard to make sense of the book if you don't know what an occupation is or what the Star of David symbolizes. When you do, the scenes where Annemarie's little sister speaks boldly and dismissively to a Nazi soldier or where Annemarie grips her friend's Star of David necklace suddenly make sense. *Now* students can analyze them. If they don't understand those things—and it's a big assumption that all students do—it's going to be hard to read the book well.

Reflect back on the earlier exercise in which I asked you to speculate on why the sky might appear green. Imagine how much more substantively you'd have been able to engage in that activity if you knew a body of rules and principles describing the physics of visible light and why colors appear as they do. Your reflections probably would have been much more rigorous.

To demonstrate the various ways a *Knowledge Organizer* might work, here are two fairly different ones that my team

developed for two books in our Reading Reconsidered Curriculum. The first is for *Brown Girl Dreaming*, Jacqueline Woodson's verse memoir of her girlhood in South Carolina and New York during the Civil Rights era.

***Brown Girl Dreaming* Knowledge Organizer**

Poetic and Literary Terms		
<i>Poems are written in verse. Unlike prose, the ordinary language used in speaking or writing, verse has a rhythmic structure and often rhymes.</i>		
Term	Definition	Example
Free Verse	Nonrhyming lines that do not follow a formal poetic structure	
Poetic License	The understanding that a poet might change or “break” rules of grammar that govern other forms of writing	<i>february 12, 1963</i>
Rhythm	A pattern of sound set by the syllables in lines of poetry	
Refrain	A phrase or line repeated within a poem	<i>Hold fast to dreams</i>
Stanza	A series of lines arranged together to create divisions in a poem	

Poetic and Literary Terms		
Enjambment	The running-over of a sentence or phrase from one poetic line to the next, without end punctuation	
End-Stopped	A poetic line ending with punctuation to show the completion of a phrase	Uhmm, <i>my mother says.</i>
Anaphora	The repetition of a word or phrase at the beginning of lines or stanzas	<i>Maybe the car [...]</i>
		<i>Maybe right before [...]</i>
Caesura	A pause within a line of poetry, usually marked by punctuation	<i>can grow up free. Can grow up</i>
Haiku	A Japanese poetic form; three unrhymed lines of 5, 7, and 5 syllables	<i>Even the silence has a story to tell you. Just listen. Listen.</i>
Language of Memory and Storytelling		
Memoir	A collection of memories written about important moments and events in person's life	
Subjectivity	The way a person's memory or judgment is shaped by their opinions or experiences	

Poetic and Literary Terms		
Reliability	The degree to which a person's narration or memory is trustworthy or accurate	
Words to Describe Family and Heritage		
Ancestry	The line of people in a family's past	
Genealogy	An account of a person or family's descent from past generations	
Heredity	The passing of personal characteristics from one family's generation to another; we say that a trait that is passed (e.g., brown eyes) is inherited or hereditary	
Timeline of the Text		
In Jaqueline Woodson's Family	Year	In the United States
Woodson's great-great-grandfather is born free in Ohio	1832	Slavery is still legal and practiced throughout the southern United States
	1865	The 13th Amendment to the U.S. Constitution abolishes slavery, but segregation and racism continue to restrict the rights of Black Americans
	1916	The Great Migration , a mass movement of Black Americans out of the American South, begins

Poetic and Literary Terms		
	1954	In <i>Brown v Board of Education</i> , the Supreme Court outlaws segregation in public schools
	1955	Rosa Parks is arrested, beginning the Montgomery bus boycott
	1960	Greensboro lunch counter sit-ins begin sit-in protest movement to desegregate public spaces; Ruby Bridges desegregates her elementary school
Jaqueline Woodson is born in Columbus, Ohio	1963	The March on Washington is one of the biggest events of the Civil Rights Movement
Woodson and her family move in with their grandparents in Greenville, SC	Mid-1960s	

Poetic and Literary Terms		
Sterling High School in Greenville, SC, burns down	1967	
Woodson and her siblings move to New York City with their mother	Late 1960s	The Black Panther Party is founded to advocate for Black American rights
	1968	Martin Luther King, Jr. is assassinated
Woodson writes <i>Butterflies</i> , her first book of poems	Early 1970s	

Reading and making sense of several hundred pages of verse as rich as Woodson's will require some technical terminology so the organizer starts with terms like *refrain*, *stanza*, and *poetic license*. Now students will be armed with a range of terms to discuss Woodson's craft. And they can communicate their ideas to each other because everyone in the room will know the term when a peer uses it. Just as important is historical context, and in this case a two-sided timeline helps students both understand important events in the Civil Rights movement and also understand when they happened relative to events in the Woodson narrative.

Compare by contrast the *Knowledge Organizer* for Pam Muñoz Ryan's novel *Esperanza Rising*. It includes two timelines. There's one to help students understand Mexico,

where the first half of the novel takes place and where the civil unrest post-revolution sets the plot in motion. There's a second one outlining the history of California, where the second half of the novel takes place, and describing key social events of the era: the Great Depression; the Okie Migration; the Dust Bowl. This demonstrates the double power of a *Knowledge Organizer*. Students will understand the book more—and enjoy it more and bring more insight to it—by knowing these things as they read it, and they will end the unit with knowledge of those events that they will carry forward. Both novels are now truly historical fiction as opposed to stories set in past times that the students reading can scarcely understand.

History of Mexico <1930	
The first part of the book takes place in Mexico, mostly in Aguascalientes, a region in the central part of the country.	
1521	Spain conquers the Aztecs and establishes the Spanish Empire in Mexico. They control and discriminate against native people (“Indians”).
1821	War of independence: Spain defeated and Mexico founded. It is larger than today and includes the present-day U.S. Southwest.
1846	Mexican-American War begins when the United States annexes Texas.
1848	Mexico loses Mexican-American War and gives up Texas, California, New Mexico, and Arizona. Sixty years of rule by dictators follows.

History of Mexico <1930	
1910	Mexican Revolution begins; Campeños (poor farm workers) promised rights if they win. They do and the last dictator is forced out.
1917	Adoption of the Mexican Constitution, but there is continued conflict.
1930	Period of relative stability begins.
History of California	
The second part of the book takes place in California's San Joaquin Valley, the primary food-growing region in the United States.	
1846	The United States takes over California as a result of the Mexican-American War.
1848	Gold is discovered. Thousands migrate to seek their fortune as part of the Gold Rush .
1850	California is admitted to the Union as the 31st state. Population < 350,000
1890	Mass irrigation to and farming of the Central Valley and San Joaquin Valley begins.
1910	California becomes the leading food- and oil-producing state in the United States.
1920	Population explosion: population of California reaches 3.5M (10x the population in 1850).
1933	Okies (migrants from Oklahoma and other states) begin arriving—as many as 7,000 per month.
Terms for the Labor Movement	

History of Mexico <1930

Migrant Workers	Farmers who move from place to place to harvest different crops in different seasons
Strike	When workers refuse to work and try to prevent others from working to get better conditions or pay
Picket	The act of standing outside a business and protesting, usually while carrying signs and sometimes preventing people from entering
Wages	Hourly pay given to workers such as farmers
Conditions	The setting in which workers work: can be safe/unsafe; clean/dirty
Union	An organized group of workers who take action together

The Migration Crisis

A westward migration of farmers from the Great Plains happened just before Esperanza arrives in California.

Great Depression	The stock market crashes in 1929, wiping out much of people's savings and devastating the economy. The unemployment rate reaches 25%.
Dust Bowl	Overfarming on the Great Plains leads to massive dust storms that ruin farms. Tens of thousands of farmers and their families are forced off their land.
The Golden State	Farmers head west with their possessions to seek jobs in California —“the Golden State”—which seems like paradise.

History of Mexico <1930

Okie Migration	Desperate, poor, farmers arrive in masses—up to 7,000 a month. There are not enough jobs and they are often turned away at the border. They are disparagingly called “Okies.”
Labor Unrest	Farm workers form unions and strike in response to poor treatment by farm owners.

Key Quotes

Between them ran a deep river. Esperanza stood on one side and Miguel stood on the other and the river could never be crossed. (p. 18)

“I hear that in the United States, you do not need una palanca [a lever].” (p. 75)

“I am poor but I am rich. I have my children, I have a garden with roses, and I have my faith and the memories of those who have gone before me. What more is there?” (p. 76)

“Full bellies and Spanish blood go hand in hand.” (p. 79)

Key Literary Terms

Term	Definition	<i>Esperanza Rising</i> Example
Juxtaposition	Placing two (or more) images or ideas close together to emphasize the contrast between them	Esperanza's clothing vs. the campesinos', the hands of a wealthy woman from Mexico and a poor campesina

History of Mexico <1930		
Personification	The attribution of human characteristics or emotions to inanimate or nonliving things	"This whole valley breathes and lives"
Motif	An idea, symbol, or image that occurs multiple times throughout a text	The river that divides Esperanza and Miguel
Symbol	When an object, person, or idea in a text has an additional meaning beyond its literal one	Papa's roses, Abuelita's crocheted blanket
Foreshadowing	A hint that suggests what events might happen in the future	Esperanza pricks her finger on a thorn

One takeaway from these examples might be about theme and variation. These *Knowledge Organizers* for two middle-grade novels with mid-twentieth-century settings are both similar and different. There are consistent principles but no formula.

You're probably wondering about adapting *Knowledge Organizers* to other grades and subjects. To help, here's a reflection by chemistry teacher Sadie McCleary on designing and using *Knowledge Organizers* and an example of one of her *Knowledge Organizers*. After that I'll share

some examples of *Knowledge Organizers* for much younger students.

Sadie McCleary's Reflections on Knowledge Organizers

I almost always include vocabulary terms in my *Knowledge Organizers*. These are the foundational terms students should know in order to increase the rigor of the questioning possible by the teacher and increase the quality of student responses. Note that these are not the only terms/concepts students will learn this unit! They will continue to build on these and complicate their ideas. These are simply a starting place.

Studying is a skill! Remember to teach students to study with *Knowledge Organizers*. This needs to be modeled and students need to practice—even simple vocabulary drills.

- Take two minutes several times in the first unit to show students how to fold their KO to hide the definitions and self-quiz. Follow this up with several minutes of students doing their own silent self-quizzing and an oral drill or recall quiz.
- Partner quizzing: Provide opportunities for students to quiz one another for one to three minutes in class. Explicitly name for students that this should be replicated at home with a family member or friend. Model partner quizzing for students, and set clear times for when partners should switch who is quizzing whom. If time allows, follow up partner quizzing with an oral drill or recall quiz. You can grade these sometimes but you don't need to. Research on frequent low-stakes assessment shows how effective this is without grades.

I often ask students to annotate diagrams, definitions, or other information in their *Knowledge Organizers* during lessons. This adds to their understanding of the core concepts and makes the organizer into a living document. It also draws their attention. If we're getting out our organizers to add a note, it must be something very important.

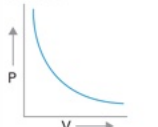
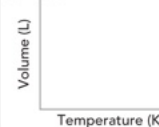
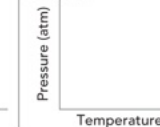
You can build the organizer into the fabric of your class. Reference it frequently. If a student is stuck, ask them to check their organizer first, often before they raise their hand in class. You can make it part of their desk setup: at the beginning of class every students should have out homework, notebook, *Knowledge Organizer*, and pencil.

An Example of One of Sadie's Knowledge Organizers

Knowledge Organizer #4

Unit I – Matter: Properties of Gases & Calculations

NAME: _____ PD: _____

Vocabulary:			
Heat	Form of energy that flows between two samples of matter due to the difference in temperature. Heat flows from a sample with higher average kinetic energy to a sample with lower avg. kinetic energy.	Volume	Amount of space occupied by a three-dimensional (3-D) object. Units used: mL, L (liquid), cm ³ (solid)
Temperature	The measurement of average kinetic energy of a sample. Units used: K, °C (converted between using equation C below).	Velocity	Speed of an object (primarily particles in this case). Units frequently used are m/s or cm/s.
Kinetic Energy	The energy an object possesses due to its motion. Calculated using equation B shown below.	Mass	Measure of the amount of matter in an object. Units used: g, kg
Pressure	Force exerted by the substance per unit area on another substance. The pressure of a gas is the force that the gas exerts on the walls of its container. Units used: atm, kPa, mmHg	Particle Diagram	Visual representation of the particles of a substance, where the particles are shown as dots. Allows us to represent samples in different phases.
Equations:		Content	
Equation A. Combined Gas Law: $\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$	<ul style="list-style-type: none"> • P_1 = initial pressure • V_1 = initial volume • T_1 = initial temp • P_2 = final pressure • V_2 = final volume • T_2 = final temp 	<ul style="list-style-type: none"> • The relationship between pressure and volume at constant temperature is _____ • The relationship between temperature and pressure at constant volume is _____ • The relationship between temperature and volume at constant pressure is _____ 	
Equation B. Kinetic Energy: $KE = \frac{1}{2} mv^2$	<ul style="list-style-type: none"> • KE = kinetic energy • m = mass • v = velocity 	Equation C. Temp Conversions: $^{\circ}\text{C} + 273 = \text{K}$	<ul style="list-style-type: none"> • °C = Celsius • K = Kelvin
Relevant Diagrams/Calculations			
Diagram Set 1: P. V. T. Graphs			Calculation Ex 1: T conversions
Diagram 1a: P vs. V with constant T 	Diagram 1b: V vs. T with constant P 	Diagram 1c: P vs. T with constant V 	
Calculation Example 2: Combined Gas Law			Calculation Example 3: Combined Gas Law




Primary-Level Knowledge Organizers



Year One Science: Seasons and the Weather

"Foul Weather"	
Flood	So much rain that rivers overflow their banks.
Hurricane	Huge swirling storm with heavy rains and dangerous winds. Comes off the water. Take cover!
Blizzard	A big snow storm. Often windy and hard to see.
Tornado	A small but dangerous swirling cloud. Formed on land mostly. Take cover!

Measuring Weather	
Data	A collection of facts, often numbers, that can tell us important things
Rain Gauge	A tool for measuring how much rain has fallen
Weather Vane	A tool that measures the direction and speed of wind
Thermometer	A tool that measures how warm or cold it is

Types of Clouds	
Cirrus Cloud 	Thin and delicate, high in the sky, "wispy" like feathers
Cumulus Cloud 	Puffy or fluffy, like cotton balls, sometimes piled up high.
Stratus Cloud 	"Blanket clouds," low, thick without a shape.



The Seasons	
Spring	After Winter. Plants begin growing. Temperatures warm. Animals come out of hibernation.
Summer	After Spring. The warmest season. Days are longest and the sun rises early and sets late.
Autumn	After Summer. Temperatures cool and days get shorter. Leaves fall. Crops are harvested.
Winter	After Autumn. The coldest season. Short days. Trees are often bare. Some animals hibernate.



Ghana and the Ashanti

Ghana	A country in West Africa with grasslands and rich forests.	
Ashanti	A group of people who have lived in Ghana for over 400 years. Storytelling and art are important in their culture.	

Folktales and Mythology	
oral tradition	<ul style="list-style-type: none"> the practice of a culture or group of telling stories out loud instead of writing them down
folktale	<ul style="list-style-type: none"> a story passed down from one generation to another as part of an oral tradition helps us understand something about the people who tell it
myth	<ul style="list-style-type: none"> a traditional story meant to explain something about the world usually have magical or impossible elements
moral	<ul style="list-style-type: none"> a lesson a story teaches about what is right or wrong

Note that *Knowledge Organizers* need not be as complex as the examples included here. Just because it shouldn't be more than one page doesn't mean it has to take up the whole page. A *Knowledge Organizer* could be perfectly good if it consisted of a single box with key literary terms or people to know, say, as a starting point, and if starting with less helps make it easy for you to get started and try them out, all the better.

How *Knowledge Organizers* are used is just as important as how they are designed. They are intended to be used frequently for retrieval practice and self-quizzing, if not every day, then at least several times a week. Constant quizzing and review encodes the content in long-term memory. At Michaela, when I visited, homework every night was simply to review and quiz yourself on the *Knowledge*

Organizers from each of your classes. It was so simple and direct. The homework was always the same, so it was easy to do. Parents quizzed children while they cooked dinner. (They often focused on just one portion of the organizer rather than trying to learn the whole thing at once.) That's why one thing you'll notice about these *Knowledge Organizers* is that they are designed with limited verbiage so that students can learn the answers by heart, and with two columns to facilitate easy self-quizzing by covering up one side.

Knowledge Organizers are sometimes confused with study guides, which are documents that summarize a unit of study after it is completed—often to aid in preparation for a test. That's not what a *Knowledge Organizer* does. It goes out at the beginning of a unit to ensure all students have the knowledge that will help them engage in each lesson fully.

Knowledge Organizers appear in the lesson preparation chapter because designing them is useful for the teacher as well. Thinking through what students will need to know to be successful in your unit has the benefit of causing you to think deeply about what they need to know and often do a bit of research. In writing a *Knowledge Organizer* you'll come to know ten times more than what you put into the organizer. In other words, it's a habit that builds your own content knowledge, and knowledge matters for teachers, too.

Notes

- [1.](#) *Culturally Responsive Education in the Classroom*, p. 70.
- [2.](#) Ibid., p. 66.

- [3.](#) Another is that they are using the Reading Reconsidered Curriculum, which gives me the opportunity to observe that having a lesson plan allows them to spend more time preparing to teach (and perhaps adapting content) than sourcing content and writing a detailed plan. When a teacher's time is limited, preparation is often a better use of it than planning.
- [4.](#) *The Invisible Gorilla*, p. 17.
- [5.](#) Micheline T. H. Chi, Paul J. Feltovich, and Robert Glaser, "Categorization and Representation Physics Problems by Experts and Novices," *Cognitive Science: A Multidisciplinary Journal* (April 1981). The implication of the article for teachers is discussed in Carl Hendrick and Paul Kirschner's excellent *How Learning Happens: Seminal Works in Educational Psychology and What They Mean in Practice*.
- [6.](#) Ellis Cose, *The Envy of the World: On Being a Black Man in America* (2002), p. 69.
- [7.](#) Tatum discusses Cose in *Teaching Reading to Black Adolescent Males* (2005), p. 13.
- [8.](#) For what it's worth, this was most likely to happen in their foreign language classes, marking a dramatic contrast with schools in other countries where the study of other languages was treated as a serious endeavor, the equivalent of math, science, English, and history. It most certainly isn't that in most U.S. schools I've been to.