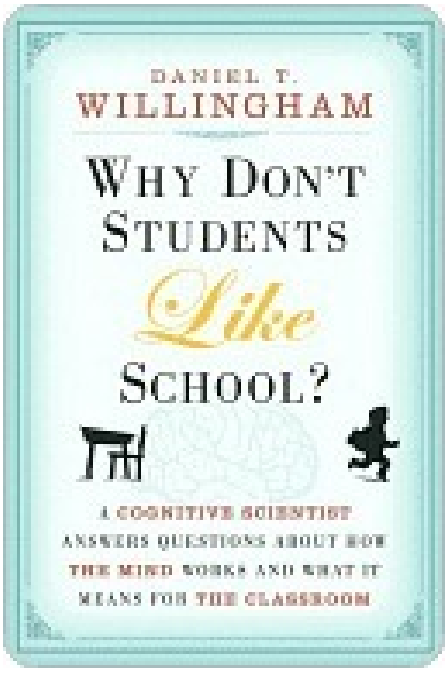

Why Don't Students Like School?: A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom

Daniel T. Willingham

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Easy-to-apply, scientifically-based approaches for engaging students in the classroom

Cognitive scientist Dan Willingham focuses his acclaimed research on the biological and cognitive basis of learning. His book will help teachers improve their practice by explaining how they and their students think and learn. It reveals-the importance of story, emotion, memory, context, and routine in building knowledge and creating lasting learning experiences.

Nine, easy-to-understand principles with clear applications for the classroom Includes surprising findings, such as that intelligence is malleable, and that you cannot develop "thinking skills" without facts How an understanding of the brain's workings can help teachers hone their teaching skills

"Mr. Willingham's answers apply just as well outside the classroom. Corporate trainers, marketers and, not least, parents -anyone who cares about how we learn-should find his book valuable reading."
—*Wall Street Journal*

Why Don't Students Like School?: A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom Details

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From Reader Review Why Don't Students Like School?: A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom for online ebook

Nabeel Hassan says

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Nathan says

It's good. His premise is that students learn when they think about the meaning of what they're supposed to learn. Lessons should be structured around that. Repetition and drills have a purpose, one means of transferring short to long-term memory. There's far more evidence for malleable intelligence (you can do better if you work at it) than there is for multimodal learning styles (aural, visual, kinaesthetic, etc.).

Frank Stein says

Not just for teachers or students, this book is a near perfect explanation of the contemporary consensus on learning, one that will change how you read, write, and think.

Daniel Willingham, a cognitive scientist and K-12 expert at the University of Virginia, uses nine questions to illuminate why it is difficult for people to learn new things, and what can be done about it. In the process of answering those questions, he dispels a lot mythology that has arisen around learning.

One myth is that students in school don't need to learn "facts" or information, but merely how to "think

critically." Willingham shows that there are few generalizable skills about critical thinking across all disciplines. To understand a topic, one needs to have the sort of "deep knowledge" in long-term memory that allows you to interpret the facts at hand critically. That could be procedural type knowledge (like how to divide fractions) or mere facts (like who was the first President). With these facts, it becomes easier to "think critically" by using them to identify subtexts and connecting causes. This kind of deep knowledge is also important because the main bottleneck to critical thinking is one's "working memory," or the six or seven things one can keep at the forefront of one's thought at the same time. This too is little subject to general training, but in any one subject, more long term memory allows you to "chunk" pieces of information together and therefore keep more things in your mind at once, which makes them easier to compare and contrast.

This may sound like Willingham is a mere advocate for rote memorization, and though he does defend knowing some basic facts that require mere memory, he knows that rote is a bad way to learn. As he says, memory is the residue of thought. Whatever gets a person thinking more about a subject makes them more likely to remember it, and thinking more about a subject, especially across different situations, allows one to identify where else that subject information could apply. Willingham attributes the ability to generalize ideas across a number of related fields the very essence of "expert" thought, and he shows that this demands practice and constant thinking (and therefore increasing memory about the subject) to acquire.

This book could be seen as somewhat traditionalist. A defense of memorizing, subject-matter knowledge, and practicing in education instead of airy ideas about "critical thinking" and "whole learning." It is somewhat traditional in that sense, though backed up by real citations and science. Yet Willingham also explains how to make this all interesting. Students (and others who want to learn) do like increasing their aptitude in an area, so it is important to show progress, and how work leads to progress, and important to give students the ability to solve problems that are not too hard or too easy, so they can enjoy the thrill of discovery while focusing on the problem at hand. He also advocates shaping lessons as narratives, with a conflict and a resolution, which takes advantage of our natural bias for stories for thinking about a topic.

This book changed and, hopefully, clarified the way I think about learning. I won't read another book without thinking about it.

Nelson Zagalo says

If you’re a teacher, read this. If you’re a parent of kids in school age, read this. And if you nurture any interest about improving your cognitive skills, read this also.

After having read “Outliers: The Story of Success” (2008), “Talent Is Overrated: What Really Separates World-Class Performers from Everybody Else” (2008) and “The Talent Code: Genius Isn’t Born. It’s Grown. Here’s How.” (2009), “Why Don't Students Like School?” (2009) was the missing key. Most of the books on talent and experts are too centred upon experience, experts achievement throughout hard training and learning by doing. Daniel T. Willingham demonstrates how this is also relevant for the cognitive skills, and how it’s built in school.

The central argument of this book is simple, and I’ve been defending this in the past about the development of creativity, but as you’ll read here, this is the basis for every cognitive ability:

“You cannot develop 'thinking skills' in the absence of facts. We encourage students to think critically, not just memorize facts. However thinking skills depend on factual knowledge for their operation.”

This is a 5 stars book, that every teacher should read, and any interested parent also. I’m just sad about the title chosen, which will put this book away for many, and is not being able to translate all the brilliant knowledge inside.

For an in-depth review check this excellent summary by Tim Taylor:
http://www.imaginative-inquiry.co.uk/...

MCOH says

This book reminded me a bit of Outliers; the author actually cites some of the same studies, and makes some similar points. Here, the primary audience is clearly K-12 teachers. The author takes the body of current cognitive science research, and applies it to the classroom, in a very quick, easy-to-read format.

Here were some of the ideas that I found the most interesting:

-People actually really enjoy solving problems, as long as those problems aren't too easy or too hard for them. Otherwise, it's a horribly boring or frustrating experience. (Seems like an obvious point, but not one that schools have taken advantage of yet. Right now, there's pretty much a one-size-fits-all mentality going on, so that a particular lesson might hit the sweet spot for a few lucky kids, but most will find themselves either bored or frustrated most of the time.)

-You've got to have some background knowledge to make sense of new knowledge. We understand and remember new things, because we relate them to what we already know and understand. So when one child arrives at school with an extensive background knowledge that's been developed through years of trips to the zoo, museums, grandparents' houses, cooking with mom and dad in the kitchen, reading books, daily conversations with adults about all kinds of things, etc.- they've got a huge advantage over a child who's had fewer interactions and experiences. This difference becomes more pronounced over time, rather than less pronounced - you gain new knowledge more quickly, and now your advantage is even greater for understanding the next new fact; the rich get richer, and it's continually harder for the poorer kids to catch up. (I'm using rich and poor metaphorically, to mean those with more and less background knowledge - but sadly, these do actually correlate with socio-economic status). The divide is exacerbated further in about 4th grade, when the emphasis on decoding skills (sounding out words) has been replaced with an emphasis on comprehension.

-In the same chapter: "Trying to teach students skills such as analysis or synthesis in the absence of factual knowledge is impossible. Research from cognitive science has shown that the sorts of skills that teachers want for students - such as the ability to analyze and to think critically - require extensive factual knowledge.... Factual knowledge must precede skill."

THANK YOU! I have been trying to verbalize this idea for a couple years now, and Willingham did it very nicely. I have been so frustrated with the WASL-prep exercises my children have been doing in school - which emphasize these types of cognitive skills, with no real care for the actual content of the lesson. The students are given brief written clips, and asked to answer a series of questions about the text. The fact that they don't really understand the topic is of no interest to the teacher - because the point of the lesson isn't really to understand the solar system or global warming or indigenous societies or whatever - it's to learn to draw inferences. Well, HELLO - a second-grader doesn't care about the abstract concept of drawing inferences - she wants to know what the *%$# the passage is talking about. If we could tackle actual issues, answer the kids' genuine questions, have a discussion about the topic in question - then in the process, they'll learn about drawing inferences. But when the school treats all content as an unimportant means to an end

(learning abstract and generalizable cognitive skills), they fail at an otherwise laudable goal. And they make school really boring in the process.

-In the last couple decades, theories about different learning styles and multiple intelligences have gained a lot of traction among educators. According to Willingham, the research doesn't bear it out. Sure, some people are more talented at music, other at movement, and so forth. But it doesn't follow that kids will be helped by having various subjects taught to them through these particular channels. The fact that one child is a better auditory learner means he or she will do better at remembering how something sounded (e.g. which voice was deeper?), while a visual learner will do better at remembering how something looked. But usually, in school, we want kids to think about what something means - for example, the meaning of a vocabulary word. Presenting the vocabulary list through auditory or visual channels seems to make no difference - because the meaning of the word (and the way the brain processes that info) is distinct from the sight or sound of the word. Thus, he says, lesson content, not student differences, should drive the decision about how to teach.

-Intelligence is a function of both genetics and environment. Intelligence is malleable - it isn't fixed. For example, he refers to twin studies which showed that children who were removed from a deprived home and adopted by a more affluent family showed an increase in intelligence. So while genetics are clearly a factor, we can take steps to increase the intelligence of our students. One specific tip: if you want to praise your child or student for a job well-done, you should praise their effort rather than their smarts. Multiple studies have reinforced this idea. When we tell kids, "Great job! You're really smart!", they ultimately perform worse than kids who are told, "Great job! You must have worked really hard!"

I thought the book lost a little steam by the end. In the last chapter, he claims to explain what cognitive research has to say about the minds of teachers themselves. Apparently, the answer is: try harder to be a better teacher, try videotaping yourself teaching, and talk to your teaching buddies about teaching, but nicely, so as not to hurt anyone's feelings. I guess the advice is all right, but the link to actual research seemed more tenuous in this section.

My favorite quote from the book:

"I am willing to bet you have heard someone say, "Every student is intelligent in some way"... I think teachers say this in an effort to communicate an egalitarian attitude to students: everyone is good at something... This sort of statement rubs me the wrong way because it implies that intelligence brings value. Every child is unique and valuable, whether or not they are intelligent or have much in the way of mental ability. I admit that being the father of a severely mentally retarded child probably makes me sensitive on this issue. My daughter is not intelligent in any sense of the word, but she is a joyful child who brings a lot of happiness to a lot of people."

Caroline says

I absolutely loved this book. I think it should be a must read in teacher-training programs all over the country. For decades, people have expected teachers to have a background in child development to help them understand how to meet students where they are. As of yet, there is not as much of an emphasis on understanding cognitive science. However, cognitive science is way ahead of what teachers tend to know in terms of how people learn, and applying those experiments in the classroom can only serve to better teaching and education. The book is set up so that each chapter poses a new question he hears a lot from teachers (my

favorite was "how come they can remember every word from a show they watched last night, but not a single thing they learned in math ten minutes ago?"), and then attempts to answer each question. His responses are straightforward and backed up with a huge body of research and, ultimately, common sense. I especially appreciated his recommendation for how teachers can become better teachers. Since learning is an active process and must be done through painstaking focus, most teachers stop learning how to be better teachers after three to five years. He recommends that teachers continue looking at each other's (and their own) teaching much in the same way clinical psychologists continue to study themselves with clients for 10 or more years.

Again, anybody who is currently a teacher or planning to become a teacher MUST read this book.

Lars Guthrie says

The titular question might appear an opening to a rant against our educational system. Rest assured that Daniel Willingham is hardly scribbling out some angry screed. He’s thoughtful, and avoids polemic.

In fact, I hope I’m not oversimplifying when I say his basic answer is that students don’t like school because it’s hard.

If that sounds awfully facile, be aware that Willingham goes on to a knottier problem: What can we do about it?

What Willingham is really writing about is not student anathema, but how our brains work, especially in the areas of understanding and memory, and how that connects to teaching students. A harder concept to translate into a catchy title.

School is hard because ‘we are not naturally good thinkers.’ That doesn’t mean we don’t have amazing brains. Evolution has equipped us to take in what’s around us and react accordingly. In typically down-to-earth and insightful language, Willingham uses a striking contrast to clear up the paradox:

‘Tasks that you take for granted—for example, walking on a rocky shore where the footing is uncertain—are much more difficult than playing top-level chess. No computer can do it.’

Humans do, however, have more difficulty when consciously processing available information to solve problems or create new ideas—thinking. ‘The mind is not designed for thinking,’ Willingham writes. Thinking takes time. Thinking requires work. Thinking means not being sure.

So our brains default to not thinking when possible, even when we are performing complex actions—like walking on a rocky shore. Once we know how to chop an onion, drive a car, or read a book, we no longer waste time or effort considering how we are doing those things, or question whether we are doing them correctly.

Willingham repeatedly returns to a major stumbling block on the road to true reasoning and reflection—working memory. This is a short and easy-to-read book with lots of great practical advice for teachers, but its most valuable contribution to my own thinking was really helping me better understand what working memory is, and how its limitations affect learning and cognition.

In a way, working memory is consciousness itself. It is what you are thinking about now. Working memory allows you to blend what’s coming in through your senses with what you already know so that you can

answer questions and put together thoughts.

Willingham cites current research that pretty definitively concludes working memory is limited—very limited—and more or less fixed—there is little evidence that you can improve it.

What you can do is cheat it. If the 'lack of space in working memory is a fundamental bottleneck of human cognition,' the trick is to enfold richer content into the limited number of items that small space can hold.

There are two ways to do this. One is to increase factual knowledge. That's extremely counter-intuitive—learn more to learn more. Here's how John Medina put it in his 'Brain Rules': 'It's like saying that if you carry two heavy backpacks on a hike instead of one, you will accomplish your journey more quickly….'

But it's true. Willingham uses the same kind of model as Medina, dividing his work into nine 'cognitive principles.' One is, 'Factual knowledge precedes skill.' Another is, 'We understand new things in the context of things we already know.'

When a student can easily access factual knowledge from long-term memory, he can 'chunk' information. He has a clear idea of context. The items that he's manipulating in working memory are broader and deeper. As I'm reading a discussion of eukaryotic cells and life regulation in Antonio Damasio's 'Self Comes to Mind,' I'm extremely grateful I just reviewed cell structure with a seventh grade kid with whom I'm working.

Walking on Willingham's rocky shore is a demonstration of the other way to get around the working memory logjam. Performing automatically means a student doesn't have to use working memory to think about that performance.

An example Willingham uses is practicing times tables as a young man. When he transferred to a new school, his math teacher insisted that Willingham would do better if he memorized the multiplication facts. Coming from a school that placed more emphasis on conceptual understanding than rote memorization, Willingham at first resented the requirement. He soon realized how much automaticity helped.

It's another counterintuitive principle, its paradoxical nature beautifully summed up by a marvelous quote from the philosopher Alfred North Whitehead: "It is a profoundly erroneous truism…that we should cultivate the habit of thinking of what we are doing. The precise opposite is the case. Civilization advances by extending the number of important operations which we can perform without thinking about them.'

Unfortunately, automaticity only comes effortlessly with tasks such as breathing. Willingham's cognitive principle here is, 'Proficiency requires practice.' So teachers have to think hard about what their students most need to practice. They should also consider that spacing practice—rather than cramming—is more effective.

It's clear that Willingham regards working memory as a universal. Indeed, he cites studies connecting working memory to intelligence. This viewpoint is quite different from the outlook of Howard Gardner, and Multiple Intelligence theory. Willingham is somewhat abashed to find himself in this counterpoint position.

Nevertheless, despite feeling 'like a bit of a Grinch' in stating it, another one if his cognitive principles is, 'Children are more alike than different in terms of learning.' He makes a critical qualification, however—that he is not making a claim 'that all children are alike, nor that teachers should treat children as interchangeable.'

But more important than tailoring content to individuals is teachers really getting to a deep understanding of

that content. Activating previous knowledge and making sure that knowledge is there will help advance proficiency and comprehensive mastery.

So will thinking ‘of to-be-learned material as answers.’ Begin with a thorough examination of the questions.

No matter where children’s interests lie, no matter what their talents or ‘intelligences,’ I do believe that well-rounded general knowledge should be a goal of education (as does Gardner). It makes sense to me that we can also generalize about the ways students might acquire such knowledge.

Gardner’s skepticism about ‘horizontal faculties,’ like working memory, might result in teachers using valuable time evaluating different learning styles that would better be spent in effectively presenting content to groups with at least some homogeneity.

Educators, parents and students looking for some good tips on how to do that will find ‘Why Don’t Students Like School?’ a most worth while resource.

Highly recommended.

Sarah Shahid says

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Ben Babcock says

Drumroll of irony, please: I bought this book because it was the required textbook for one of my education courses, Educational Psychology, and **this is the first time I've opened it**. Those of you who know me as a student will understand that this is uncharacteristic behaviour and might even suspect I've been replaced by a school-hating doppelgänger. In fact, Educational Psychology was one of very few courses that I disliked during my time at university, and it was entirely due to the professor's teaching style. The material itself interested me, as this review will show, and I completely understand that the subject matter is useful for me as a new teacher. Unfortunately, the professor insisted on using PowerPoint for her lessons despite clearly not knowing it they worked (to the point where we would shout out how to navigate among slides). I managed to get out of reading this book because she didn't actually test us on the book itself; she merely "followed" certain chapters with her own notes, and there was only one midterm test; the rest of our marks came from assignments. I'm not proud of my performance in that course, nor am I proud to talk about my inattentiveness—but it happened, and I suppose it's ironic it happened when the book is called *Why Don't Students Like School?*

I *loved* school as a child and still love school. (This is probably a good thing, since if my career aspirations come true, I will be spending the rest of my working life *in* school, albeit on a salary.) School—and by this I mean "learning"—was, for me, the point of my childhood. Oh, I had plenty of fun with friends and got into my fair share of shenanigans. But I *loved* learning, lessons, and homework. So I'm at somewhat of a disadvantage, as a teacher, when it comes to diagnosing problems of disinterest, since I have so seldom experienced it myself. Fortunately, Daniel T. Willingham has come to my rescue with a book that concisely

explores this issue and has recommendations and advice for how to help students learn.

I love the length of this book, which is rather short for a non-fiction science book (don't let the thickness fool you, however, because the print is small). *Why Don't Students Like School* is just the right length for Willingham to cover each of his nine "cognitive principles" and explain them without going into too much depth with the science behind the principles. A longer, more detailled book would doubtless have been more daunting, and I think Willingham has found the right balance among length, depth, and barrier to entry. You don't need to have studied cognitive psychology by any means to read this book; however, despite its length, this is not a popular science book. Willingham's style is a blend of the academic and the science writer, mixing facts, figures, and tables with intriguing analogies. Finally, every chapter ends with *two* bibliographies: "less technical" and "more technical". Attention to details like that are what differentiate books that are merely *interesting* from books that are *interesting and useful*. *Why Don't Students Like School?* goes on to emphasis this distinction in a variety of ways.

Perhaps the most surprising thing about reading this book is that it taught me how many pre-conceptions and biases I have already developed regarding pedagogy. Willingham challenges many tenets of teaching that I have absorbed, either through society at large or explicitly through my education coursework. For example, his seventh cognitive principle is "Children are more alike than they are different", which leads into a discussion of the very common notion that different children "learn differently", i.e., some people are "visual learners" and some people are "tactile learners". Who *hasn't* heard this? I bet that most people, even those who aren't teachers, have been exposed to this idea, whether or not they subscribe to it on any significant philosophical level.

Willingham tackles this theory in depth, describing the hell out of it so that we have a firm idea of what *it* is, then going on to say:

> I've gone into a lot of detail about the visual-auditory-kinesthetic theory because it is so widely believed, even though psychologists know that the theory is not right. What I have said about this theory goes for all of the other cognitive styles theories as well. The best you can say about any of them is that the evidence is mixed.

Whoa, whoa, whoa. Hold on a moment, Willingham—are you telling me that received wisdom from "society" is *wrong*? That it doesn't accurately reflect how students actually learn, and instead perpetuates outdated psychological fads? That seems rather far-fetched, but I suppose if you have *evidence*….

In addition to its twin bibliographies, every chapter concludes with an "Implications for the Classroom" section where Willingham lists explicit ideas and tips that teachers can apply to their own lessons. In the conclusion to this chapter, he advises teachers to "think in terms of content, not in terms of students". So some content is better seen than heard and vice versa—students differ, but not as much as content differs. It would be silly to teach a music class by only reading sheet music. Willingham also opines that, "There is value in every child, even if he or she is not 'smart in some way'", referring critically to the idea that "Every student is intelligent in some way". I'm not sure I agree with Willingham on this point, but I won't get into it because intelligence is such a vast and difficult concept.

I recall, dimly, that we discussed the multiple intelligences/learning styles theory in my Educational Psychology class, but you can see how much information I retain when a professor's teaching style doesn't work for me. This is an important point that Willingham emphasizes throughout *Why Don't Students Like School?*: students' learning styles and attitudes and abilities are important, but they are not as important as they *teacher's* style. I was more than unusually fortunate in my draw of teachers as a child, but even the poor

teachers provided me with something that I, as an avid and eager student, could nurture into knowledge. Other students are not so lucky. If I had to choose a favourite part of this book, it would be the very end. Willingham includes in an endnote to the conclusion a quotation from Reynolds Price:

> If your method reaches only the attentive student, then you must either invent new methods or call yourself a failure.

What an excellent sentiment. It refocuses the responsibility where it should rest: not with students who are inattentive, disadvantaged, or otherwise not achieving their "potential" (whatever that means), but with the *teachers*. Because, you know, this is kind of our job; this is what we do. If we resign ourselves only to reaching those students who embrace school, then we are doing a very poor job indeed.

With his sixth cognitive principle, Willingham makes a point that I think I've previously realized but have never really expressed as a single statement: "Cognition early in training is fundamentally different from cognition late in training." In other words, students in a field don't just know *less* than experts in that field—they actually think differently about that knowledge, owing to the way their brains structure and organize information. As one becomes more familiar with a subject—more practised—one's brain becomes more adept at organizing information about that subject and applying different techniques to study a situation. Experts have a larger "mental toolbox", as Willingham puts it. The lesson for teachers here is not to expect one's students to think about problems as an expert would, and thus they won't necessarily learn by doing the same sort of activities that experts do.

"Practice makes perfect" might sound trite these days, but Willingham makes a strong case for it. I haven't read *Blink*, by Malcolm Gladwell, which has popularized the idea that, on average, one needs to put in about 10,000 hours of practice in order to become an expert at something. Willingham echoes this idea, particularly when discussing the difference between novices and experts, and backs it up with some nice cognitive studies. He even takes it further and specifically refers to teachers. The last chapter of the book is dedicated to how *teachers* can improve, and this is a good quotation from the chapter on expertise:

> This generalization—that experts have abstract knowledge of problem types but novices do not—seems to be true of teachers too. When confronted with a classroom management problem, novice teachers typically jump right into trying to solve the problem, but experts first seek to define the problem, gathering more information if necessary. Thus expert teachers have knowledge of different *types* of classroom management problems.

I didn't realize how much I needed this reassurance, but that's what it is for me. This is the year I will engage in "student teaching", the period in which I shadow a teacher in a high school and even teach the class directly—and I'm terrified. What if I screw up? What if I step across the threshold of the classroom and they sense that I'm somehow not really teacher material? And I know, deep down in the most rational cockles of my heart, that this is not going to happen, and that I will be a good teacher—but that does nothing to calm my nerves! Still, Willingham's reassurance goes a long way to reinforcing the idea that **we have "permission to suck".** Although most often applied to students of the creative process, it's applicable to life in general: I am going to suck, at times, as a novice teacher. I am going to make mistakes, and I will certainly improve—when I look back at myself ten years from now, I will laugh at those first few feeble lesson plans. Because practising almost automatically results in improvement, assuming you make the effort. I can see this in my own reviews here on Goodreads, which have improved gradually but noticeably since I began writing

them. My process, in general, has not changed—I've just had more practice.

I'll finish by touching on Willingham's second cognitive principle: "factual knowledge must precede skill". He opens the chapter by mentioning stereotypes of teaches who are obsessed with drilling facts into their students' heads, including Mr. Gradgrind of *Hard Times*, a book that I read in first-year English and quite enjoyed. This was the chapter I approached with the most scepticism and perhaps even hostility, for although I have yet to read *The Shallows* , I disagree with Nicholas Carr's proposition that Google is making us stupid. He makes an important point, but my objections have always been based on this nebulous, perhaps not well-defined premise that "critical thinking" is more important than knowing when William the Conqueror invaded England (1066). Well, Willingham attacks this defence and gets in a critical hit: in order to solve problems, first we have to know what we're talking about. I don't think he's taking as hard a line as Carr, because he exhorts teachers to consider carefully what background knowledge is necessary for students to succeed at a particular task. And, come to think of it, I was already expressing a similar idea when I told my math professors why I want to teach high school: in my experience as a tutor, many university math students aren't struggling with the higher-level concepts themselves but with the more basic operations (fractions, oh the fractions) that they should have mastered in high school. One needs a certain level of background knowledge and skill to succeed.

Of course, that is why I read so voraciously, and why I read books like this. *Why Don't Students Like School?* reaffirmed a lot of what I think, challenged a great deal too, and in general has probably helped get my mind back in gear for the start of school next week. Unlike many books to which I award five stars, I am not going to gush and recommend this to everyone. If you have an interest in pedagogy or cognitive psychology, check it out. For new and aspiring teachers like myself, I will say this is required reading. With *Why Don't Students Like School?*, Willingham neither patronizes nor panders to teachers but instead provides an excellent, helpful volume based on studies in cognitive psychology. It's not anecdotal hokum; it's not prescriptive pedagogical bullshit. It's science, bitches. It works.

Katie says

Eight principles of cognition, along with their implications for education, are discussed:

1. The brain is not designed for thinking--we are not naturally good at it.
2. Rote memorization of facts IS necessary before deeper skill/thinking can occur.
3. We remember what we think about the most.
4. We understand new things by relating them to our prior knowledge.
5. To be proficient, we must practice, not just experience a task.
6. Novices and experts do not think in the same way.
7. Children are more alike than different in terms of learning. (Auditory, kinesthetic, visual learning styles/multiple intelligence theory argued here.)
8. Intelligence is malleable. Effort, not ability, is key.

Having completed my master's in education with an emphasis on brain-based learning, I was intrigued to find several viewpoints in this book that refuted the bulk of my coursework. Specifically interesting was the research disproving multiple intelligences and learning modalities (thereby downplaying the need for differentiation, the latest teaching craze.) I also found chapter 3's analysis of the relationship between memory and thought to be very interesting. It made me question the whole idea of anticipatory sets in a lesson's introduction.

I can't say that I necessarily agree with everything that the author proposes. However, I do believe this book should be a must-read for teachers who are bombarded by professional development/teacher education coursework, if only to get a fresh perspective on some of the latest philosophies in "pop education." While some of the principles were familiar and common sense, others were quite mind opening.

Full of easy-to-read theory, with some ideas for classroom implication, but not many specific how-to's. Unlike other educational books, I'm not bursting with new ideas to bring back to my classroom, but it has certainly influenced my perspective on learning and teaching.

Jonathan Chen says

The first part of the title is a bit misleading. The author doesn't really answer the question of why students don't like school. It should've been "why do some students struggle with learning?"

One of the key arguments made by Willingham is that students can improve through meaningful practice. The idea is that rote practice (i.e. meaningless practice) does not lead to improvement, such as driving or teaching, since there is no incentive to improve after an adequate level of expertise is reached. On the other hand, meaningful practice leads to higher level of achievement, thus the concept of "malleable intelligence". This part is completely unconvincing for me. Firstly, he cites the study that shows those who practice piano for a greater number of hours show higher achievement (concert pianists vs. music teachers). The argument against this kind of study is self-selection -- musical talent is identified very early on one's career. Those who "have it," are inclined to practice more in order to compete at a high level, whereas the less talented (sorry, music teachers), choose not to devote as much of their time on practice.

This parallels Malcom Gladwell's "Outliers," which argues that people attain true expertise by practicing something for 10,000 hours. This concept has been thoroughly debunked. Think of minor league baseball players who toil for years without making it to the big leagues, they practice just as much, if not more than their more talented counterparts. There are also many athletes who simply do not practice very much, such as Bo Jackson. I also take issue with using Asian/Asian-American students as a shining example of "malleable intelligence." Many high-achieving Asian students struggle once they reach the college level, which require a deeper level of analytical thinking that go beyond rote memorization. Many immigrant students have no choice but to use rote memorization before they reach English fluency, yet they are able to do well, at least on standardized testing.

Another major argument that Willingham makes is that multiple-intelligence, a widely accepted concept, might not hold up to scientific scrutiny. In my own experience (both undergraduate and graduate school, multiple-intelligence is seen in the same light as the law of gravity, so I was glad to finally see a counter argument. Every lesson plan had to have different components of the 7 intelligences, which is highly impractical to say the least.

In the very last chapter, Willingham offers some "practical" advice for teachers, including video-taping oneself and asking other teachers for peer review, ideas have been around for decades. In the end however, I think resources should be allocated more on how students learn, rather than how teachers teach. Recent studies have focused on more students' emotional intelligence (EQ) and other intangible qualities, such as "grit". Teaching students how to cope with setbacks and conflicts should yield better results than finding "star" teachers.

*Full disclosure, I have a B.A. in Education (1996) and an M.A. in Curriculum & Instructions (2011).

Atila Iamarino says

Achei que fosse um livro sobre alunos, na verdade é um livro para professores. Uma ótima leitura de qualquer forma. O livro todo é muito mais prático, útil e cientificamente embasado do que a licenciatura (pelo menos da minha época).

Daniel T. Willingham compila a pesquisa em cognição para uso em sala de aula. Como separar conteúdo, como direcionar a linguagem, o que cobrar, como cobrar, etc. A pesquisa fica bem de fundo, embasando as dicas, de maneira que é um livro bem mais voltado para professores do que sobre cognição em si.

Serviu como um ótimo contra-ponto para a educação por competências que tinha lido até agora. Boa parte dos livros sobre futuro, como o The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies, discutem muito mais como precisamos aprender a acessar informação e não decorar conteúdo sem sentido. Mas Willingham dá um bom argumento sobre como precisamos de um mínimo de conceitos, mesmo que decorados, sobre os quais ancoramos princípios.

Ele ainda discute muito bem porque erramos quando tentamos fazer os alunos pensarem como especialistas (cientistas, historiadores, etc.) sem pensar no passo-a-passo, quando esse tipo de competência leva até uma década para ser desenvolvida. Recomendo a qualquer um que dê ou queira dar aulas. As dicas finais de como melhorar a própria aula são melhores do que qualquer material que vi na licenciatura.

Taka says

Meh--

Granted, this book has some insights—the importance of background knowledge in reading comprehension and creative thinking, the qualitative difference in thinking between novices and experts, and structuring your lesson plan like a story to keep the attention of the students—but it unfortunately suffers from, well, failing to grab the attention of the reader. As one Audible reviewer said, "The story was so dull that he lost my attention!" It's true, he advocates asking questions and NOT answering it right away, but then in this book he answers them right away before presenting basic information for the reader to understand the questions and to get sufficiently curious about it.

Other sections are not really useful, really. He busts the myth of learning styles/preferences in one, but to me that's old news (but then I don't want to be unfair to the author—after all I just read more recently published books on learning) He doesn't even cover spaced repetition (which is both scientifically established and executable, and therefore fits his criteria for including it in the book as one of the "principles" of cognitive psychology useful for education). He does cover the importance of feedback in learning (a la deliberate practice) and does point out something I've always suspected, that students, as novices, are incapable of creating new knowledge (which actually is commonsense if you think about it. Do you expect any novice to contribute to any field, academic or not? Maybe there are exceptions, but even Mozart, that paragon of genius imitated Hayden and others when he "composed" symphonies when he was 7, thus producing mediocre work).

The section on memory was slightly more useful, actually: students remember what they think about. If you want them to memorize the meaning of a word, you should have them think of the meaning and not structure

your lesson around some fun-sounding activity that doesn't help them do that (something I might have done in the past).

The "classroom implication" section at the end of each chapter—where he talks about how you can deploy the "principle"—is rather repetitive and obvious and doesn't offer any new insight you couldn't have gleaned from the previous discussion of the principle, so I found myself feeling weary of it every time I heard the phrase. I have the suspicion that the material covered by this book was forcibly stretched to fill up a book...

Another small complaint that's unrelated to the content: there's also no PDF file for this audiobook, though it keeps mentioning it again and again and again.

All in all, a bunch of scientifically established facts that could be somewhat useful but are tortured to stretch a book's length.

If you're interested in the cognitive scientist's approach to education, I recommend the much superior and insightful *Make It Stick: The Science of Successful Learning*.

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