



# Teaching Minds: How Cognitive Science Can Save Our Schools

*Roger C. Schank*

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## Teaching Minds: How Cognitive Science Can Save Our Schools Details

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# From Reader Review Teaching Minds: How Cognitive Science Can Save Our Schools for online ebook

## Adam Fortuna says

Most useful takeaways? Give people problems to solve. Show what they'll be building. When students are wrong, ask them questions rather than telling them the answer.

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## Doni says

This book is not academic which is appropriate since it critiques the existing academic system. Its main idea is that we should focus on crucial cognitive processes, not subjects. I agree with this, however I would have appreciated some connection with cognitive science findings having become accustomed to the more academic tradition. The book belabors the point. My advice: read quickly.

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## AJ Armstrong says

I really wanted to like this, as I agree with his main thesis. However, despite having the phrase "cognitive science" in the title, the models and science presented are either very shallow or very dated. I suspect he may be trying to support lay readers. If so, he badly underestimates the audience that would be attracted to the work. Further, the "evidence" he presents to support a fairly radical agenda seem to invariably be cherry-picked anecdotes, convenient generalizations or appeals to so-called common sense. A disappointing effort from an author who could do much better.

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## Kyrill says

I've been an English teacher for 6 years. Next year I'm starting a PhD in computer and cognitive science so imagine how excited I was to find a popular science book by a professor of computer science promising to boldly put cognitive science into teaching practice.

I am often disappointed by the lack of rigor that authors like Ken Robinson show when writing on education. Roger Schank is a charmless holier-than-thou Ken Robinson. While Robinson aims to help people find passion in their lives, Schank aims to suffocate such passion and turn education into a series of algorithms.

The book does not even attempt to back up its hilariously prescriptive claims. Chapter titles like "How to teach evaluation" are an account of how Schank himself does this - the only case studies refer to his own poor students and children. The book relies on the idea of teaching "cognitive skills" instead of subjects. Apparently there are 12 cognitive processes that the brain does. Exactly 12. Instead of teaching heart surgery, history or jazz composition, teachers should instead teach "diagnosis" and the rest of the 12. This will help students to "run scripts" for real life situations ensuring that they achieve mastery.

Schank points to the fact that we don't "use" the historical knowledge or the poems we learned at school in

our jobs as adults to argue that such things should not be taught. He gives examples of "stupid people" like Sarah Palin. He attributes her failure to know the Bush Doctrine not to the fact that she did not learn what it was but to a failure of "Causality", "Evaluation" and other such apparent cognitive processes.

Other unfounded claims include the idea that babies cry at certain times because they ran crying experiments and observed the reactions they got and the admission that Schank's alcoholism is the result of watching his own father drink.

The only strong evidence I can find in the book to support its thesis that we do not learn things by reading or hearing them is the book itself. I read it from cover to cover and have not learned a thing.

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### **Andy says**

Really thought provoking book about what is wrong with the university system, and to a lesser degree the k-12 system in education. Makes a number of very valid, harsh criticisms of the tenure and reward structures for faculty. Thought the conclusion regarding online schools was exaggerated a bit, with little evidence that it would truly make a difference. Well worth the read, particularly for folks in education.

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### **Douglas Eu says**

A thought provoking book that raises good questions about schools, what they teach, and more importantly how a change in the focus might be more productive. I liked his suggestions about focusing on cognitive skills rather than different subjects and knowledge. I have found in hiring graduates for the past twenty years that something was wrong with education. It just isn't turning out people who can immediately succeed in schools. My HR team has been focused on teaching some of the cognitive skills (like decision making) that we need in the workplace. Now I have a more comprehensive idea of the skills needed and a curriculum of sorts for my HR team to focus on.

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### **Lisa Biskup says**

I just heard about this author a couple of weeks ago and I really like what he has to say about education. I have had these same thoughts over the years, but I didn't have his experience in the university setting.

I look forward to examining his work more thoroughly to see how to incorporate these ideas into my own parenting and teaching.

I appreciate his willingness to question all assumptions of schooling and teaching.

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### **Liz says**

Pragmatic approach to how and why we learn.

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### **Nelson Zagalo says**

Far from being a complete book, in the sense that much remains unsaid, including failure to submit empirical data to support central ideas, this book is still capable of generating discussion, compel us to reflect on what school is, because it is there, because we have created it, what we expect of it, and what society expects of her.

More in my blog, in portuguese: <http://virtual-illusion.blogspot.pt/2...>

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### **Liz Shine says**

This book was both inspiring and depressing. Inspiring because Schank presents some really great ideas about how education could be reformed to better serve students. Depressing because his ideas are not really new and have been kicking around for a long time getting nowhere because, as Schank points out in this book, there are vested interests that have nothing to do with what's good for students that serve as a bulwark against substantive education reform. Schank argues for a system of learning by doing (project based learning) that seeks to teach kids what they really want to learn. He argues for a cognitive process based education instead of a subject based one. He argues against the notion that teachers exist to increase student knowledge of facts or information.

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### **Regis says**

Very interesting perspective on how to fix education. Would have liked more specific reference to principles of cognitive science that recommendations were based on.

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### **Jesse says**

Roger C. Schank presents a promising view. Should be read by everyone interested in education as he makes excellent points.

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### **Pete Welter says**

Yes, Roger Shank is at times pompous, incredibly self-assured and often prone to vengeful comments against those he has perceived to have wronged him.

That's the bad stuff. The good is that I find myself buying much of what he says about where education has to go and why, and the root causes of why our system is as it is. There is never any question as to Shank's viewpoints - he pulls no punches and gets right to the point.

There are really two books here: one in which he talks educational philosophy (my favorite part) and one in which he outlines a cognitive science-focused approach to education.

The educational world needs more Shanks - the system is not one that can be adjusted piecemeal without hurting anyone's feelings. When we talk education revolutions, remembers that in every revolution there are major losers - it's one of the hallmarks of a revolution.

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## **Ken says**

**What I liked:** Roger Schank has a distinctive voice. And he's a maverick. Not as familiar a maverick as Alfie Kohn, but a maverick nonetheless. He thinks the educational mindset is a joke, that it educates young people to perpetuate itself, as if every kid is being taught to become a professor (only most of them will be something else entirely). He reveals universities for what they are -- political and capital entities, as interested in advancing their own self-interests and bottom lines as much as they are in educating students. In fact, the educating part is mostly a nuisance. They'd rather do research and talk to each other. They live, in fact, for May through September.

Schank's belief is that all teaching should be project-based. We should teach kids only skills that will serve them in the real world. How? By creating "cases" that reflect true situations in the real world. He boils it down to these essential skills:

### **Conceptual Processes**

1. Prediction
2. Judgment
3. Experimentation
4. Evaluation

### **Analytic Processes**

1. Diagnosis
2. Planning
3. Causation
4. Judgment

### **Social Processes**

1. Influence
2. Teamwork
3. Negotiation
4. Describing

I especially like it when Schank goes off on a rant (of course, this leads to what I DON'T like, too). He picks on easy marks, like algebra. Who the hell needs algebra, except for a minute number of engineers and future math teachers? Kids know it. We know it. Only math teachers perpetuate the myth that it's of any use. And, as kids want to get into "good schools," they play the game. Once there (college), the game becomes finding the easiest teachers who harness you with the least amount of work. Not much learned is of use. You come

out of school erudite, maybe, but also often unemployed.

**What I disliked:** Though Schank's rip-roaring style is undeniably fun, it's short on substance and often repetitive. In one chapter he shares some of his "case studies," but they're all of a business slant. Teachers from all the self-perpetuating content areas reading this book want to know how his ideas translate to *their* fields. In other words, what does it look like? The question hangs like a curveball that never quite breaks. It's a shame, too, because I like the theory behind his argument. Too bad (not to mention ironic) that he favors teaching concrete practicalities first and theories second (if at all). Maverick, heal thyself!

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## **Sarah Hanawald says**

Schank thoroughly examines just what we mean when we use the term intelligence, and then offers his thoughts on what we should mean. Schank asserts that diagnosing and analyzing should take precedence over information retrieval in education. I couldn't agree more.

What is difficult is Schank's tone--and he probably doesn't care. He comes across as arrogant and confrontational. Not a fun guy to meet at a party.

On the other hand, I read his book and don't have to converse with him, so I'm able to get over it and learn from his writing. He articulates some issues that have been bothering me for years--knowing that I wanted education to do more, but not being satisfied with a vague "let's teach critical thinking" approach. Schank echos Liz Coleman's call to re-invent the concept of what a discipline means--and if you haven't seen her TED talk--you should.

I'm hoping some more friends/tweeple of mine will read this so that I can have a discussion with them about how to make the twelve cognitive processes part of the real world of school. Here are the twelve that Schank says underlie real learning: prediction, modeling, experimentation, evaluation, diagnosis, planning, causation, judgement, influence, teamwork, negotiation and describing. Hardly--reading, writing, etc. . .

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