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The Ignored Science That Could Help Close the Achievement Gap

There's a body of research on cognitive reading processes, so why isn't it being utilized?



Mark Makela / Reuters

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As of January 2014, about 76 percent of Americans over the age of 18 said they had read a book in the last year, [according to](#) Pew Research data. But surely the

other 24 percent of the population read something over the course of those 365 days. They read Google Maps directions to get to the dentist, they read popcorn-cooking instructions so the kernels didn't burn, they read Wikipedia articles as they spiraled down conspiracy-theory rabbit holes. So even though book reading isn't exactly ubiquitous, the process of [mentally converting letters on a page or screen](#) into meaning is.

Along with the divides that hamper many aspects of education, the nature of developing the basic intellectual skill of reading is also rife with contradictions. Educators and scientists alike seemingly have the same goal of helping children become high-functioning, engaged readers. And yet, according to Mark Seidenberg, a psychology professor at the University of Wisconsin-Madison whose research focuses on reading and language, the two groups are not exactly in sync right now.

In his forthcoming book, *Language at the Speed of Sight*, Seidenberg seeks to unpack why a nation as developed as the United States is underachieving in reading ability. [According to](#) the most recent National Assessment for Education Progress Report Card, just about one third of American fourth- and eighth-graders were reading at or above a proficient level last year. And Seidenberg says this poor performance is indicative of the underutilization of reading science by educators. He criticizes the education establishment for failing to adequately address the reading gap—pointing out that, though education may not be the equalizer it's dreamt to be, there are ways for schooling to help chip away at the effects of poverty.

I talked to Seidenberg about his book and his experiences as a reading scientist. A lightly edited version of our conversation is below.

Hayley Glatter: Can you tell me a little bit about your background and what motivated you to write *Language at the Speed of Sight*?

Mark Seidenberg: I'm a language and reading researcher and I've been studying things about how reading works, how children learn to read, and the obstacles that lots of children encounter for many years.

The problem is—and what the book is really about—if the science is so good, how come there are so many poor readers? And should we be able to make use of what's been learned about reading and reading disability to improve literacy levels, which are not as high as they should be for a country with our resources? So the connection between what we know about how reading works and the fact that there are lots of kids who either don't read well, or can read but avoid it, was the thing that really motivated me to look more closely and then write the book.

Glatter: As you mentioned, despite all of its resources, you identify the U.S. as a “chronic underachiever” in reading proficiency. How do you think the country got to this point?

Seidenberg: What I try to do in the book is trace it back pretty far and look at how two cultures developed. There's one that studies reading and language and other things from a science perspective. That involves psychology, linguistics, and now neuroscience. It has its own standards and ideas about how you answer questions and its own unique, distinguishing characteristics.

Then there's a separate culture, which is educational culture. And it really has developed pretty independently even though we're concerned with the same questions. There are, what I call them, cross-cultural differences, and it's very hard to cross the boundaries between these two. And basically, when we think about educating kids, we think about education, and so we go to schools of education, we go to the people who train the teachers, and we go to the educational establishment for answers. And my belief is that that's really kind of going back to people who have helped create the problems that we have and really have not been able to deal with them. **And one of the reasons is because they really have very little contact with this whole other body of work that says**

much more about how reading really works, how children learn and develop, and so on.

Glatter: Along with that, you talk about the socialized culture and the cultural construct of teaching. Can you expand on the idea of the separation between learning literacy versus learning how to actually read?

Seidenberg: On the education side, you know, it's a pretty in-grown group. They develop their own sort of beliefs, and in that culture, reading is really something that is hardly discussed. If you go to a school of education where they're teaching the teachers of the future, there are few, if any, courses about reading. Educators are not interested in reading. They think that's just sort of the basic nuts and bolts, kind of the lowest-level problem of recognizing letters and recognizing words, and that's just the mechanics. What they are interested in is literacy, and so effort focuses on developing children's interest in books and thinking about how they're structured, how they function, and what they mean in different kinds of cultures.

That leaves all the stuff about how kids actually go from not reading to beginning reading to skilled reading out of the curriculum. So they emphasize "literacy" and we emphasize, I would say, the prerequisite: being able to read quickly and accurately with some basic skills under your belt. In my view, the way that they're taught can actually make it more difficult. They focus on a high-level notion of literacy and assume that just being able to pick up the mechanics is easy. All of us have the goal of getting kids to be able to read challenging material from which they can learn and ask questions, but we disagree about how to make sure that children get to that point.

Glatter: And then looking at the more macro perspective, in the book, you unpack reading failures as a societal issue and as collateral damage of poverty. So where do you see these cognitive processes of reading brushing up against all of the social, economic, cultural factors affecting poverty?

“I really reject the idea that because kids are poor, they can’t be educated.”

Seidenberg: I'm not sure about that question. It's clear that poverty has a huge impact on children and on education. And it is certainly one of the factors that contributes not just to children who don't learn to read, but also to children who don't benefit from school and who are at risk for dropping out. So poverty is obviously a huge issue, and I wouldn't want to take any attention away from attempts to address basic poverty issues.

However, poverty is a difficult problem to solve. And in the meantime, we can't just stop educating kids because they happen to be poor. I think that there's more that could be done to help education serve the function of helping to overcome some of the effects of poverty. Poverty has a huge impact. Children from low-income areas go to poorer schools and have less access to lots of resources. But, there are plenty of things that we could be doing that we're not. I really reject the idea that because kids are poor, they can't be educated. And it's the poorer kids who need more help and therefore would benefit most from making use of everything we know, which includes a lot of very good science that's basically being left on the table.

Glatter: Digging into that, throughout the book you push back on what you say are the assumptions of educators and reformers who blame poverty as catch-all for society's ills. You point to this line of thinking as a cop-out. Can you expand on that?

Seidenberg: Yes. Namely, there's a pretty large percentage of children who read

poorly and who never gain very high-level reading skills, and this is a problem for them as individuals and it's a problem for society. So many people and politicians and others believe that the schools could be doing a better job in reading, math, science. And there was a traditional idea that education was what Horace Mann called "the great equalizer," that regardless of your background, if you had an education, you would have greater opportunity. And it's never functioned as the great equalizer, but it can be extremely helpful for many kids.

So when No Child Left Behind was passed, there was the federal government intervening in education as it was occurring in every classroom across the country. That legislation was really disastrous, but it was a response to a real problem, which is chronic low literacy, and a failure on the part of the educational establishment to acknowledge or address the problem. Well, the pushback against that legislation took the form of saying, 'Actually, our educational system does really quite well. Elementary education doesn't really need fixing at all. It's doing fine, except for the problem of achievement in low-income areas. And really, all this legislation was totally unnecessary.'

The idea was that educational achievement in reading and other areas is not an educational problem. It is a problem of social policy and social justice. It is a problem of poverty. There was a line of argument that got very popular among many educators and others that said we don't need to examine closely how well education is working: It's working fine. What we need to do is address the poverty issues in the U.S. If we did that, then all these other issues about reading achievement and so on would be moot.

I have problem with that. And the problem with that is that it's basically like educational redlining. It's sort of saying, 'You know, poverty, we really can't do anything educationally in some of these areas because the people are too impoverished to benefit. And until we deal with the poverty issue, we're really not going to be able to help.' And that seems wrong to me. And moreover, it's

sort of saying, ‘well the educational system works well as long as you’re a middle or upper-class kid.’ And it’s treating the issues for the kids who aren’t succeeding as less important and not their responsibility. Education plays a huge role in these socioeconomic differences, and the system can’t be said to be working well if it’s only working well for middle and upper-income children.

“Science is not the solution to all of these problems; it can't get rid of poverty by itself.”

Glatter: Is there anything parents can do to help their children become better readers?

Seidenberg: I think parents need to be alert because we usually assume that if we’re sending our child to school, the educators will be able to take over and will have the training to be able to teach kids to read and learn other things. Middle-class parents already know that they have to supplement what goes on in the classroom: They know that it’s expected that they will work with the children at home to fill in things that are not being taught in the classroom. Lots of things are sort of being outsourced, but that model assumes that there’s a parent in the home who can help, who speaks the language, who’s available. And that’s not going to be true in many cases. It’s not going to be true if the parents are low-income and they’re working multiple jobs. It’s not going to be true if there isn’t an adult in the home who is a native speaker of the language. And it’s not going to be true because people from a lower-income background may not be as aware that the way kids are taught kind of assumes that they’re going to do some of the heavy lifting.

So parents need to understand that the schools have shifted some of the burden for instruction onto them, and I think they should push back. I think they should say, ‘Hey, schools have the responsibility for teaching children basic kinds of skills, and parents are not professional teachers. Parents are not educators. And moreover, parents may not have the backgrounds, skills, or financial resources to fill in the gaps.’ So hold the schools to the obligation to teach children to read and not assume that the parents or caregivers are going to pick up the slack.

Glatter: Is there anything else you wanted to add?

Seidenberg: It’s clear there are a lot of children who either aren’t becoming good readers or they become good readers and then they don’t want to read. They’re disinterested. And I think this is a problem and that it’s going to continue to be a problem ... But the failures are determined by multiple factors. I’ve tried to focus on one part where I think the science really has something to contribute. We know more about how children learn, we know more about how reading works than people have recognized and that there’s a lot there that can be made use of. Science is not the solution to all of these problems; it can’t get rid of poverty by itself. But we don’t want to accelerate that by doing a poor job of teaching kids in the first place.

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ABOUT THE AUTHOR



HAYLEY GLATTER is a former editorial fellow at *The Atlantic*.

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