

Dr. Reid Lyon (00:00):

When you're working on something that's so critical to a child's life, belief systems don't cut it. Evidence cuts it.

Susan Lambert (00:11):

This is Susan Lambert and welcome to Science of Reading: The Podcast from Amplify, where the Science of Reading lives. Last time we brought you part one of a wide ranging conversation with Dr. Reid Lyon, neuroscientist and specialist in learning disorders. One of the world's leading experts on literacy, Dr. Lyon is now retired. But he recently authored a piece titled, "10 Maxims: What We've Learned So Far About How Children Learn to Read." As soon as we saw the piece we sent Dr. Lyon an invitation to come onto the show. Not only did he say yes, he was so generous with his time and expertise that we're sharing the conversation in two parts. If you haven't already listened to part one, please scroll back in your feed and start there. At the end of part one, Dr. Lyon was telling us how he began to share his research with members of Congress, and we're going to pick up with the story of an important phone call and how it led to Dr. Lyon having a critical role in the Reading First Initiative. Here's Dr. Lyon.

Dr. Reid Lyon (01:19):

When I had briefed Bill Goodling and began to testify in front of his committee and Senate committees, I got a call from Governor Bush, George W. Bush in Texas, and he was very concerned that kids in Texas were struggling with reading. And he, from his staff, had known NIH was doing quite a bit of work, and he asked me to come down and brief him and Margaret LaMontagne, his chief of staff, and Beth Ann Bryan, his education advisor, and I did, and that began a relationship of transfer of information from myself representing NIH with Governor Bush, who later became, obviously, President Bush. And when he came into office, you know, I was tasked by NIH to serve as an advisor to President Bush on education and reading issues. Now, a very, very important person in the Science of Reading, if you will, and its application was Bob Sweet. Robert Sweet was a staff member on the Education and Workforce Committee that was headed up by Goodling and then Boehner, Congressman Boehner. And Bob's job was to begin to draft what the president wanted as a piece of legislation that would try to reduce the reading failure rates in the country and would bring about more accountability in the kind of results that schools were getting. And the Reading First Initiative was part and parcel of the No Child Left Behind Act.

Susan Lambert (03:23):

Okay. And give us a year for that so we can put sort of a timeline there.

Dr. Reid Lyon (03:27):

Well, in my '96 briefing to Goodling, that led to the Reading Excellence Act.

Susan Lambert (03:34):

Okay.

Dr. Reid Lyon (03:35):

Bob Sweet and I worked on the Reading Excellence Act, which was the first piece of legislation that put in the language, scientifically based reading research. There was a strategy to that in that if we could instantiate scientifically based reading research in legislation and have it passed, then that would be a

component that could be used again in other legislation. So Bill Goodling sponsored the Reading Excellence Act. It basically was the precursor to Reading First. Now, this is before George Bush came and Bill Goodling had asked Bob Sweet and I how in the world we could ever ensure that schools and teachers would use scientifically based reading research in helping kids. And we suggested to him that if he would make, or the legislation would make funding contingent on using scientifically based reading research. And my job in that particular phase of activities was to draft the scientific definitions and portions in that legislation.

Dr. Reid Lyon (04:57):

Now you'll notice very strong similarities in how the science is language and how it is mandated in Reading First. So as President Bush came into office, I'm not a political person, <laugh>, and, you know, some people like any president like President Bush, some don't. But I found him to be the most forward thinking of the other presidents that I had worked with, in terms of his dedication to reading science. There's been no comparison. And he also came to his dedication with a wonderful first lady who also was, as a former teacher, committed to reading and helping kids who were struggling to learn to read. And President Bush was very adamant that any legislation, where federal funds were used, ensure that what we had learned from science, from the NIH science as well as other investigator science, that that be used to inform the purchase of programs and methods, that that be used to inform teacher preparation within the Reading First model, and that that be used to develop an evaluation system that was pretty much bulletproof.

Dr. Reid Lyon (06:34):

So Reading First was a massive, massive federal program. My role in Reading First ended when the Department of Education then took over the rulemaking. I mean, it's the Department of Education that formulates the rules and is responsible for the implementation. NIH as a scientific organization, we could contribute the scientific components, and then it was the Department of Ed. If called, I was asked to advise if there were specific questions, but in the main, Reading First had a gentleman by the name of Chris Doherty and his associate Sandy Jacobs, who actually did a magnificent job in implementing Reading First and all its complexities. The professional development you'll hear from many, many teachers today was the best they had ever had an experience with. The amount of money going to school systems was pretty substantial, but it was tied directly to implementation.

Dr. Reid Lyon (07:50):

So there was constant analysis of how the implementation was going, and so forth. I and Bob had written into the Reading First legislation that a substantial amount of money be applied to a yearly evaluation of Reading First, its impact, and what needed to be changed. We felt that something this massive needed to be looked at very frequently to see how one tunes it and changes where necessary and so on. And for some reason, even with Bob representing the Congressional Committee's interest, talked to the director of the Institute for Education Sciences, who was responsible for this evaluation. Bob had to call several times to ask where in the world the evaluation was. Why hasn't it started? It was congressional money earmarked within Reading First for that. And we never got an answer to that. At any rate, the evaluation really didn't kick in until three to four years after it started.

Dr. Reid Lyon (09:08):

So, I'll come back to that. So, Reading First in brief was designed to fund programs and professional development and approaches to reading development that were based on what you and I have talked

about throughout the day, that reading was complex. It has a number of components, not phonics, not whole language, but a constellation of factors that must be included in instruction. And those were phonemic awareness, phonics, fluency vocabulary, and reading comprehension strategies. We also directed that the instruction must be systematic, must be direct, and must be comprehensive covering all of those components. Systematic means that there is a rhyme and reason to the order in which one presents the concepts explicit is a word that's frequently used, but what we wanted to ensure was that in teaching, reading, Reading First teachers left nothing to chance. Kids didn't need to guess. The teachers needed to help kids navigate the specific concepts, leaving nothing to chance. That's what's meant by systematic and explicit.

Susan Lambert (10:40):

Can I ask a question about that? What were some of the misconceptions about Reading First?

Dr. Reid Lyon (10:45):

Well, that, you know, it was a political program designed to get to right wing values 'cause the president was a Republican. It was heavy-handed government oversight. And most of those kinds of concerns are coming from two places. One, the College of Education community, two, program developers that didn't have a systematic basis in scientifically based research. And then others who did, where the grantees, where the different school districts were not selecting their program. they were eligible for funding, but people weren't selecting their program. One of those was Success for All, a very good program developed by Bob Slavin and his team at Johns Hopkins. a very good program. And the fact was nobody wanted to bring Success for All into their schools, primarily because it's a very, very intensive implementation process and a lot of its strength comes from the amount of planning and detail in that program.

Dr. Reid Lyon (12:10):

School districts had the choice of programs as long as they were based upon the five components and direct and systematic instruction, and Success for All clearly had that. An investigation was put in place, which was applauded by all the naysayers. It found nothing that I can recall, but it was just a brutal experience for people working in Reading First. The Reading First evaluation, which finally came about, reported that Reading First had produced significant gains in word level skills, phonological awareness, and phonics, but without commensurate gains and comprehension. There's a number of different discussions about the power of that study, the design and so forth. I won't really get into that. But what had been coming out then after that were state level studies that were well done, that were showing clear improvements across all five components in Pennsylvania, in California, in Arizona, in Utah, in Texas, and in Florida.

Dr. Reid Lyon (13:35):

So all of these states were reporting in large sample studies that all the components, including fluency and comprehension, had dramatically improved. It wasn't a randomized trial, but there was replication in the results. So the best, I think, source to talk about Reading First to is teachers who were engaged in its implementation. Some, I think will have bad memories. Some I think will have good memories. <laugh>, it's like anything. But Reading First in our underlying rationale was to provide funds to schools based upon principles that we knew worked, to cut it to a nutshell. We knew that schools probably did not have the institutional knowledge about what constitutes research or anything of that nature, but we did know that if we shifted funding for anything to something more comprehensive, more direct, more

systematic with constant assessment to be able to monitor kids' progress, which was done daily or weekly, then that would be one way to ensure that kids were getting the best information we had.

Dr. Reid Lyon (15:05):

That was Reading First. And, you know, it was a lot of hard work and I can understand why people had reservations and resisted it just because of the nature of education. But I just have to go back to the goal that if you're gonna to use federal money, you need to be able to apply it to programs that have been shown if they contain the components to be significantly more powerful than others. And that was the entire motivation. So it was to try to change the Titanic from just throwing money out to Title I or to anything else, to something that we had good evidence that it was productive.

Susan Lambert (15:56):

Yeah. Well, boy, you've given just a lot of background both about yourself and bringing together communities of people to help solve this problem of how kids learn how to read. Reading First, what that attempted to do. How did you personally feel about all that you had learned, the momentum you were hoping to make, and Reading First? In the pre-call, we talked a little bit about ... you got a little frustrated with this whole process, didn't you?

Dr. Reid Lyon (16:25):

Well, I did, because to me it was kind of simple. And maybe I'm too simple to think simply about it. But I knew we had the information. It was chipping away at more and more information. We certainly have miles and miles to go in terms of ... the Science of Reading is not here it is, this is what it is. The Science of Reading is cumulative. And we're learning all kinds of new things about the phonological side of reading. Susan Brady at the University of Rhode Island and Haskins Labs is a master at doing research to elongate and expand the findings. So things change even to our basic knowledge, but we're not seeing any non-replication. It continues to accrue in more detail. So I had faith that the scientific process would be the foundation that we needed to provide children with interactions that actually had a high probability of success. And I don't think I was naive in that. When the political influence came in from, you know, senators and congressmen, eviscerating some of the Department of Education people and scientists across the country and accusing them of something that never happened. That was very frustrating for me.

Susan Lambert (18:06):

After working at NIH until 2005, you went back to the university setting and you ended up at Southern Methodist University. Could you tell us a little bit about your work there?

Dr. Reid Lyon (18:18):

So I was recruited by David Chard, who was the dean of the School of Education and Human Development. And he wanted me to develop an educational leadership program because I have always felt that teachers, no matter how talented and educated they are, require an environment within which they can practice their profession. That the conditions in schools have to change for teachers to actually do their work. And so I was passionate about educational leadership. And so I was at SMU until I retired. I had a joint appointment at the University of Texas Dallas, where I was a neuroscientist in their neuroscience and cognition program. And I got to expand my neuroimaging kind of research, I began to look at PTSD, I began to look at other more basic questions. And I got to work with a tremendous, brilliant woman by the name of Sandra Chapman, who designed and developed the Center for Brain

Health, where I was doing the work with them. So my Dallas experience is my research experiences and academic experiences were really positive. And because I had a dean, David Chard, and I had a director of a center, Sandra Chapman, I didn't have to put up with the political quack. Quack.

Susan Lambert (20:01):

Yeah, yeah, yeah.

Dr. Reid Lyon (20:02):

You know, it was more NIH-style stuff. So I enjoyed that. People have always asked my input on certain educational things, but I had stepped aside from the reading. What I thought was just constant adult nonsense, you know? The kids were definitely not in the discussion. And then I got a call from Emily Hanford.

Susan Lambert (20:32):

Okay.

Dr. Reid Lyon (20:33):

And Emily wanted to know if she could interview me. And so we spent quite a bit of time doing that. I was providing her background, and you know, my request was to not focus on phonics at the exclusion of all the other components because people were equating the Science of Reading with the phonics. Phonics only kinds of thing. And that took us back to the 1970s, 1980s. And, you know, I can predict, you'll have to hold me to this with a pretty good degree of certainty <laugh>, that if there is this over-emphasis on one component of the constellation of reading development and reading instruction. There will be little change in kids' reading capabilities.

Susan Lambert (21:35):

Hmm. So from the time that you sort of stepped away from this reading work to when Emily Hanford called you again, how many years was that in your span, 10?

Dr. Reid Lyon (21:47):

From 2013 until this last year.

Susan Lambert (21:51):

Okay.

Dr. Reid Lyon (21:52):

And, you know, then I began to talk to people, and as I say, got calls from different educational systems and so forth. And people were really seeking to change legislation to mandate certain things. Now, I think that's great if the science that's being mandated is comprehensive, well-informed nonpolitical, and provided by teachers with the kind of preparation they need. Because you gotta remember anything that's put in place in complex systems like schools and classrooms, one has to ask what are the conditions under which newer approaches and programs are being put in place? What are the conditions that allow for teacher knowledge and teacher preparation within the schools? What are the assessment capabilities? So one can see if this new Science of Reading is actually taking hold and helping kids. One has to look at the time that teachers are given for any of these programs or methods or

strategies to be put in place. One has to look at the building level leadership to be able to support the teachers.

Susan Lambert (23:20):

Back to that time when you actually stepped away from Reading First, you stepped away a little bit from the reading research, and I think in the pre-call we talked about just the frustration that there was that things weren't, weren't happening. It's really hard work and it's really hard to move people along sort of in this evidence-based or scientifically based reading research, practice as you said. Can you talk a little bit about that time when you stepped away from this reading research?

Dr. Reid Lyon (23:56):

Yes, I can. I think as we discussed, doing the research work on something as complex as reading is a slog.

Susan Lambert (24:09):

Mm-hmm.

Dr. Reid Lyon (24:09):

It requires people that can come to the task that have a strong grounding in ferreting out what's really important in reading and identifying which instructional methods or programs are most beneficial for children with different types of limitations in the reading constellation, whether it be phonic awareness all the way to fluency and so on.

Susan Lambert (24:46):

Right.

Dr. Reid Lyon (24:47):

The strategy, once we had the data that says we're getting enough replication in the studies to be able to say with confidence: for most children, reading entails this, requires this, and the way one teaches reading and all of its constituent components is through direct instruction, not guessing.

Susan Lambert (25:16):

Mm-hmm.

Dr. Reid Lyon (25:17):

That leaves too many things to chance. Direct instruction that is also very systematic. And it's also comprehensive, meaning you have to cover all the components to cement that, or try to move the Titanic toward a more powerful way of thinking about reading or a more realistic look at reading is in fact to understand its complexity, but not be intimidated by it.

Susan Lambert (25:51):

Mm-hmm. <affirmative>. Mm-hmm. <affirmative>.

Dr. Reid Lyon (25:53):

One way that we thought we could help with that is to ask federal funding for state programs and reading and local district funding or reading. That funding to be contingent on the states, local districts, schools using programs, materials, approaches, methodologies to teach reading that have those evidence-based components of directness, explicitness, comprehensiveness, because that's what the data were showing us.

Susan Lambert (26:34):

Sure.

Dr. Reid Lyon (26:36):

By linking the scientific knowledge to the funding of different states, local districts, and, and school curricula in reading, I thought would at least open the door to broader thinking. That would at least open the door to really trying to look at reading as a very intricate set of skills.

Susan Lambert (27:03):

You were really looking at setting this thing up to make that bridge between research and practice to get it in the schools.

Dr. Reid Lyon (27:09):

Correct. That was the main goal, if I'm very candid with you, of the legislation both in 1996 with the Reading Excellence Act, where I wrote with Bob Sweet, the language that would be ensconced into other legislation like Reading First.

Dr. Reid Lyon (27:33):

That by doing so, we could actually develop a common language among educators. We could provide a framework for people to discuss, let's say, in the classroom, children who are struggling using a common language and conceptual base. It's a complicated, more complicated language and conceptual base, but it's what's required. Not a fight between phonics and whole language, which is educational malpractice. You know, it takes us so far off the course that it's sad and in short, with all of the components getting into place, particularly the professional development that was provided to teachers receiving the federal funding, which was in many cases, the first time they had ever heard this language and used this language and communicated with each other using this language

Susan Lambert (28:44):

Mm-hmm.

Dr. Reid Lyon (28:45):

The fact that we continued to come back to phonics whole language distractions, and political and philosophical discussions about something so critical in a child's development that arguing an adult's point of view about what it takes when you have evidence was extremely discouraging to me.

Susan Lambert (29:10):

Yeah.

Dr. Reid Lyon (29:11):

Human behavior, we know, is extremely hard to change. We are, unfortunately beset with confirmation bias. People who have an idea or a philosophy and bring that into their work and create their identities and the identities of their field with that knowledge, will find, no matter what some type of evidence invalid or not to support that perspective.

Susan Lambert (29:45):

Hmm.

Dr. Reid Lyon (29:45):

Science tries to be democratic. It sets aside the opinions and assumptions and tests them by asking the questions, "What does it take to learn to read, what goes wrong when one can't or has struggles with it? How do you prevent it? How do you remediate it when one can step back with a blank slate and conduct the studies that will answer those questions as best as we can and could?" That takes the emotion out of it. It takes us to a place where, you know, we know which diets are good for us and not good for us. People really don't argue about that a lot, although all of us probably have difficulties doing the right thing.

Susan Lambert (30:39):

<laugh>

Dr. Reid Lyon (30:40):

Reading diets are much more convoluted in their descriptions and in their ideologies, and so on. So that was discouraging. And when the political realm became involved in Reading First.

Susan Lambert (30:58):

Mm-hmm. So essentially you got frustrated with ... it sounds like it got out of control and away from the core conversation of what does it take for kids to learn how to read and do you actually want to implement that?

Dr. Reid Lyon (31:17):

What I saw was, again, a resistance, basically not under human control. It was something akin to—I mean this in all respect— something akin to religion, where no matter what someone might say about this religion, other people may not believe that. And it's because people have the freedom to believe whatever they want. However, when you're working on something that's so critical to a child's life, belief systems don't cut it. Evidence cuts it. And for people to have difficulty with that idea was very discouraging because I was looking at human thinking and human behavior and selfishly saying, "Why can't they see it?" <laugh>,

Susan Lambert (32:15):

You've recently stepped back into this reading limelight. What brought you back?

Dr. Reid Lyon (32:23):

Well, first of all, I don't want any limelight <laugh>. I'm retired. I was interviewed by Emily Hanford, who took me through the motivations for her project. She was compelled to develop her Siri sold a story. Because of the parents who were in distress about their children not learning to read. And there were so



many parents and so much distress that she wanted to understand why. And I have to say, Emily Hanford listened extremely hard to all the evidence. She is an outstanding writer and storyteller. And I think her work has helped to move a field at least to a higher awareness stage. I think that's what's gonna happen with your work as well. Now, in talking with Emily, I tried to explain again with her audience that the same thing I've just reiterated over and over with you is that please do not return to phonics-only or literature-based only, or three queuing systems only.

Dr. Reid Lyon (33:44):

Step back, look at the evidence and understand that reading is, you know, like riding a bicycle except more difficult in that you have to have balance, you have to do the, you know, motor skills to do the pedals. You have to have, you know, steering capability. All of those kinds of skills have to meld together, like a lot of things we do in life--well reading is the same way. So, I suppose I've been asked a number of questions and it would be selfish if I didn't try to answer the questions that people are asking. I have no expectation that what I'm saying or what I'm trying to relate will have any impact whatsoever, because my history says it won't. In fact, my history says that it will just begin to develop another immature dichotomous argument that does nobody any good. But it depends now on the people reporting the science, and understanding that the Science of Reading is not this or that. It's all about using the tools and methodologies at hand to figure out, how does reading develop? What goes wrong? If kids are struggling, how do you prevent it? How do you remediate it? And, you know, if we go down that same road of ideological emphasis rather than scientific evidence, we're no closer to a Science of Reading than if we just return to the sixties.

Susan Lambert (35:39):

Yeah.

Dr. Reid Lyon (35:41):

And it's also important for people, I think, to stand back and say, are we discussing this in an either-or fashion?

Susan Lambert (35:51):

Hmm. That's good advice.

Dr. Reid Lyon (35:52):

If you look at the research on phonics whole language, which we've discussed, we can see the futility of that. But those dichotomies also occur in research where different ideologies talk about using qualitative research to figure out how to read, using observational research or classroom action research. Other people talk about using experimental methods, experimental designs that either-or is just as dangerous. So for example, in the NIH studies, the common sense thing to do was to use the methodology or the research design to figure out what works. The only way to do that is to use experimental designs. You can't understand that by doing action research, By using qualitative research. That's not the purpose of that research methodology. The purpose of that research methodology is to fill in the gaps. If something is working as shown in the experimental research, why is it working? What are the teachers doing? What does the classroom climate look like? How are the kids responding? And so you blend research methodologies to provide a more comprehensive view of what's going on. Because remember, when we're doing experimental studies, you have an intrusion into a classroom.

Susan Lambert (37:38):

That's right.

Dr. Reid Lyon (37:39):

You know, is this classroom behaving or are the children providing their knowledge to you differently if we were not there? And qualitative research helps us understand and see that. So the lesson that I will take to my grave is that dichotomies, either-ors in the topic area we're talking about, you know, is a window on stupidity. Because we know better. Why aren't we doing better?

Susan Lambert (38:17):

That's a good question.

Dr. Reid Lyon (38:19):

You know, and I would ask that when people talk about this topic and start to get hung up on a now-in-vogue label, Science of Reading, that they ask themselves, "Is the way we're talking about it true or false? Is the way we're talking about it and applying it right or wrong? Is the way we're talking about it and applying it, impacting the kids in the way we would want them to?" Now, if we're impeccable with our word, our objective science, and we don't make assumptions beyond the evidence like we always have, then we're going to be in a much better place with children who struggle to learn to read, and children who then open up the richness and beauty of this world through print.

Susan Lambert (39:24):

Hmm. You know, that's a really good segue for me to ask you this very last question, which is about the 10 maxims that you recently, I think helped produce at least and distributed not that long ago, which are very similar to some of the things that you were talking about back while you were at NIH. Where did these 10 maxims come from? We'll link our listeners in the show notes to those 10 maxims, but can you tell us a little bit about those?

Dr. Reid Lyon (39:53):

Yes. Claude Goldenberg, a scholar and scientist, now retired from Stanford, and I have worked together for many, many years, and I saw an article in the New York Times that talked about Lucy Calkins' program being revised to incorporate more phonics. And the red flag went up again, you know, what does that mean and how is it incorporated, and so forth. And I wrote with Claude, or I asked Claude after I wrote the initial draft to co-author with me because of his expertise in teaching kids whose first language is not English. Be that as it may, we got turned down.

Susan Lambert (40:41):

<laugh>.

Dr. Reid Lyon (40:42):

The content of that somehow intrigued Claude, and he thought it was a succinct way to look at a complexity in common sense language. So you and I have been talking through the content of what went into the maxims.

Dr. Reid Lyon (41:04):

Now I've used my language in saying, you know, this is what you need. Reading is not natural. One needs to understand the complexity, one needs to provide instruction that's been found to be effective and so on. So Claude began to work with Kelly Butler and her team at the Barksdale Reading Institute, in thinking about rephrasing those points that I made in the New York Times draft. And put them into common sense language that was more decipherable apparently than my language <laugh>. But the content of the maxims embody what you and I have talked about. Now I can quibble as a scientist what I would think the appropriate caveats are, but the maxims themselves are designed to provide the beginning of a common language when we talk about reading, reading development, reading difficulties, and reading instruction.

Dr. Reid Lyon (42:13):

The maxims put into words the amalgamation of years of science and evidence. And as you know, each maxim is linked to the research, the underlying research that supports its message. And it's a work in progress. And what I am hoping with the maxims is that scholars or teachers or administrators or the public begins to add their own research to the support documents that contribute by presenting evidence through research that some of these maxims need to be tweaked, need to be modified. That's science. And I have no ownership of these. The group at Barksdale and Marilyn Adams and others had a tremendous amount of influence on this project. And it was done in a way to, from my perspective, do two things. One is to provide a more user-friendly understanding of what's required in reading and why difficulties occur. And equally important is to help people develop a common language so that when they see children having difficulty, they can say, "Is it phonemic awareness? Is it word recognition? Is it because they're reading slowly? Is it because their semantic vocabulary background is limited?" And they can talk to each other using that information in those terms. And then exceptionally important, "How do we teach it? How do we teach where the links are weakest? And how can I talk to you about whether I'm not being successful?" That's it.

Susan Lambert (44:19):

Hmm. Well, I'm just very grateful that you first of all had this conversation with us because I think the work that you did and forever and continue to do is so important and bringing the focus back to not the adult conversations, not the adult needs, but what do kids need to develop as proficient readers? And like you said, it's the most important thing we can do for children. And thank you for taking another crack at, you know, these 10 maxims that we will link our listeners to in the show notes so that we can start maybe moving forward this movement to develop that vocabulary and see some real change in classrooms. So I know you're retired, but thank you for coming out of retirement for just a little while and pushing forward this important work.

Dr. Reid Lyon (45:07):

Well, thank you so much, Susan. I think your efforts are what are going to be the main purveyor of change because you have the capability to explain the practice of reading and the practice of teaching reading, actually using the Science of Reading. And my hope is that one always explains that the Science of Reading in no way rests upon either-or, or dichotomies. And your ability to explain that and your ability to create an information base for everybody is going to be the crucial missing piece because you're talking in depth about reading and its development and reading and its instruction and what it takes to do it well.

Susan Lambert (46:18):

Well, that compliment coming from Reid Lyon means more than you can imagine. So thank you very much for that.

Dr. Reid Lyon (46:26):

Well, it's been my pleasure. It's always a rare occurrence where I'm talking with an interviewer or the media where they ask the hard questions and the detailed questions. It has been, I think, the public dissemination of faulty, simplistic information as we see in the media. And every news outlet that I've ever talked to boils it down to either-or. And when I ask why they say that, no one will understand the complexity. And I say, "Talk about riding a bike where you have to incorporate and integrate many different kinds of capabilities to get down the road. If you have an eight cylinder engine and it's running nice and one piston goes out, it runs rough. Is that piston a difficulty in vocabulary? Is that piston that went out phonological processing while the others are still running? The problem is it makes the system run rough.

Susan Lambert (47:47):

Yeah. Yeah. My dad would love that example that you just used, because he's such a big car guy, so <laugh>.

Dr. Reid Lyon (47:56):

So I'm the one that wants to thank you. I'm not doing anything that I hadn't done before. Maybe, hopefully I'm a little clear these days.

Susan Lambert (48:06):

<laugh>, I thought it was great.

Susan Lambert (48:11):

Thanks so much for listening to Part 2 of my conversation with Dr. G. Reid. Lyon, neuroscientist and specialist in learning disorders. Check out the show notes for a link to his piece, "10 Maxims: What We've Learned So Far About How Children Learn to Read." We would love to know what you thought of our conversation with Dr. Lyon. Let us know in our Facebook discussion group, Science of Reading the Community. You can find information on all of Amplify's podcasts at [amplify.com/hub](https://amplify.com/hub). Science of Reading: The Podcast is brought to you by Amplify. For more information on how Amplify leverages the Science of Reading, go to [amplify.com/ckla](https://amplify.com/ckla). Next week, we're going to be back in your feed with another special episode. October is Dyslexia Awareness Month, and we're going to be joined by one of our all-time favorite guests, Kareem Weaver, as well as two people very close to him, his nephew, Elijah.

Elijah (49:17):

I would always pick like the picture books, the easy books that I could just know what's going on.

Susan Lambert (49:22):

And his daughter, Margo.

Margo (49:24):

I just wish somebody really kind of sat with me and told me that I wasn't stupid and that I was okay.

Kareem Weaver (49:31):

I felt shame. I felt bad as a father. I felt like, you know, how could I not see this? I'm a teacher of the year! I'm like Mr. Teacher, and my own kid...

Susan Lambert (49:46):

That's next week. Thanks so much for listening.