Triple R Teaching

Hello, Anna Geiger here from Reach All Readers. This episode kicks off a series all

Louisa Moats to kick off the series.

Anyone familiar with the science of reading knows her name. Dr. Moats is one of the creators of LETRS. She's written the book, "Speech to Print," another book about teaching those with dyslexia, other resources, many articles, and even a spelling program. We have received so much from Dr. Moats during her career, and now we have this wonderful privilege of hearing her talk about spelling.

We talk about many things in today's episode, including why it's important to teach spelling, why the English language is not as irregular as once thought, the usefulness and limitations of syllable types, and a lot more. I know you're going to get a lot out of this. Enjoy it, and then be sure to check out the show notes where you'll find links to Dr. Moats' resources, including many of her most popular articles. Here we go!

Anna Geiger: Welcome, Dr. Moats!

Louisa Moats: Hi, Anna. It's great to be with you!

Anna Geiger: Well thank you so much for joining me on the podcast. Of course I've read your books and read your work and studied so many of the articles that you've written. and I also had the privilege of hearing you speak at The Reading League conference in October.

I'm really happy that you're here to talk to us about spelling, but before we do that, could you introduce yourself and give us an overview of your exciting career?

Louisa Moats: Thank you. Our topic today is going to be about spelling, and I want your listeners to know that this is a topic that has fascinated me from the beginning of

my career when I started out doing clinical work in the Department of Neuropsychology at the New England Medical Center. At that point, that was way before my doctoral work and even before my master's degree, where I didn't learn anything of value, but in the doctoral program I did.

For years, I would look at the kids' spelling, we always gave them a spelling test, and I always felt intuitively that there was much more information to be garnered from the spelling and writing samples than a lot of the other things we were doing with them. At the time we didn't have the theoretical frameworks, or the understanding of the psychological mechanisms for learning how to spell, or the research on what goes into becoming a good speller.

I did my dissertation in this area and spelling errors in dyslexic kids. Then over the years through my clinical work, through my research years, and now through all the stuff that I've done in teacher education, I continue to be an advocate for more attention to be paid to this so I was glad to get your invitation to talk today.

Anna Geiger: Let's start by talking about, obviously, why it's so important for children to learn to spell because there would be people who would say, "That's an old skill that we don't need anymore with all the technology that we have."

Louisa Moats: Yeah. Well it's never been shown convincingly to me that technology can compensate for poor spelling very well. I suppose with AI these days, a person can feed into a computer or an AI system the general ideas that they want to express and have a computer bark something back at them with words that are correctly spelled.

But in the real world, that's very limiting. It's also very limiting because people naturally restrict their own vocabularies if they don't know how to spell a word. They can't tell if they're not a good critic of the written material that's coming back at them. They're stuck with something that sounds artificial and it sounds like boilerplate, and maybe that will be a coping mechanism for some people that is helpful.

To be able to spell well signifies other things. It signifies that a person has better command of language, and a lot of people think of spelling as a visual memory exercise, which it is not. It's a language production exercise that is facilitated by knowing about language structure and how it's represented in print.

If a person just doesn't know how to think about that, they tend to be much more limited in the vocabulary that they have, in their rate of learning new vocabulary, and in

their recognition of words in print for reading. Of course, there is this inherent limitation on writing if one's vocabulary is limited.

When we don't teach spelling well, we're missing an important avenue for teaching kids about language, the structures of language, and the relationship between speech and print, which ultimately has to be understood if one is going to be both a good reader and a good writer.

Anna Geiger: I was just listening to something the other day where teachers were saying, "When we ran out of time, we would drop spelling," versus realizing how important spelling is when it comes to reading.

Louisa Moats: If we don't teach kids how to spell, they are likely to be less aware of what the print is representing. That has a subtle but significant effect on reading fluency and vocabulary development. All this goes hand in hand.

One illustration of how it goes hand in hand actually is if anyone has ever watched the National Spelling Bee when it comes up at the beginning of June or whenever that is. Watch what the kids do who are really, really good at spelling. What they do is approach a word through linguistic analysis, and they're allowed to ask, "What language did this word come from? How do you pronounce it? Is there any other pronunciation? What part of speech is it and what does it mean?" Those are all aspects of language.

Nobody says anything about the sequence of letters. Of course, they're not allowed to ask that, but that's not how those kids make an educated guess at what some obscure word looks like in print. They use all that information about language to make often an accurate guess, because the words at the more advanced level are sometimes words they haven't even seen before, but they can use all their knowledge of language to figure out what a correct spelling is likely to be. That's what the best kids do.

Anna Geiger: Before I started learning about etymology and morphology, I thought those were just stalling questions, like they would just need extra time. Yeah, that's so interesting.

One of my kids just yesterday was asking me why a word started with C-H, I don't remember what word it was, but we talked about how it came from the Greek.

Louisa Moats: Yeah, if the C-H is pronounced /k/, it's likely to come from Greek.

Anna Geiger: Why is spelling actually more regular than many people think?

Louisa Moats: Well, that question was addressed in 1966 by the US federal government. They employed some really good linguists and psychologists to answer the question pertaining to the relative regularity of the English writing system. Hanna, Hanna, Hodges and Rudolph were the authors, and I still refer to that analysis because I have the computer printout that they generated when they did their first analysis.

Remember that in those days nobody used computers for anything much. Computer science was relatively new, but these researchers created an algorithm from studying all the sound-symbol correspondences, the phoneme-grapheme correspondences, in English. They analyzed 20,000 of the most common words in English, developed an algorithm for all these phoneme-grapheme correspondences, and then took these words and ran them back through the computer to see how well the algorithm could spell the words just based on that information, that level of language organization.

They found, and this is why it's interesting, that you could say that the glass is half full or you could say the glass is half empty, because 50% of the words were spelled accurately just on the basis of phoneme-grapheme correspondences, or what most people refer to as phonics. It was just through knowing the letters that you use to represent the sounds and knowing also the positions in the word in which certain letters are used.

That's important. There are a lot of patterns and constraints about letters and where you can use them for certain sounds in words in English. Taking that into account and leaving aside anything having to do with the words' meaning, the language of origin, or the morphology, 50% were spelled accurately.

Then they looked at what else would be helpful. They were able to show that another 34% of the words were spelled correctly except for one correspondence in the word, and usually that was the vowel. We know that our vowel spellings are the least regular and predictable.

Then, if you add into it the information about words, what they mean, what their morphological structure is, and something about the language of origin, it turns out that only about 4% of the language is truly odd or irregular.

Many, many of the words that teachers in the primary grades treat as irregular are not irregular at all. They just have a less common pattern, or they have a reason why they're spelled the way they are. Only 4% are truly irregular words, like "Wednesday," that's clearly irregular in that our current pronunciation in modern American English does not match the way it is written. But apparently, I would have to look this up, but there are reasons in Roman or Greek mythology why our names for the days of the week and the months of the year are the way they are.

I think that there is so much to be explained that is regular and that is pattern-based, that we have a lot to go on in teaching kids how the print system works. The trick is to use a multilinguistic approach. How else would you call it? It's a combination of the sounds, the spelling patterns in the word, and the meaning of the word, and it's morphology, and its origin that will explain MOST words.

So there you go!

Anna Geiger: It really starts with the teacher understanding that...

Louisa Moats: It starts with the teacher.

Anna Geiger: ...which is why we can talk about LETRS at the end.

But yes, for sure, because if you do think English language is irregular and crazy, that will influence how you address any questions that students have.

Louisa Moats: That's right. You're going to treat it as a visual memory exercise where you use flashcards. You put up a word wall that has a first letter. I was in a classroom last week, and there's the word wall. Under the letter T is the word they, and I want to go, "What? Why?" This came with guided reading. It was all over guided reading.

Anna Geiger: Well you've talked about this a little already, but maybe you could talk a little bit more about why teachers and then their students should understand a little bit about word origins when spelling.

Louisa Moats: Okay. Well, the more I get into this, the more power I think that source of information has in explaining the way words are in modern English.

Our base language of Anglo-Saxon is the origin of most of our most common words and our one-syllable spelling patterns, things like the F, L, S doubling rule on words like shell, and stuff, and miss. Those words are Anglo-Saxon. That rule applies mainly to Anglo-Saxon words.

There are other characteristics of that layer of language. What comes to mind especially is the fact that we have compound words in English and compounding is an Anglo-Saxon based word formation process. When you see a word like coattail, it's going to be of Anglo-Saxon origin, and also those Anglo-Saxon based words tend to be the ones with the vowel team spellings and digraphs.

It is helpful to know as a teacher that when we graduate beyond Anglo-Saxon based words, we're going to have to do a lot more with the Latin layer of language, which is 60% of our content words after the end of third grade.

60% of our content words are Latin based, and they have structures that are different from the Anglo-Saxon layer. For example, Anglo-Saxon based words are built through compounding, and Latin based words are built through using a root and attaching prefixes and suffixes to change and alter the meaning of the root.

That's a different word formation process. It requires that kids know the meanings of those basic morphemes that exist in all these different combinations, but that often have consistent spellings. In a way, spelling Latin is easier than spelling Anglo-Saxon.

It's helpful to tell kids that spelling information. Once you know about in-, -form, and -ation, and how they are spelled, it's going to be easier than spelling a word like done, D-O-N-E, unless you explain that done is related to do and does. D-O is in all those words, and they all have to do with different tenses of the verb do.

I have never seen an instructional program that explains that. All I see is that kids get a flashcard to take home, and they're supposed to rote memorize and not pay attention to the meaning, the origin of the word, or the idea.

I'm starting to try to explain this to our 6-year-old, that when you get into the Anglo-Saxon layer of language, which is the base layer, it's Germanic. The Saxons were a German tribe who settled in Britain after the fall of the Roman Empire. That's why we have this base layer.

I like to explain that to kids because these words are so old that their pronunciation has changed a whole lot over time. If you listen to someone speaking old English or middle English, it doesn't sound like modern English.

Perhaps, and I'm making this up so my apologies to anyone who really knows, but maybe at one point that D-O was pronounced /d/ /ū/, or /d/ /ŭ/, or /d/ /ō/, or something else. Maybe it was dona and maybe it was doeth, and doeth got changed to does. You can give kids a reason. I'm probably all wrong about the pronunciation.

We can have more comfort with the fact that do, does, and done don't look like the way they're said now if we realize that many centuries ago there was a link in pronunciation, and those endings, N-E and E-S, are modern alterations of suffixes that were added to that base vowel, D-O, way back.

At least there's a reason for it; it's not crazy. It's historically interesting and explainable.

Anna Geiger: Moving on, let's talk a little bit about syllable types. Those are, I find, controversial in the science of reading world. People have different opinions about if we should teach them. Can you explain your view on those?

Louisa Moats: Yes, I think they have a limited role. I think their role in instruction should be more limited than it has been in Orton-Gillingham based programs. The reason is that what I see, and again, I've not had this verified by someone like Devin Kearns. He's one of the people who is really cautioning about teaching syllable types. I think he has gone too far in warning people away from teaching syllable types.

The reason is that there has to be a way of explaining, and there is a way of explaining, why there are two T's in little and one T in title. You have three different syllable types there. You have the consonant L-E on the ends of those words, which is the stable final syllable. You have an open syllable in ti in title, and you have a closed syllable in lit in little.

When you add a closed syllable to a consonant L-E, you come up with two consonants in the middle of the word that signify that the first syllable has to have a short vowel. It's the same thing with the long vowel and ti, an open syllable. That's very useful. Open syllables, closed syllables, and consonant L-E.

Vowel teams are really not a category. There are lots of vowel teams that don't correspond to any particular vowel sound. They can correspond to a short vowel, long vowel, or a diphthong, so you can just call them vowel team syllables, but they lose their instructional power, I guess, because when you see E-A, what do you have?

Then as far as r-controlled, yes, kids need to know that's not a short vowel in star, but that's very teachable. A lot of teachers don't know that so they still call it a closed syllable or short or whatever.

Then what did we miss?

Anna Geiger: Did you say CVCE? Did you say that one yet?

Louisa Moats: Oh, yeah, I haven't said that one yet. Yeah, it works, except that, of course, when you get into the Latin layer of language, it doesn't work. Where I see it being most useful is when we're still teaching the Anglo-Saxon layer primarily.

Then we get to words like catnip, and comcast, and concave, and-

Anna Geiger: Reptile.

Louisa Moats: Reptile, very good. It's a closed syllable and then a VCE. We can combine the syllables, with two syllables especially.

However, once you get into Latin, and especially derivational suffixes, I-V-E, A-T-E, and so on, they're often reduced to schwa and there's no point in calling them a vowel consonant E. You have to teach them as a morpheme that has this form and this sound.

The reason that we don't end words in V, as in have or captive, is that no word in English ends in V. That's again explained historically, by printing press printers who were afraid that the written U looked too much like V, and they adopted a convention of following V with E to signify that that letter was V and not a U. I am not sure when that happened, but it wasn't all that long ago, two or three centuries, something like that.

My take on it is teachers need to know the syllable types. They have the most usefulness when you're making the transition from single syllables to multi-syllabic words, especially that are of Anglo-Saxon origin.

Trying to extend syllable analysis to the Latin layer of language is not particularly productive. Although, I don't know. I work with my colleague Bruce Rosow on our Spellography program, and he was trained in Orton-Gillingham, and he's more of an advocate for including more syllabic analysis to explain why things are pronounced the way they are.

I would just say that if using syllable types to explain why the word is spelled the way it is adding something to the explanation, go for it.

But don't belabor syllable analysis, and marking all the syllables, and trying to categorize T-I-O-N. No, just realize it's place and its limitations.

Anna Geiger: Thank you. That really helps.

I'd like to move into spelling rules, and I know there are a lot of patterns and generalizations that are useful for kids to know, but maybe you could address some of the ones you think are most important and also how you'd recommend teaching them. Do you recommend that kids are able to say the rules back to you? How does all that work?

Louisa Moats: It's the hardest thing for a poor speller to learn those three rules, the doubling rule, the drop silent E rule, and the change Y to I rule, and the other pieces of that. With the really dyslexic kids, I watched them for years at the Greenwood School, and they practiced and practiced and practiced, and they never did get it.

Anna Geiger: Okay.

Louisa Moats: The only trick I know is frequent distributed practice over a long time. You don't megadose kids. You do it a little bit for a long time and hope that it sinks in. It will sink in for kids who are not really dyslexic, I think, over time.

You do it by going back and forth between recognition and production. They need to be able to look at a word like slimy, and understand that the Y suffix was added to the word slime and that silent E was dropped. Or in the words studying and playing, they need to know why you don't change a Y in those words and why you do change a Y in babies. Analysis and production back and forth, that's the only trick I know.

Don't teach them all at once. I see that sometimes, too. Okay, let's just knock this off in one list. Good luck.

Usually, we start with the doubling rule. Then kids need to be able to classify suffixes, of course, as either starting with a vowel or starting with a consonant to know for dropping E and consonant doubling when you use the rule for what kind of suffix. That requires a somewhat expanded vocabulary.

I think the way it usually goes is kids learn a few words by rote, so they learn that a word like spinning maybe has two Ns in it. They don't really know why. Then the generalization comes with an increase in vocabulary and more experience with more different kinds of suffixes, but it's just a long slog for kids who are poor spellers.

We, in writing our program have put in practice over and over.

Anna Geiger: Maybe you can tell us a little bit about your spelling program, Spellography, and then also of course a little bit about LETRS, that we know so many teachers are enjoying right now.

Louisa Moats: Yeah. Well it's from Bruce Rosow and I, he was a teacher at the Greenwood School for a long time. He started taking courses with me; he got his doctorate. He then took over my courses and he's written a speech-to-print text workbook with me. Together 20 years ago, we wrote the original Spellography that was published by Sopris.

With a lot of time passing here, we have been working on revising it, first with Mary

Dahlgren and Tools 4 Reading, and now Tools 4 Reading has been bought out by 95 Percent Group so they are publishing. The first two books are out. The third one is going to press very soon, and there will be a fourth one that's more advanced for fifth and sixth graders.

It's aimed at fourth and fifth graders. There are some humor and references and things that I think maybe you could use at the end of third grade. But in general, we're aiming right smack at intermediate level kids.

Anna Geiger: Okay, awesome. I think there's a hole in that area, so that's great that it's aimed there.

Louisa Moats: There is.

Anna Geiger: Maybe you can tell us a little bit about... I've not been able to take LETRS because I am not working with a district. I've asked many times, but they always tell me no, but I know so many people are doing it and love it. Can you talk a little bit about it?

Louisa Moats: The original courses that have now become LETRS I developed around 1990. This is a 30-year endeavor, all through the Reading First years and so on. We started out with Voyager Sopris first hiring me to write professional development. We supplied it to states for Reading First. We went through a second edition, and it slowly expanded.

The interesting thing about it is that when I started doing these courses it was to teach teachers what I felt was never taught to me, that I learned only in my doctoral program. I felt teachers were being cheated in their licensing programs by not being taught these essential concepts about language structure that are prerequisite for being a good teacher of reading, spelling, vocabulary, or anything else having to do with literacy.

I always thought we'd find a very small audience, that only people who were really interested in learning something would stick with it, because it's a fair amount of rigor and high expectation for some difficult concepts like allophonic variation.

My colleagues teased me about that. But it helps! You can't understand a spelling error pattern unless you understand that. It's the changes in phonemes that come with

co-articulation with the pronunciation of words.

Okay, leaving that aside, LETRS addresses all of these aspects of language and what explicit instruction is for foundational skills, but also half of it is all about teaching reading comprehension and what that means, and teaching vocabulary, and language structure, and syntax, and helping kids build a mental model of what is in a text. The second half of it's all about that, and it is being used really widely right now. Several hundred thousand teachers are currently enrolled in LETRS across the country.

Anna Geiger: Amazing.

Louisa Moats: I am much more in the background, in the wings now, so I don't even know exactly where LETRS is being taught, but we have some state implementations where all the teachers are taking it, like North Carolina. We did this with Mississippi a few years ago, Alabama, and a few others, so it's pretty widespread.

Anna Geiger: I've talked to leaders like a state leader in Mississippi, Kristen Wynn, and I talked to a district leader in Georgia who are doing this. I think a real powerful thing is that it gives all the teachers the same vocabulary. If they're all doing this, they can talk about the same things and understand versus coming from all these different colleges who had a hit or miss approach to teaching about language.

Are there any other projects you're working on that you'd be willing to talk about?

Louisa Moats: No, I'm trying to be retired.

Anna Geiger: That's what I keep hearing from different people!

Louisa Moats: I am not doing any more conference talks. That was my last hurrah at The Reading League last summer.

Anna Geiger: I got to hear it! That's so exciting for me!

Louisa Moats: I have my hand in a few federal projects like The Path Forward, consulting with states on the changes they're making in higher ed, working with Doug Carnine and a large group of people with The Reading League on really documenting for the field where the best resources are that can be trusted and counted on. I have a hand in that, along with other really wonderful people. I'm very active in my local community here with several nonprofits, and I've been helping this state with its dyslexia initiative, finally.

Anna Geiger: Well good! I've talked to so many people like you who have contributed so much over so many years and say they're busier now than when they were not retired.

Louisa Moats: That can happen. You have to be careful.

Anna Geiger: Yeah. Well thank you so much for joining me today. I can't wait to share this with everybody!

Louisa Moats: It's my pleasure, and I really applaud what you're doing. I think it's terrific, and I think you're helping a lot of people get access to better information, and that's what we need to keep doing.

Anna Geiger: Thank you so much.

Louisa Moats: You're welcome!

Anna Geiger: Thank you so much for listening. Please check out the show notes at reachallreaders.com/episode151. Talk to you next time!

Closing: That's all for this episode of Triple R Teaching. For more educational resources, visit Anna at her home base, reachallreaders.com, and join our teaching

episode of Triple R Teaching.