Triple R Teaching

Welcome to Triple R Teaching! This is Anna Geiger here, from Reach All Readers. As

are welcoming a series of experts when it comes to the science of reading.

Last week, we got to hear from Dr. Shayne Piasta about learning the alphabet. Today, we're going to hear from Dr. Susan Brady, Professor Emeritus of Psychology at the University of Rhode Island. She has been a researcher for decades, particularly in the areas of phonemic awareness and phonological awareness, and now she is working on translating that for teachers. So not only will we get to hear the research today, but we'll also learn how to apply it to our teaching. We'll get right into the interview.

Anna Geiger: Welcome, Dr. Brady!

Susan Brady: Thank you! I'm pleased to be here.

Anna Geiger: So you have quite a career in research. Could you talk to us about how you got into education research and what's brought you to where you are today?

Susan Brady: As an undergrad, I was intrigued with human language abilities and the brain. I was accepted at the University of Connecticut Cognitive Psychology Program for grad work and totally lucked out because there were excellent faculty asking the kinds of things I was interested in and beyond.

They were connected with a place called Haskins Laboratories that has done just wonderful research. Donald Shankweiler and Isabelle Liberman were the two researchers who started pointing out the importance of phonological awareness, and in particular phoneme awareness. What they appreciated was that learning to speak is an innate ability, but learning to read is not something we've evolved to do. So in order to understand a writing system, we have to know what the symbols stand for. In an alphabet, we have to know that they stand for those little phonemes that make up words. That turns out to be a little bit challenging to accomplish.

With that introduction from them and with my interests in language and the brain, I started out studying phonological processes in the brain: speech perception, verbal memory, and short term memory.

That then dovetailed with me asking about underlying phonological skills to see how they're related to individual differences in learning to read. Do they differentiate good readers from poor readers? Do they predict how easy it will be for you to learn how to read? And pretty soon, I was looking at phoneme awareness in that set of variables that I was exploring.

As time progressed, I also became involved in applied research. So I was seeing the strong implications of what was being learned about reading development for reading instruction and for reading intervention. I did some school-based research, but also had a number of professional development projects trying to transmit, and succeeding, in getting this information to educators. That was very rewarding.

I can connect a little bit later to how, over that time, my view of what was important in phonological awareness evolved.

Anna Geiger: Well we can get right into that! I watched a workshop that you gave, some time ago, in the last year or so, and you talked about the difference between phonological sensitivity skills and phonemic awareness, which we all know are under that same umbrella. Could you explain the difference and maybe how your understanding of their role has changed?

Susan Brady: Certainly. Phonological awareness is the broad category of being aware of the sound structures in spoken language. At the word level, that's the word: the syllable, onsets, rimes, phonemes. Which of those are important for learning to read?

Initially, when Shankweiler and Liberman were doing research on this, they observed that four year olds didn't do well on a phoneme awareness task. Maybe almost half of them could do a syllable awareness task. They looked at another cohort of children, who were five and then six, and they didn't see phoneme awareness emerging until sometime in first grade.

At that time, there was no instruction in phonological awareness, and kindergarten was viewed as a socialization process, not targeting literacy skills.

So that progression has come to be viewed as the sequence of phonological awareness development. Phonological sensitivity refers to all of those larger chunks above the phoneme, and phoneme awareness specifically to the individual phonemes.

As I said, when I began, I subscribed to this view that there's a continuum, and that it goes from larger to smaller, and I taught a lot of grad students that. I now would not do that.

The research started piling up, fairly early on, that went against that argument, and also went against the argument that you need to teach syllable awareness in order to achieve phoneme awareness and the other components as well.

I'm very concerned, partly because of things I said in the past and what the community has been saying, that the applied world is really stuck in this earlier perspective. The good thing is they're appreciating the importance of phoneme awareness, but we can really improve what's happening by zeroing in on phoneme awareness, right at the beginning of kindergarten, and importantly, connecting it with letter knowledge right away.

Anna Geiger: So I know I heard you talk in your presentation about how we used to teach that there was this ladder of skills that went from easy to hard, and that was, therefore, the order we were to teach the skills. It was, like you said, large to small, so it might be like words, rhyming, syllables, onset and rime, and then phonemic awareness, which I taught the same thing, which is why your presentation kind of rocked my world a little bit, in a negative way at first. Because I thought, "Oh goodness, I have to take that graphic down!"

So would you agree that the skills go from simple to complex, but that does not mean we have to teach them that way? Also, that does not mean that we need mastery at an earlier level to teach a later skill? Correct?

Susan Brady: We definitely don't need mastery at the earlier level, particularly in these times when we know things have been set back by COVID in schools. It seems to me it's a bonus to be able to say, "Okay, you can take rhyme off the table, syllables off the table, onset and rime, and just get right down to the phoneme."

Now, at the phoneme level, we also need to know how does phoneme awareness

develop? It's not just this eureka, where one day, you understand words are made up of phonemes and you're aware of all of them. That is tied strongly to the position of the phoneme in the word. Certain positions are easier for beginners or older struggling readers to be aware of.

That sequence of phoneme awareness development starts from the first phoneme in a word. For the initial phoneme, let's stay away from words that have blends or consonant clusters.

Next is the final phoneme in a word. For that I would say CVC words would be handy, but for initial phonemes, it doesn't matter if you pick a word like "dinosaur." The /d/ is still very salient to kids. But initial to final, again with no consonant clusters, that's my old term from linguistics. I know we use the term "blends" more now.

Then the last of beginning phoneme awareness is the medial vowel in a CVC word. It's not just the medial phoneme. You could have a word like "ask," that has a consonant in the middle, but I'm talking consonant vowel consonant constructions.

There's now lots of evidence, a lot of it from study of spelling errors, that shows that children might first spell the word "butterfly" just with a B. They then might spell the word "bat" B-T, and eventually they get a vowel in there as well. Their knowledge of word structures and awareness of those phonemes is growing.

Now that's what I would call beginning phoneme awareness. The later stage, the more sophisticated stage, what I like to call advanced phoneme awareness, is awareness of the internal consonants in those blends.

I am confident that every third, fourth, and fifth grade teacher out there has seen their struggling readers, at least on occasion, spell words without the internal consonant. They might spell "plan," P-A-N, and they're not able to take apart the /p/ and /l/ in the onset and haven't appreciated that separate phoneme there.

Anna Geiger: So backing up, talking about syllables and rhyming, do you see a place for teaching those before kids get to kindergarten, when we're not focused on learning to read so much?

Susan Brady: No. Mind you, I think it's terrific to read lots of nursery rhymes to

children and just enjoy them, and the repeated elements in them can foster memory for little kids learning a particular rhyme, but it's not related to developing phoneme awareness. It doesn't foster it. So if that's your purpose, you don't need to do it.

In terms of syllables, syllables are a very important linguistic unit, after you have some beginning phoneme awareness and phonics. Even at the beginning, I would say, you can say that every syllable has to have a vowel, and it can have some consonants. But then, the more advanced part I was thinking of was syllable types. To help children think about and understand what's happening in a silent E syllable or in an r-controlled syllable, et cetera, then we need to have more focus on what syllables are.

Later on, if kids want to write rhymes or poetry, then thinking about rhyme is helpful.

Anna Geiger: So could you respond to this quote from the Teaching Phoneme Awareness in 2022: A Guide for Educators? It's written by quite a few people that we're both familiar with, including David Kilpatrick. There's a quote from that guide which says, "In preschool and early kindergarten, syllable counting, word play, and rhyming activities have a role in preparing young students to attend to and speak about spoken language." How would you respond to that?

Susan Brady: It's outdated.

Anna Geiger: Okay.

Susan Brady: It's incorrect. There was a big review of rhyme written in 2002, by someone named MacMillan, and she reviewed tons of studies that had targeted rhyme and concluded that there was not evidence that it helped, that sometimes people weren't controlling for other variables, like did the children already know their letters? Did they have any reading skills? Which obviously would up their performance on tasks like that.

Now you have a study, this particular one was done by Cary and Verhaege. If we take a group of kids and we randomly assign them to group A or group B, and the two groups are matched now in the end. Then we teach group A syllable awareness first and then move into phoneme awareness, do they do better at getting phoneme awareness because they've had the syllable awareness? Or the other group, which jumped right into the phoneme awareness level, with the same amount of time spent on phoneme awareness in the two groups, do they do fine or are they lagging?

Well, the answer is they did fine. In fact, the kids who get syllable awareness first get a little confused when you switch to phoneme. It's "What are we doing now?" But it doesn't facilitate.

If we go back to how does phoneme awareness develop? There are early activities that one could do, such as alliteration which is great for pointing out the first phoneme in the word. So if I go, "/t/ /t/ /t/ /t/ Tommy, what's that first sound? /t/ And now, what letter stands for that? The T." It seems to be beneficial to start with discovering a phoneme and then linking it to the letter, and then, after that, you're going back and forth. So "What's the letter? What's the sound?" That's very beneficial.

There are other kinds of studies we could point to. Early on, Pat Lindamood had the LiPS program, where she was taking more of an articulatory approach. "Let's think about what your mouth is doing when you make the /t/." Kids did well just starting at that level. They weren't getting the larger units first.

Years back she came to my university, the University of Rhode Island, where I worked for 35 years. We were walking across campus and talking about reading, of course, and she said, "I hate rhyme activities."

I said, "Well, do tell. Why?"

She said, "Because once kids learn how to rhyme, if they're at all challenged by the phoneme level, they just default to rhyming, and it just gets in the way."

So there's a contrary argument that it's actually counterproductive, rather than just neutral.

There also was a study, Nancollis, Lawrie, and Dodd, in 2005, that wanted to give low socioeconomic status kids a little boost, knowing that they often were lagging behind their peers in reading development. They gave them a syllable and rhyme set of lessons, and they worked on helping the kids learn those concepts before they started. Then they followed up two years later to see how this boost had worked out. Those kids were doing worse in reading development than the matched children who hadn't gotten that program.

I would say in preschool, let's do alliteration. Let's focus on building awareness of a set of first sounds and gradually expand it and link them with some letters. Children are starting to foster that alphabetic principle. That's how our writing system works. We have symbols that stand for the sounds, the individual speech sounds.

Whereas with rhyming and syllables, there's not a neat coordination with letter knowledge. What we're finding now, with very impressive meta-analysis coming out that are reviewing lots of studies, is that connecting with letters is key and really boosts learning about phoneme awareness.

You need some phoneme awareness to get started. Then, as you learn more letters, the two are reciprocally related and boost each other.

Anna Geiger: What would you say to people who say they're just not developmentally ready for a skill like that, let's say, in preschool or whatever? How do you answer? I hear a lot about developmentally ready. It's hard to know exactly what that means sometimes. What's your response to that?

Susan Brady: Oh, it brings back scary memories of my son starting first grade. The teacher decided he wasn't developmentally ready to learn how to read because when she gave him the choice of building blocks or working on reading, he chose to build blocks because he was a perfectionist and didn't want to do it unless he could do it well.

Anna Geiger: Oh yes, I have some of those.

Susan Brady: But I knew he had great phoneme awareness and knew almost all his letter-sound correspondences, and that was an erroneous statement.

Remember what I said about it being easier to identify initial and final phonemes than to do rhymes? For a variety of reasons, I don't think we have to worry about developmental readiness. People have successfully taught three and four year olds phoneme awareness. Now I don't think we need to get carried away with three and four year olds, but likewise, I think the assumption that we need to do rhyme and syllables to help them get ready for literacy tasks is unfortunately based on a misunderstanding about that early work that showed that more kids were aware of syllables and not aware of phonemes. That wasn't an instructional activity.

The kids who are good at the syllable task are probably going to be good at the subsequent tasks. Maybe they have better phonological memory, maybe they have better speech perception, or maybe they have larger vocabularies that have driven a more phoneme level representation in the brain.

So you see that, yes, they did better on learning phonemes later on, but if you took kids with those abilities and didn't give them the syllables, they also would do better at the phoneme task. So there still are individual differences, but it doesn't mean we have to teach the larger units.

Anna Geiger: So what would you say to...? Let's start with preschool teachers. You talked already about doing alliteration, and they can work on those beginning sounds and then progress to final and middle. Is there anything else you'd say to preschool teachers?

And then let's move into kindergarten, what would you recommend for building phonemic awareness?

Susan Brady: Well we want to work on language development in general, so we want to build vocabularies in enjoyable ways. We want to read exciting stories and talk about characters and who's doing what and how do you think this is going to work out? And just have fun. I totally love all this stuff.

You can also work on retelling. What happened? Where was it? Who was involved? Was there a challenge or a problem? How did they overcome it? So all of those things are going to be foundations for subsequent reading, writing, and comprehension tasks.

Anna Geiger: What would you say...? There's been a lot of discussion in the last year or so about advanced phonemic awareness where there are a lot of oral exercises. For example, "Say the word 'snap.' Now take out the /n/ and put in an /l/." Is there any value to that sort of thing? And why or why not?

Susan Brady: That approach is based on a misunderstanding. I believe where David Kilpatrick got this impression was from looking at studies that, maybe in the eighties, were asking the question, "What phoneme awareness tasks differentiate good and poor readers? Will that tell us about what poor readers need to acquire in order to do better?" In those studies, it was found that the better readers could do these manipulation sorts of tasks of "What is 'smile' without the /s/," and particularly if they

involve consonant clusters. But poor readers couldn't.

The unfortunate assumption was that that is the skill that enables good readers to be good readers, and that's backwards. It's being good readers that enables those kids to do those tasks so effortlessly. So we now know from brain research that if you're presented with a word that you, as a skilled reader, have in your brain then that activates the spelling, the orthographic representation of that word as well.

The logic was backwards. Also, the recommendation to continue phoneme awareness activities into the third and fourth grades, I think, is an unfortunate use of time for most children. And again, in third and fourth grades, the children who can do those activities easily are the better readers. Neuroscience research and cognitive research shows that when you do that kind of a task, you are tapping orthographic knowledge.

So instead I would say, it's not that no older children need phoneme awareness instruction, but only those who are lagging in development. That sequence of initial, final, medial, usually in the older readers you're seeing they're pretty good at those levels, but have difficulties with the internal consonants, in consonant blends or consonant clusters. And so, if there are any indications, and spelling is often the way you spot these problems initially, if internal consonants are being left out of the spelling, then you want to go directly to targeting those skills for those students with letters and integrating it.

I also note that if we go online to try to find information, there is such a mix of stuff out there, and a lot of it is based on the older, earlier claims and beliefs that were so widespread. I think it's unfortunate, and some of them come from organizations that are trying to do the right thing and trying to help teachers know what is important, but we need to have a culling of outdated information from those organizations and from individuals who are trying to improve things. Now, we pardon people for having a misunderstanding, but we really need to move on to what's important.

Anne Castles, who's an Australian researcher, tested adults and older school kids on phoneme awareness tasks where you're just listening. So if I say "What's 'bats' without the /s/?" then people are quick, "bat." If we're measuring their reaction time, we can say, whoa, that was easy.

Now if we give them a word that has the same number of phonemes, but it isn't orthographically as transparent, like "box," so the X represents /k/ /s/. So now, what's box without the /s/ is Bach, like the musician. She said this error pattern is revealing the reliance on the orthography and the use of it to do those tasks.

I wish we'd get rid of that use of the term "advanced phoneme awareness" because it's a falsehood, and it's time for us to stop telling teachers that this is what they should be doing, that this is the key. Instead, to realize that it's those internal consonants that are the more advanced stage, the harder part of phoneme awareness.

Anna Geiger: So we would want to work on phoneme isolation, blending, and segmenting.

Susan Brady: Yes.

Anna Geiger: But we could do the manipulating with letters and spelling. It's just the oral drills?

Susan Brady: Yeah, and you already know that linking with letters is incredibly valuable, and doing manipulations, when you have letters in front of you. So now we want to change "pan" to "plan," and we see, oh, okay, we're going to slide a letter down, or we're going to write a letter in between the P and the A, and now we're going to read it out, and now we can do substitution. That is very useful, but that is, again, integrating with the spelling pattern.

Anna Geiger: We can kind of finish this off by having you share why you feel it's so important that we get this right. What's the urgency in getting to phonemic awareness and getting that mastered early on?

Susan Brady: It's the starting point to literacy. It's critical to literacy. If we can teach it quickly and successfully, and we're not wasting kids' and teachers' time on other tasks that unfortunately aren't relevant, then I think we can have that result that I was mentioning in New Zealand that made me happy.

We have a lot of inner city kids and kids in disadvantaged areas whose reading scores are lagging. In Rhode Island, I've learned recently, one city has 13% of its kids at grade level in the mid-elementary grades. That's just tragic, absolutely tragic.

There also is research pointing to how kids evaluate their own reading ability. And a person named Morgan did some research studying kids' self-assessment and found that

within about six months of starting school, children have decided if they're going to be one of the good readers or not. If they're not, then they'd rather kick the kid next to them when it's reading time or go do anything else. It's just kind of painful, and the attitudes are self-defeating.

We foster success early on and give them a nice structured task. So when they've learned some phonemes, they've discovered some phonemes, they've linked them with some letters, and now they're making some words with that, and now they're reading a little decodable that builds on those words, and they're pretty proud of themselves. They don't care if this decodable is fine literature or not. They can go home and read it to mom and dad and the dog and their sister and go, "Look, I'm reading!"

Doing that in kindergarten is much more efficient and effective than delaying and having a student in first or second grade who's at that reading level, but now a little embarrassed because this is baby stuff. I think we want instruction that is efficient and effective.

Anna Geiger: Well, thank you so much for taking time to talk to me and share all of this. I know I'll be very busy trying to find all that research. I may send you an email asking for some of those because I'm going to link as much as I can in the show notes for everyone who's listening.

Is there anything else that you would like me to link to or share related to your work?

Susan Brady: Thanks for asking. The International Dyslexia Association this last fall, maybe November-ish, released a fact sheet on phoneme awareness. Note that choice of the word "phoneme awareness" rather than "phonological." It provides a lot of discussion that might be helpful to people who are trying to sort this out and learn more about the terminology and what we know.

Anna Geiger: Excellent. I will definitely link to that.

Susan Brady: Now I know that there is some criticism out there about the so-called science of reading, and it's claimed that it's only about phonics. I want to just state that that's not true, that the science of reading is a very broad field that investigates all components of reading development and reading expertise.

The Reading League has produced a helpful downloadable e-book that's called The Science of Reading: Defining Guide, and it goes through what are the real science requirements of the science of reading? So it's not anecdotes, it's not casual observational work. It has important science criteria for the methodologies that have to be used. It's based on those kinds of studies that I'm making the statements I am about phoneme awareness.

Anna Geiger: Well thank you again. It was very nice to meet you!

Susan Brady: Very nice to meet you! Thank you for your good work.

Anna Geiger: You can find the show notes for this episode at reachallreaders.com/episode118. Talk to you next time!