"There's research for that!" - with Dr. Heidi Anne Mesmer & Dr. Katie Hilden

Triple R Teaching Podcast #217

Hello, this is Anna Geiger, author of *Reach All Readers* and creator of the Reach All Readers website. In today's episode, I'm interviewing doctors Heidi Anne Mesmer and Katie Hilden about their new book, *There's Research for That*. This is a wonderful reference for anyone who has questions about how to apply what we've learned from the science of reading. Here we go!

Anna Geiger:

Welcome Dr. Mesmer and Dr. Tilden!

Heidi Anne Mesmer:

Hi, thank you so much for having us on the podcast. It's such an honor to be here.

Katie Hilden:

We're so excited. Thanks for the invitation.

Anna Geiger:

I'm really excited to talk to you both about your new book, *There's Research for That*, which I found to be very easy to read, very accessible, and very practical. I read this in the car on vacation. It's always nice when I can focus on something with all the kids in the back and still enjoy it.

I want to know, first of all, why did you write this book?

Katie Hilden:

I'll start and say that the idea for the book really came through conversations that Heidi Anne and I had about the questions we regularly are hearing from teachers that we work with. Our frequent refrain will be, we'll get a question and we'll say, "Well, what does research say about that?" Heidi Anne and I were talking about how we're often saying this and wouldn't it be great to design a book around questions that teachers frequently are asking.

Heidi Anne Mesmer:

Yeah, and I mean, think some of the ideas came actually out of my engagement on social media, because I'm on Twitter. One of the things that I was having fun doing was translating research onto these slides that had really clear vetting with the research studies upon which the practices were based. I was finding that these were getting a lot of hits. It was like, "Well, letter of the week is out, but how many letters am I supposed to teach?" They were very pragmatic questions.

And so I thought, you know, this is really perfect for a book. I found teachers really hungry for digestible information where they could pinpoint the research and translate it into the classroom.

The other thing I think that I was a little concerned about, Katie and I both, is that the science of reading context has actually created some misinterpretations and some issues, which I'm sure you've already covered on the podcast. There becomes this kind of superficial labeling of practices as "this is science of reading."

A good example would be those sound wall posters. We address the actual research that supports teaching kids articulatory gestures, and hint: the posters don't figure heavily.

There's this overinterpretation, and it creates kind of this superficial frenzy like, "Okay, I'll put these posters up, and now I'm a good teacher, and I'll take that stuff down."

That is problematic, because what I've seen, having been in the field for 25 years, is that that won't stick. That's not sustainable.

I remember the scientifically-based reading research move around reading first and how SBRR was written into state regulations and laws and policies. Then it just kind of died and led us into the backwater of a lot of kind of great philosophies that weren't really research-based.

I believe that research is a North Star that can give us good information about how to help kids, and I don't want it to go away. I don't want extreme overinterpretations or misinterpretations or group think to get in the way.

Katie Hilden:

Just to build on that, what Heidi Anne said, I think teachers want their practice to be research-based, right? I have heard probably dozens of teachers tell me this year, "We do better when we know better." That's a popular refrain that I'm hearing. I also realize that many of our elementary teachers aren't just teaching reading, they're teaching math, and they're teaching the content areas, and they're doing the best they can with all of it.

I think their job is to implement that research-based instruction, and I think as higher education faculty, and authors, our job is to be able to is to translate and do that deeper dive into that research. Our job is to look into the methodology to put those pieces together to translate and to serve as a bridge between research and that practice.

Anna Geiger:

Okay, so we're going to go ahead and take a look at some specific examples in your book before we go back to some more general questions about research.

The first one I'd like to talk about is sound walls. What does research actually say about sound walls and the articulatory gestures, talking about what your mouth is doing. How can teachers apply what the research says to what they're doing?

Heidi Anne Mesmer:

Yeah, so let me quickly, before I get into that, just kind of point out that the way the chapters are set up are really, really basic. They're three to five pages, and the book is not meant to be read cover to cover. It's exactly for what you just did, "I have a question about sound walls. I need an answer. I can read this during lunch."

Then within that chapter we give a little vignette from the classroom. We identify very explicitly in a large blue box the experimental studies, meta-analyses, and sometimes causal comparative studies upon

which we are basing our answers. We're really, really proud of that because it's a very clear line between where we got the information and the translation. For doctoral students or reading specialists, you can go read the studies yourself.

Then we list out the actual findings thematically, and then after doing that, we do a big interpretation of so what for the classroom, how does it play out.

I'll do just a quick talk about sound walls in that little format. The discussion from the classroom is the new focus, and actually it is good, on teaching kids the articulatory gestures of their mouth. It's how their mouth makes a sound, where their teeth are, where their lips are, where their tongue is, and if there's voicing.

A big part of that has been these sound wall posters. When I go into classrooms and see them, usually what I just see are child teeth. Often I see the posters with the sound picture more prominent than the actual letter, which is what we're trying to teach.

And so I had a lot of questions about what exactly does the research tell us helps kids in this space of learning how their mouths make a sound. Here's a clue. It is not really the posters. The posters don't figure heavily or prominently. They're used in the instructional sequence, but just as a reference, and I like to tell people we're not teaching kids to lip read. We're not asking them to look at a picture of a mouth and say, that must be either a P or a B. That's another reason why the pictures of the mouths are limited because a lot of sounds have a very same manner and place of articulation, and so you couldn't differentiate.

Essentially, what the research tells us is that when you pair those pictures, but more importantly, when you tell kids what to do with their mouth, when you tell them watch my mouth, when you have them use mirrors, it does advance their ability to retain the grapheme-phoneme relationship and to know how the phoneme is made.

Specifically, there are a number of studies that tell us that it's really helpful for multilingual learners. This is really important because if you are a child who's just come to school at age four or five and certain phonemes are not existent in your language, then you haven't been exposed to hearing those, nor have you learned to really make those.

I was in a school at some point, and somebody pulled me and asked me to work with a child who was a Spanish speaker and said, this child really isn't getting the vowel sounds. I just did a little assessment pointing to the letter and asking him to say the sound and it was, "A-uh, E-uh, I-uh," it was all like a schwa sound.

Literally all I did for a few minutes was /ă/, and you can't see me on the podcast, but I'm making a little motion showing my mouth open, /ă/, and I'm showing that your mouth stretches back. Within a few minutes that helped that child, and that's exactly what the research tells us, that you have to add the teaching the mouth moves to phonics instruction.

There's a really simple little routine where you point to your mouth, and you point to the picture. You teach kids the names of their vocal tract: teeth, lips, tongue, throat, et cetera. You say, "Watch my mouth." You emphasize how the sound is made. You tell the child what your mouth is doing. You do it in a mirror. You hand them a mirror. They do it several times. You put it down and move on.

That's the research-based practice. It's not looking at pictures all over the room and going overboard on that. It's really about doing.

That's a good example of a group think taking over and being misinterpreted.

Anna Geiger:

Now, am I right that there's no published research on sound walls per se at this point? Or are we moving towards that?

Heidi Anne Mesmer:

I could not find it. You hear me being really careful there, and keep in mind that although this is a 2024 publication, we were probably a year before that in submission.

Here's the deal. The poster, the vowel valley, and all of that is probably an ingredient in a research-proven technique, but we can't isolate the sound wall as the element that is differentiating what makes a difference and what doesn't. It's all of those things. You have to have the picture for the kid, but the picture in and of itself isn't going to close the deal. Really, it's, 'Watch my mouth. Do it," and the kid noticing how to do it. That's what the series of studies we found says really make a difference. It's not too involved, really.

Anna Geiger:

So the point is you might use a sound wall to support what you're teaching, but just putting up a sound wall isn't the answer. You need to understand that the whole point of this is to help students connect the sound to what their mouth is doing, but we don't have to go overboard on that. It's the initial teaching. If they're a bilingual learner, it may take extra attention.

Heidi Anne Mesmer:

And it's likely to be quite effective in helping them get the sound right.

Anna Geiger:

Let's move on to another one. The next one is going to be about decodable texts. Can one of you handle that one?

Heidi Anne Mesmer:

Yeah, that one's mine. I can handle that one. I mean, that was my dissertation topic, so I followed that topic for quite some time.

What people mean by decodable is that the child... I'd like to now call them "readable," I would probably change that term, meaning that the child knows a series of high frequency words that will show up in the book. The child has been taught the majority of the grapheme-phoneme and morphological patterns that are in the book. Not all of them, but enough of them that the proportion is high.

I like to think of decodability as kind of varying on a continuum. Texts are more highly decodable or less, and I have that little continuum in the book.

There have been a couple of research reviews, there have been some experimental studies, there was a recent look at interventions and the nature of text within interventions, and there's been validations.

What we know is that word decodability and word frequency, which is always going to factor higher in a more deep orthography like English where there's variation that's tolerated...

Frequency and decodability do help word accuracy, and we find that when you use that, it can help with kids' accuracy, especially in the early years. One thing that I think is interesting, and actually the recent meta-analysis that Pugh et al. did kind of actually reinforces that, although it's a little bit lost.

Within the context of interventions or really specifically one-on-one tutoring, text decodability doesn't appear to be terribly influential. That means that if you have a live teacher right next to you when you come to a word you don't know, who can point you to sounding it out or just say, "Oh, that's the 3%," and move on, it's not going to make a difference.

Jenkins did a study manipulating decodability within a one-on-one tutoring program with kids who already had a lot of phonics instruction. That's the caveat, right? It was worked with him.

The meta-analysis that recently came out around text within intervention had a finding that when teachers used highly decodable text in combination with other materials, there were superior results.

I think there are a couple things to note about this. One, seven out of the eight of those studies upon which that was based were one-on-one tutoring situations. That is important to remember. The other thing to kind of take note of is how the researchers in those eight studies combined decodable text with less decodable text.

For example, in some studies, the students read highly decodable and less decodable text at the same time, which is one way. In other studies, students read highly decodable text for a period of 10 weeks, nothing else, and then they read the less decodable text. In another study, students read decodables in first grade exclusively and then trade books in second grade. This is an example of if you kind of dig around that finding, you can kind of see.

What I'll say is that text decodability is hard to isolate. It mixes in with explicit and systematic phonics instruction. Eventually, everything becomes decodable, and it will become decodable at different rates, depending on a child's natural aptitude for mapping the code. Some kids map the code by mid-first grade fully, and other kids take until mid-third grade. Does that help?

Anna Geiger:

Yeah, I do understand all that. I think one challenge that teachers have is trying to figure out is if there's supposed to be a mix of texts, when does that begin, and what does the mix look like?

For example, if I'm teaching first grade and maybe I have students who are learning CVC words, that's what we're starting the year with, and so we're doing that. Am I supposed to be mixing it up with other kinds of texts already? And what would those look like? And how would they read those words that aren't decodable for them? How would I instruct them to read them, because we're trying to get away from the balanced literacy pattern.

Heidi Anne Mesmer:

That's a crucial question. And again, what I would kind of point to is these series of studies that mixed them. I kind of gave a collection of different research-based approaches, where people just used decodables in first grade and then pivoted, where people used decodables for ten weeks and then pivoted, or where they used both together.

This is not research-based, so now you're getting into an opinion. My perspective is that kids pretty much should have command of the most common vowel graphemes before you start to pull in a ton of things that they haven't seen before, and I would include the long vowel patterns. That wasn't my initial perspective, but I think that's different.

The other thing that I would say about today's text, and something I think is completely missing in the conversation and in the text, is the importance of repetition. We could actually use less decodable text if we also infused repetition.

So my expert answer is not research-based. Make sure kids have command of the vowel graphemes, and some of these studies then pulled in other materials.

Anna Geiger:

So you would say that we don't have research enough to really isolate what exactly is the best approach versus a combination from first to second or from the beginning. We don't have enough research to nail that down for us. We just have options. Would that be correct?

Heidi Anne Mesmer:

Yeah. I think the literature around how to combine that shows superior effect uses at least three different approaches, so we can't necessarily say which of those. One of those approaches is just using two at the same time. One of them is using decodables exclusively and then pivoting. And then the other one is really using decodables mostly in first grade and kindergarten.

Anna Geiger:

The things that teachers want to keep in mind would be the point of using decodable text, which is to help kids apply the phonics knowledge you've taught them, leading to orthographic mapping of words, and keeping them away from strategies like guessing.

On the other hand, we're not trying to stay in decodable text forever, so we need to keep in mind that we want them to be exposed to more challenging words. We have to figure out a little trial and error on our own, and how that's going to work in our classroom.

Another question I have that you addressed in the book is when we're building fluency, is it important to be rereading the same text over and over? Or is it just as effective to do reading of multiple texts? What does the research say about that?

Katie Hilden:

Yeah, so this is one where we've had some research in this area going back on almost 20 years now, with some really interesting studies that were done in first and second grade, and then also in fourth grade. The research had looked at instruction that would have second graders starting to read complex grade level text that was above where they were currently reading across the week.

This was a program called fluency-oriented reading instruction. They would reread that text starting with teacher modeling, and then going to echo reading, a paired base reading across the week.

Then Coon and colleagues came along and they said, "Well, is the repeated reading of the same text across the entire week the key ingredient? Is that what makes it so effective?

They asked, "Well, what happens if maybe we have them reread the same text, doing some of that echo and choral reading for maybe a couple days, but then extending and having students read additional other texts," and usually it was a second and third text for the remaining week. So there was still some aspect of repeated reading, but then also extending to include what they called wide reading.

The research findings were really interesting. It turns out that both conditions were increasing the amount of time that students were orally reading a day, upwards of 25 minutes. What they found is that compared to the comparison group, both groups, whether it was rereading the same text all week or whether it was limited rereading with additional readings, both improved students' word recognition, fluency, and comprehension.

What was surprising to many of us in the field is that there weren't significant differences in comprehension between those two treatment conditions, whether the students were reading the same text across five days, or whether they were doing limited repeated reading with additional passages.

What's interesting is O'Connor, White and Swanson came and did this with second and fourth grade struggling readers. They would have them do this oral reading three times a week, and what they found is that it was corrective feedback by an adult listener that was really critical. Whether it was extensive rereading or more of that wide reading, both seem to be effective, but it was the practice reading aloud with corrective feedback that was really critical.

I think this has changed our perspective. It's not a breadth versus depth in the types of texts that students are practicing with that oral reading, but rather maybe both.

I think when we think about our instruction with students and our oral reading fluency practice, all of the studies provided models of fluent reading in advance for students. All provided sustained regular practice with that oral reading at least 15 minutes a day for each of those sessions. That all included longer texts that were sufficiently challenging for students.

And so I think when we think about our fluency practice, those are some of those key aspects that we want to make sure we're including.

Anna Geiger:

I like how you pointed out how with that first study, they found something, but then they wanted to do an additional study to figure out what exactly was the thing that was making the difference. Sometimes I think we just want to jump on the first study that we hear, and that's why people talk about how the science of reading is a body of research that's always evolving and growing because an additional study may nail down what really made the difference.

Katie Hilden:

That's the beauty of science, right? It's constantly evolving, and we build upon what we already know or think we know.

Anna Geiger:

Let's take one about comprehension strategies. What does research tell us about those, and how can that be applied to what a teacher is doing?

Katie Hilden:

Thanks for asking. We have research through a recent meta-analysis by Peng and colleagues that talks about it, particularly for our striving readers, and that's the language that they used, with a meta-analysis of 3rd–12th grade readers. It was an amazing meta-analysis; I think it involved over 50 studies. They looked at...

We've got decades of research on comprehension strategies. When you read books or you're looking at resources online, it's very common for us to have a list of eight strategies that we're supposed to teach our students that are effective.

Ping and colleagues looked at, particularly for our striving readers, is more better? Is the more strategies you teach the bigger bang for your buck?

It turns out no, that actually teaching four or five or even six strategies sometimes reduces the efficacy of those strategies for students.

What was also really interesting in that study is they found that prior knowledge was in some ways kind of a boot-strapping strategy that really increased the effectiveness of those comprehension strategies. If you think about our striving readers, activating their prior knowledge and getting them to think about what they already know about the topic, that seems like it would reduce that working memory load, right? That would then give us more space to use those strategies.

We want to be careful that we're not necessarily overloading our students, particularly our striving readers, and that maybe teaching a smaller core of strategies might be more effective for those readers, more manageable for them to apply when they're reading texts. Ping and colleagues suggested that main idea was an important part of that.

Anna Geiger:

So teachers don't have to think about a long list of strategies to check off, but rather what's going to give us the most bang for a buck to make sense of this particular text.

Katie Hilden:

Right. Well, and not just this text, but carrying across texts, right?

Anna Geiger:

Something I can apply to other hard texts that I'm reading.

Katie Hilden:

Absolutely.

Anna Geiger:

Anything else you want to share about those, or other specific strategies that are worth teaching?

Katie Hilden:

Again, they talked about main idea and activating background knowledge.

What was really interesting for me, though, is that they did not find the one magic bullet strategy that was critical.

What was also interesting is that I think the number of strategies was not as critical. There was no correlation between the number of strategies and effectiveness.

I think what's also interesting when it comes to teaching reading comprehension strategies is this idea of, do you teach them one at a time and get students, in the primary grades, really, really good at doing that one strategy before we move on to the next one?

We have a small, but core, body of research starting as early as second grade that shows that teaching students how to integrate those strategies and use them flexibly can be effective. That's doing quick introductions of those strategies and then getting in kind of that guided practice, even with read alouds, where they're using those strategies in concert.

Anna Geiger:

Thank you. Thanks for clearing that up.

We're going to go now back to some general questions about research. I know I actually had a teacher email me that said, "My principal says everything I do all day has to be backed by research. Is this research-based?" She was talking about a particular something that I had shared.

I thought that that was really tough because as we mentioned, research has not nailed down every single practice. We can't tease everything out. What does it even mean then if something is supported by research?

Heidi Anne Mesmer:

Yeah, that's an excellent question. Setting up that intense kind of standard and expectation is an exact reason why, like what I was talking about, this all implodes because it's not sustainable or reasonable.

That said, research does inform a lot of our practice. I think what is useful within this context is to first… Nell Duke and Martin made this distinction between what they called "research-based" and "research-tested."

Something that's research-based means somebody's put together like a program, a foundational skills curriculum, or a program, and the components of that program can be traced back to research studies. But the actual program is not itself tested in an experimental study or a randomized controlled trial. That's what most teachers are using, "research-based" stuff.

A research-tested approach is often, but not always, in a curriculum that in its entirety, with all of the components done as they were to be done, followed with fidelity, that has been tested.

For example, Bookworms is a good example. That's a comprehensive curriculum. It's been tested in randomized controlled trials.

To that principal, and I would be talking to the principal, not the teacher. To that principal, I would say, "You're the kind of principal who probably is going to feel most comfortable having your teacher use a research-tested approach and asking them to follow that with fidelity." Now, there are no guarantees, and you have to teach people how to use it.

There are strategies specifically that have been research-tested.

For example, if we're going to teach kids how to sound out words, there are a couple of different ways, one of them being extended phonation or the articulatory gestures. There are research studies that say this is what you do, and then it contributes.

Katie also had a kind of example of a research-based versus research-tested differentiation. Then I'll get back to why do we make this distinction in an answer to your question.

Katie Hilden:

When I think about teachers, I think of real concrete examples of the difference. A research-based principle might be the idea of including paired reading, for example, for oral reading fluency practice. You'll have maybe a high and a medium reader reading together and providing some corrective feedback together. That's something that when we have our basals, you'll see that as a practice in them a lot. I think that's research-based.

The research-tested example would be something like the peer-assisted learning strategies protocol and system that has been more extensively tested through experimental research. Oftentimes, we'll take the idea of something that has been really well-researched, like the PALS, and then implement parts of it in our instruction.

What teachers need to be careful of, and we as kind of translational scientists, what we need to do is to help think about when we do peer reading, what are those aspects that have been researched that we need to make sure that we're doing and doing well in our classrooms.

Heidi Anne Mesmer:

I think the question is coming from the perspective of, "I need to find proof that what I'm doing in my classroom is based on research."

What I would do is almost flip it and say, "We need to improve fluency in our school. Let's start with looking at the research."

Katie and I just did a big professional development with teachers that kind of did that. Let's look at the research and then come back to your practices. What I think is that engages teachers in understanding the research and applying it themselves, and you can give teachers choices around what they want to improve.

To a principal who really wants to engage their teachers in research-based practices, I say instead of kind of coming at them like that, the idea might be to talk to them about what we are doing this year is systematically examining research. "Our data tells us we have really big decoding issues in third grade, so we're going to look at the research around advanced graphemes and multi-morphemic words, and we're going to then cross-check our curriculum with that."

You're going to get much more sustainable change and results in that way as opposed to, you know, making sure we all just check the research box.

Anna Geiger:

Yeah, that makes a lot of sense, and your book is very helpful for that. Like you said, it is very clearly laid out and you have these blocks of research.

This is not on our list of questions, but what would you say to someone who says, "Okay, we want to make sure that we understand the research and that we apply it appropriately, but how do I even get started? I go to Google Scholar and I look something up, and there are a million things. I don't even know where to begin."

Do you have any places for schools to go that are going to set them up where they don't have to be wallowing through pages of research in addition to their regular work?

Heidi Anne Mesmer:

Katie, I can answer or I can pitch to you.

Katie Hilden:

I'm trying to think of my graduate courses where we're teaching this very thing. I would start with the What Works Clearinghouse and ESSA, looking at what research has been done because you can search by phonological awareness or decoding or fluency and find programs that have research that can give you kind of synopsis on those.

I think traditionally the What Works Clearinghouse has had great research briefs that are summarizing some of those big pieces, like what we know about writing in the elementary grades or fluency or whatever the topic is. Then within that, they'll provide the summaries. Then there's research that they have used to do that.

Google Scholar is going to be the entire world versus looking at these few handful of studies that experts in the field have said these are the ones that are really high quality. I think that that's where I would start.

Heidi Anne, I don't know what you would say to that.

Heidi Anne Mesmer:

Start with what is your data at your school telling you that you need to fix. That's where you start, right? Because you can't do everything. Start there.

Secondly, grab our book and thumb through the table of contents and see if anything is addressed. You can actually read these chapters very easily. In the book, you can then dig into the actual studies, but we also at the end also have additional theoretical resources.

Decide what do we want to improve? How do we want to apply the research? Then I would, like Katie said, go to the IES Practice Guide, What Works Clearinghouse, and ESSA materials. Engage your local university professors or if you have a technical assistance center. In our community, we have these Virginia regional TTACs that are just amazing.

AI isn't going to do it for you. Google Scholar isn't going to do it for you. Your first step is what does our data tell us that we have to fix, and then go to our book as a next step.

Then become an expert chef in fluency, become an expert chef in vocabulary for multilingual learners. Then honestly, frankly, you might become more expert than we are in some of these areas because you're just going to keep digging. Or you can find experts in the field whose life's work has been vocabulary development for multilingual learners. You know what I mean?

Anna Geiger:

Yeah, so I would say that Google Scholar is a great place if you have a study that you're trying to find, that you know the specific study name and maybe you're trying to find the PDF, but not to use as a search engine to help you figure this out. As you said, everything is there. Not every study is high quality, but you can count on people like the two of you and also other professors and also the IES Practice Guides where people have already done that. They've combed through the research.

Not that mistakes can't be made, but it is a great place to get started and to combine things we learn from different people.

But not to feel like we have to be starting... Like it's a teacher's job to comb through hundreds of thousands of studies. The National Reading Panel has done a lot of that work for us and others too. So yeah, that's a good encouragement. We'll make sure to put those things in the show notes.

Let's talk about why one study is not enough because there may be a new study that comes out and people get excited and feel like now we have to change everything, but it's a single study on a particular topic. Why do need more than one study before we might need to feel compelled to adjust what we're doing?

Heidi Anne Mesmer:

I think there are three kind of things that we thought about here, and we'll go into a little depth.

The convergence of findings and replication is really what undergirds robust application. When data starts to accumulate across different samples of kids... Maybe you did this study in an urban system with very experienced teachers, or maybe you did it in a suburban system with less experienced teachers, and you got slightly different findings, but both studies show that this is really impactful. That's where you kind of start to find that convergence that's really important.

What you'll find as you kind of get those themes of convergence is the statements are going to get a little broader.

For example, phonics instruction is a good example. We know that systematic and explicit phonics instruction with assessment and with feedback and all of those things will impact decoding and spelling and even future comprehension. But there are lots of different flavors and such.

The second is you need more than one research study to clarify what is the active ingredient in a space.

For example, take phonics instruction. That's a really good example. You will see people claiming that multisensory techniques are an active ingredient. They're deal-breaking. You must have these multisensory ingredients.

But when you look at several meta-analyses, the data just doesn't tell us that.

Now, it doesn't mean that multisensory ingredients are not useful. They should be done, and it's fine. It's not going to hurt anybody. But it just tells you that you can have a systematic and explicit phonics approach that doesn't include multisensory techniques.

Just an aside about multisensory is this. Honestly, phonics instruction is quite naturally multisensory already, right? You see the visual, you auditorily hear the sound, you move your mouth kinesthetically to make it, you use your hand to handwrite it. We don't taste phonics or smell it. I think the only component might be tracing letters with your finger or using sand to trace, which is great idea. Do it.

But don't tell everybody you have to do this or you're not going to be effective, because the finding is just not there. The active ingredient is that systematic and explicit.

Really interestingly, and I don't address this in the book, another active ingredient that's shown up in several meta-analyses is dictated spelling. What we know is that if your phonics instruction wipes away the cards and says spell these words, and you use that information every day, you are going to get better results. That's an example, a kind of counterpoint, to the multisensory. That is something that research does tell us is value added and is an active ingredient.

I think Katie also had an active ingredient.

Katie Hilden:

To build off of what Heidi Anne said, I think we're at the stage in many areas of reading where we're starting to get some good meta-analyses which allow us to pool our students across studies and to increase the power of what we're looking at.

Teaching expository or informational text structures are a good example of this. If you take a single study, you might be able to show, yes, teaching text structures to this grade level is effective under these very specific conditions. But it's when we look at meta-analyses that we're able to really start figuring out, like Heidi Anne said, what those key ingredients are and are not to instruction. It's really diving into that *how* of effective instruction, which is exactly what teachers care about, right?

And so with text structure instruction, when you have a meta-analysis, we now know that like there's kind of a window of effective duration for text structure instruction that's between 11 to 20 hours. Which is a question I get all the time from teachers! We didn't know that until we had many, many studies looking at text structures.

Also, to pull back again to text structures, we also now know what are effective ingredients like writing. Having students use text structures in their writing and applying is important. But maybe what is not as important is teaching signal or cue words to just identify text structures.

To be clear, we don't have any evidence that it's harmful, but that it's not necessarily a key ingredient in order to get students to use the text structures to comprehend in a way that I think a lot of teachers are assuming that it is.

Anna Geiger:

So if we just use a single study to support a particular practice because it was proven effective in this situation, but we don't have additional studies that maybe didn't have the same ingredients, it's hard for us to draw a line to say what exactly is making the difference.

But when we have multiple studies that had similar ingredients but not all the same, we can see which are the same and we can pretty confidently say those are the things that are making the difference. That's why multiple studies are really helpful.

Katie Hilden:

Yeah, and not just key ingredients, but for whom, right?

For example, with the text structures, we know through these meta-analyses, which are collections of studies, that we can start it as young as second grade. There's a good deal of research that supports that.

Unless you have that wide range, the window for effectiveness is actually really narrow. And we know that research is nuanced, right? That's where we can learn the how of instruction is through these replications of studies.

Anna Geiger:

Yeah, which takes time, so we don't always get our answers as quickly as we want them.

Katie Hilden:

Yeah, and we don't yet have all the answers, which I think is also key to remember.

Anna Geiger:

In your book, you say research is not always a straight path. What do you mean by that?

Katie Hilden:

When I think of science, I think one of my favorite parts of science is that there should be surprises. As we've been talking today, science is evolving. I think I was Albert Einstein who had a quote that said something, I'll paraphrase, about it's only science when we don't have all the answers yet. That's kind of the purpose of it. The benefit of science is to be able to answer questions that we truly don't have all the answers to yet.

Sometimes, research will provide counterintuitive findings, things we weren't expecting or even something that we've held dear for a really long time, finding that maybe it's not as effective in the ways we thought it was.

When I think about that, a good example is a recent meta-analysis that Cervetti and colleagues did in the area of vocabulary. When I think about comprehension, one of the things that teachers often talk about is pre-teaching vocabulary and the critical role that that plays. Their research was very nuanced in pointing out that, yes, that vocabulary instruction, that explicit vocabulary instruction, is critical for comprehension of that text that we're reading right in front of us, but that it's not sufficient in order to grow students generalized academic vocabulary that would show up on a standardized assessment. That explicit instruction is not enough in order to really close the gap in vocabulary development.

Heidi Anne Mesmer:

Another counterintuitive one is invented spelling. First of all, what people think when they imagine kids' invented spelling is they just make up anything and they put it on the page. They show everybody, and somebody says, "Oh, that's great!"

Parents and teachers think, well, are we teaching kids to inaccurately spell? I've even heard people say, "You know, practice makes permanent, so why would we have them practice it wrong. That couldn't possibly help them in the future to accurately spell or read words."

A couple of things, I'll decompose this. First of all, there is a definition of invented temporary or phonetic spelling, and that definition is that it is not random. Kids aren't really inventing a new system; they are *applying* the alphabetic principle.

I like to say temporary spelling or phonetic spelling is when they have incomplete knowledge of phoneme-grapheme patterns in English, typically in grades Pre-K to 1, and they are using all that they know about the alphabetic principle to make logical substitutions. They might miss a vowel in a multisyllabic word in the unaccented parts. They might miss a consonant in a blend. They might not know that you use C instead of K for cat or that you use the Greek ch in the word chorus. They'll make substitutions based on the place and manner, like an F for a V.

The first thing to know is that when we use that term temporary spelling, it's not just anything goes. Invented spelling is just a bad term, and frankly this teacher was the one who kind of pointed this out to me, and I would have changed the writing in the book and shared that story. They're not inventing a new system. They're applying a system that they don't completely know.

But what the research actually tells us, which is kind of a little different than what we would expect...

I was trained in the heyday of whole language and it was, if they got it down on the page, that was just beautiful and special. They're saying the word, and then they're transcribing the word, and it's just amazing.

But actually, what the research tells us, first of all, most of it's done in kindergarten.

The second thing is that it's almost always part of an intervention, so it does not stop once the kid gets it on the page.

There are experiments done by a great group of researchers in Canada, French Canadians. Their experience basically shows no, no, no, no. You start there, and then you push for the next sound. So if they put an initial consonant, you try to get the final consonant. If they do the first and last, you try to get the medial vowel. If they don't have the vowel correct, you might do a little phonemic awareness activity and hold that sound in the middle.

That also points to something about phonemic awareness, that it should be embedded into our spelling and embedded into our decoding. There's this bumping back and forth between those two things.

What I like to say, and I'll leave much more for teachers to read in the chapter, but I like to say, "Children do it. Teachers use it." If that is what is going on, it will impact future accurate spelling, word reading, and getting to the right thing. Also, it has a very specific window of time, right?

Anna Geiger:

You're really speaking to the nuances of what we're finding in research. It's never as simple as one statement. There's always more to study and learn, which is why your book is super helpful in that way.

I just want to close out with one quick question, which is, I don't know if it's quick or not actually... If someone wants to do something in their classroom, but maybe there isn't a study on it yet, but it makes sense to them based on what they do know... What should teachers do if there's not research to confirm or deny what they want to do in their classroom?

Heidi Anne Mesmer:

Well, I'm just going to stop right there and say that's the wrong question for a teacher to be asking. I know what I want to do. I need to find and cherry pick research to support what I want to do. That is not where we would start. Katie's going to tell you where we should always be starting with respect to trying to apply research.

Katie Hilden:

I think that's with what we talked about earlier. What's the instructional goal? What is the need that your students have? What is the data telling you?

Do that first, and then look up what is the research saying is effective research-based practices that allow you to achieve that goal. Focusing not on the instruction, but what are the students' needs? What's that objective that you have first?

Heidi Anne Mesmer:

Start with the objective, not the practice. If I start with the practice, then I have to find things to support my practice. Start with what I want the child to do, and then research the practices that result in the behavior I want.

Katie Hilden:

I think to build on that, when you are at the local classroom level, it's teaching teachers to monitor their students. Monitor their students' growth, no matter what it is. How is what you're doing effective for your students? That is very noble. You can track that.

Heidi Anne Mesmer:

I was just going to say it's almost like do your own research on your kids.

Anna Geiger:

Once you know exactly what it is you're trying to do, versus I have this cute idea I found I want to try it. Instead of that, what goal am I trying to achieve? I think this thing I found is going to work. I'm going to try it, but I'm not going to know it works until I check to see if they're making progress. Maybe there's not a study on this, but I can sort of do an informal one myself. I'm going to check on their progress weekly or every other week, and if the needle isn't moving, then I need to try something else.

Heidi Anne Mesmer:

Right, and be clear with yourself about the behaviors that you want the student to do. Fun and smiling, they're all great, but that does not mean that the kid was able to answer the question or decode the word or correct themselves. You have to be laser-focused on the learning behavior as opposed to, "It was cute, it was neat, and they all had fun! They laughed and were smiling!"

That's all great, but after that, could they all do it?

Anna Geiger:

Thank you for putting that in the proper order. I think that's really helpful to think about.

For some teachers, that may be a big shift. For others, maybe not so much. It depends on the culture of their school and their assessment, and how they're planning their instruction.

I would definitely recommend this book to our listeners. I'll link to it in the show notes and other resources that I have from the two of you.

Thank you so much for coming on to talk about it and for providing this. I hope there's more to come!

Heidi Anne Mesmer:

It was super fun! I had so much fun.

Katie Hilden:

Yeah, and Anna, thanks for all that you've been doing for literacy for years and for our teachers and our students. It has been a lot of fun, and we just can look forward to what comes next.

Anna Geiger:

Thank you so much.

You can find the show notes for today's episode at reachallreaders.com/episode217. 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 community. We look forward to helping you reflect, refine, and recharge on the next episode of Triple R Teaching.