

SPEAKER: Mary is president of MED Consulting and Tools 4 Reading. She has over 20 years of experience teaching children and training teachers. She's worked as a classroom teacher, reading specialist, professional development provider, and consultant to numerous school districts, Bureau of Indiana Education Schools, several state departments of education, and the Virgin Islands. Dr. Dahlgren is a -- yeah.

MARY DAHLGREN: It's not that exciting, actually. It sounds good, though.

SPEAKER: Dr. Dahlgren is a National LETRS, which is -- if you don't know this, Language for -- Essentials for Teachers of Reading and Spelling trainer, and also teaches programs nationally -- I don't know how to say that. I should have asked you first. Newhouse.

MARY DAHLGREN: Neuhaus.

SPEAKER: Neuhaus Education Center. She is the former executive director of Payne Education Center, a non-profit teacher training center in Oklahoma, which was established to provide teacher training for teachers of students who have dyslexia and to support for students -- children who have dyslexia. So we're very excited to have Nancy here. Thank you.

MARY DAHLGREN: Mary.

SPEAKER: Nancy is our colleague, and I'm going to see her next week. Mary, I know you're Mary.

MARY DAHLGREN: That's okay. I think it'd be an honor to be called Nancy Hennessy, to be confused with. Well, it is a pleasure to be here and nice to -- can you see me?

AUDIENCE MEMBER: No, you're standing in front of the screen.

MARY DAHLGREN: I'm standing in front of the screen. Is that better? No? Here?

AUDIENCE MEMBER: Now it's better. Yes, ma'am.

MARY DAHLGREN: Oh, wow, okay. So it is a pleasure to be here and to know that I was able to get here without any issues. I was supposed to be in Harrisburg last week, actually, working in Harrisburg schools. And my flights were cancelled two days in a row because we actually had the no blizzard in Oklahoma. We actually had a blizzard that did hit the pan handle but it didn't -- nothing in Oklahoma City, but my flights were still cancelled. What's going on, you guys? It's the craziest thing.

Anyway, so I am happy to be with you all and get to talk to you a little bit about one of my favorite topic areas, morphological awareness, which I find fascinating. And one of the reasons that I find that it's so interesting is because, as I work with the schools and teachers, especially teachers, it seems to be a little known fact about word study. And unless you have purposely looked into the structure of language and -- or if you've

had a background in Latin, I find many people who attended Catholic schools had some Latin instruction, it's not something that happens so naturally to look at words and have this awareness of words and realize that words are made up of meaningful parts.

And so I will start off with this thought that I really think is powerful from Marilyn Adams. And let me say that these -- I have handouts that are on the website, and everybody I'm assuming knows what the website is, where to find it. If you would like to download handouts from that website, all the slides are not on there, but handouts that go with the slides, the activities that we will be doing during the session are included there.

So the idea that research indicates that reading with comprehension depends on understanding at least 95% of the words. And the key piece there, it's not just the ability to decode 95% of the words, which we know reading with accuracy is critical and being able to decode words is critical for reading, but understanding what those words mean. And how many of our students get lost in the text because I finally learned how to decode them, but I don't actually know what they mean? And I find it's one of the most difficult things to teach. I always say, give me a child that has decoding issues any day, but the comprehension and vocabulary, it's such a broad area to teach and thinking about how do I approach that and how do I begin to develop that with my students.

So when looking at reading comprehension, which goes hand in hand with vocabulary development, and thinking about how comprehension and decoding are related to one another and change over time, this is from the Connecticut Longitudinal Studies. And looking at comprehension, vocabulary, and that variance in comprehension accounted for by word recognition, reading ability.

And in first grade, you see that the high correlation between ability to decode and understand the words, it's very highly connected to decoding. I'm relying a lot, heavily, on decoding skills and abilities. As you -- as we move on through the grade levels, you see that that decoding, that need for intense decoding falls off because I've developed automaticity. And I don't have to use so many of my cognitive resources in focusing on reading the words, decoding, when I say reading at that point, versus getting the meaning from the text.

And we expect our students, especially you see it starting to really fall off by fourth and fifth grade. It still remains. Our students must be able to decode in order to negotiate text, but at the same time, I have to know a lot about word meaning.

So also, Deb has said to me many of you all are LETRS trained and regional trainers, so you certainly understand these as slides in the Connecticut Longitudinal Studies and those pieces that I'm referring to. But the Reading Rope from Hollis Scarborough is one of our favorite pieces that we refer to and look at. And I think that this is such a nice visual to help us think about what are the components of reading. And of course we

have these lower-level skills that I'm referring and we won't be spending any time talking about in this session this morning.

But in word recognition, the idea that we have to have the phonological awareness and that ability to decode and spell words and the automatic sight recognition. As those develop, and typically they're on the lower end of our rope here because they tend to happen in the lower grades. We expect our kids to leave second, and at the latest third, grade with those skills. We have that automaticity that's developing, I'm adding more and more words to my sight word vocabulary, so I'm not having to spend a lot of energy on that.

One time, we asked Paula Scarborough about this. Why is the bottom part braided and the top parts twisted? She said it was just the artist's design. We like to read a lot into it, but as several people have said to me, you know, that if you look at the braid, you see at the bottom part, these bottom three strands, you can actually pull each one of those apart and you can assess those individually. And it's true. But when you get to the upper strands, which are much more complex when you look at language comprehension, and again, you have to have both of these pieces in place in order to be a true proficient reader and comprehender, we get into the background knowledge, our vocabulary, language structures, and understanding sentence structure, the semantics of language, verbal reasoning, the literacy knowledge. All of those things that have to be woven together and tightly woven together in order for us to become that skilled proficient reader that really gets to focus on the meaning of text.

And this is also, as I look at common core and what we're getting at with common core, how important all of these pieces are. And it's not just the upper strands or just the lower strands, but everything that works together. And I say that because I talked to a friend of mine yesterday who was visiting the first grade -- visiting first-grade classrooms. And she said, I just went into all these first-grade classrooms and it's amazing. Everything is about close reading, close reading, close reading. And they seemed to have forgotten that these bottom strands need to be a very important part of what's happening in first grade. There's no question that we need to get to close reading, but anchor standard number ten is the outcome at the end of high school. And there's a lot that has to come before we ever get to that point.

So if we skip over these lower strands, we're still never going to get to the close reading. But at the same time, all the listening comprehension, language comprehension, reading comprehension that's starting to develop needs to be a part of that. So having a nice balance between the two.

And what does this mean for our instructional practices that decoding is necessary, but it's not sufficient for reading? Those -- I can become a word caller, but I still don't know what the words mean. So vocabulary and language in truly third grade and beyond, those -- that proficiency and vocabulary and language account for more and more variance in the reading comprehension itself. So as I am -- and as a classroom

teacher, looking at what my students know and need to be able to do, I need to teach all of these areas, but it also depends on grade level where my focus shifts. And the idea that my students -- expectations for my students to be in place, but I also have to close the gaps for those who are not prepared to get to those higher level skills.

So we have a nice balance between those. And early on, the phonological awareness and the components of phonological awareness that need to be developed in order for our students to be on the road to reading. These do not -- having the phonological pieces in place, sorry, do not guarantee that you'll be a reader, but they certainly are those indicators that help put us on the path to becoming readers.

And then, of course, the orthographic skills that are necessary. That ability to decode and match speech to print as -- and when we talk about orthography, ortho means straight or correct. And a lot of people connect it to the orthodontist, right, when you straighten your teeth, and graph, the letter, the correct letter or letters or spelling patterns, in this case, of the English language. So it's a term that a lot of people are not familiar with, but when you begin thinking about what does that word mean, it begins to make sense. So the correct spellings or the correct letter patterns in our language.

We're going to be looking more at the higher end of this, even beyond syllable types as we look at the morphemes and morphological awareness, and thinking about how we chunk our words for encoding and decoding, but what studies tell us about moving from phonology to orthography to morphology and all of those pieces being taught and moving into those higher levels. So developing that word knowledge and where does word knowledge come from in this important piece of encounters with words. But we have to have a rich language environment.

And many of you are familiar with the Hart and Risley study, and the importance of beginning language in homes from birth onward. And many of our students that are -- that have a gap in their language skills, how do we develop that? What do we do to be more purposeful in order to develop those skills? We'll look at a little bit of that. Direct planned explicit instruction. Integrating language and everything that we're doing in our classrooms. And even, of course, starting in kindergarten and first grade, if we're talking about penguins and all of the words that go with penguins and using a word like referee, what does that mean? Our students need to say it, I need to say it, give a definition, give examples, see pictures. That needs to be a part of our conversation.

Everything that we're doing as we're developing this background knowledge and adding words, but language and conversations need to be part of everything that's going on in our classrooms. Fostering word consciousness, of course, is one of the pieces. I have to be excited about language with my own students in order for them to be excited about language. Looking at words, wanting to learn new words, making

connections from one word to the next.

And so our researchers have told us, as they've looked at what is it -- what do we need to know about words? How many do we need to know? Lots of words? A breadth of knowledge? Or do we need to just know words in depth? And as it says here from the study, breadth is most highly related to performance on comprehension measures. So the more words I know, the better. But there's an overlapping between that breadth and that depth.

So what we need to have, a large number of words that we know and recognize. And the more words that I recognize, not just decoding, but I actually can attach meaning to, the greater chance I have at being able to comprehend a wider variety of text.

And -- but at the same time, how do I develop depth of word knowledge? What does depth of word knowledge mean? And what are some things that I can do to connect that? One of the things that, well, several of our researchers have done in our studies -- in the studies is look at that breadth of -- or depth of word knowledge, and one is multiple meanings. What are multiple meanings? How do I teach multiple meanings? What do we know about words?

And I have a few exercises for you all to do, so I'm going to have to say if you don't know the person next to you, behind you, in front of you, you need to get to know them and find a partner, someone to talk to. Because this is going to, as we have vocabulary development and language development which all builds onto morphology, it requires some interaction. So find somebody near you and identify them to talk with.

Okay. So as you -- I'm glad you guys are so verbal and friendly. That's awesome. But figure out somebody that needs to be, I could say macaroni and the other one cheese, but you could just be one and two if you'd like. So figure out who is going to be partner one or partner two, or whatever you would like to label yourselves. And salt and pepper. Chips and dip. All right. So the -- here's what I'd like for you to do. So we're talking about multiple meanings. The first word is tip. With your partner, now both of you together, see how many meanings you could come up with for tip. Go. You might keep track.

So how many of you all came up with five? Six? Seven? Seven? Awesome. All right, let's look -- let's see if you guys -- so tip being the top, right? A point. Advice, a suggestion, or hint. Money for a waiter or waitress, yes? Or to leave a tip. So a tip or to leave a tip. Yeah, a little different. Yes, a verb too, to overturn, to tip over. But to tip could also mean to tilt, to not go all the way over.

You know, when you think about meanings of words, these small words, and these little -- the nuances and the way that they're used in text and how confusing they can be for our children. And that depth of word knowledge, it makes a difference in understanding words and word meanings. Tip, to strike lightly, to tip the

ball. All right, yeah? And then to raise your hat, to tip your hat. Yeah.

I was reading a book recently and it described in the -- it was describing this house and it said the house was on a slip of land. And I thought that's an interesting use of the word slip and how many different meanings slip has. And would my students get -- would they lose the meaning of that word slip because it says a slip of land? That's not a common way that you hear that word used, but our words are short, common, everyday words, which are Anglo-Saxon. We'll talk about in just a little bit. But they're the ones that have the most meanings. They have -- because they've been around for so long, there are multiple meanings for our most common words in our everyday language.

So if you think about a word, the word run, how many different meanings could you come up with for the word run or up? There's lots of fun activities to do with these words and pictures that you could come up with for your English language learners to help them really understand the different meanings of these words, seeing them used in different context. So developing depth of language has to do with that -- those multiple meanings.

Another way to develop language, of course, is that awareness of usage and the way that a word is used, the different parts of speech in which it's used. So here's another partner activity. You can do this one together. I'd like for you to think about the word, and I'd like for you to write five sentences with the word well. Use well as a noun, as a verb, as an adjective, an adverb, and an interjection. So go ahead, and come -- see if you can come up with five sentences where you've used well in a different form.

Okay. The music wand is not very loud today. I need a surface. Okay, I'd love to hear someone share your well as a noun.

AUDIENCE MEMBER: A wishing well.

MARY DAHLGREN: A wishing well, yes. I threw a penny in the wishing well. Very nice. How about as a verb? Was that a harder one?

AUDIENCE MEMBERS: Yes.

AUDIENCE MEMBER: I welled up with tears.

MARY DAHLGREN: I welled up with tears, yes. My eyes well with tears. How about an adjective? Now and I've discovered adjective and adverb, especially using the word well, it's a little tricky. Yeah, so adjective? Well as an adjective? Well-adjusted. Yeah, it depends on how you put it in a -- a well-adjusted student. A well baby care visit.

AUDIENCE MEMBER: Oh.

MARY DAHLGREN: Yes. How about as an adverb?

AUDIENCE MEMBER: I don't feel well.

MARY DAHLGREN: I don't feel well, describing how I'm feeling. As an adverb. And as -- and Anna? Anna. Anna, could you give us the interjection here?

ANNA: Well! [inaudible].

MARY DAHLGREN: She was so animated up here earlier. She's like interjection, it's like, well! I said, okay, you get to do that for us. So understanding a word and the part of speech, and especially our example of the verb here is a great example of where students get lost in language oftentimes. Assuming that a word can only be used as one part of speech, but it shifts. It can shift depending upon our language and word choices and syntax.

So here's one more, and looking at using the word light and idiomatic phrases, and what do these phrases actually mean? So look through these phrases and see if you can easily define -- what would you tell someone who was not familiar with these what each of these meant? Take a minute and look at those.

That's one that I find a lot of people [inaudible]. All right, let's -- let's try different surfaces with this thing. All right, let's see if you guys agree with me. We have to see the light of day, to understand. And that's a little odd when thinking about that. A lot of people struggle with that as an English language learner. It's not something that you would commonly think of, to bring light to, to disclose information. Shed light onto, to clarify, light in the head, to be dizzy, simple, foolish. Can have a variety of meanings. To light into, to attack. And to make light of, to treat as something as unimportant. And then to light out, to leave suddenly. Yes?

AUDIENCE MEMBER: How did you [inaudible] experiences? Like doesn't it change because we were just talking and he's like, I've never heard of light into, you know what I mean? Light into you is I'm going to hit you. [Inaudible].

MARY DAHLGREN: Well, and it's the same, I think, with anything in language, and your exposure to words and phrases. And I find as I travel that it depends on where you are in the United States. Different phrases are used, and people are much more familiar with some idiomatic phrases than with others.

And you know, I know my -- I'm from Oklahoma, but even going into Louisiana, they have some very interesting idiomatic phrases. And I'm thinking, what did you say? What are you talking about? And you all probably have some of those up here, and it's interesting. So definitely it's exposure and hearing them and realizing that there's much more behind the words. It's much deeper and understanding the depth of our language and how those words are put together in phrases. And it's not just the simple -- and when you think of the word light, just light itself. Light meaning not heavy. Do you mean light, turning on the light? Do you

mean light as in a shade of light blue versus dark blue? You know, the word light itself and all the multiple meanings that it can carry behind it. So the context in which the words are used. And thank you. That's a great question as we think about how do we develop this.

And so this is part of that depth of word knowledge. And so multiple meanings, the usage. And then there's the precision, word choices. And this is one of those pieces that I find is especially elusive for my students that I work with. Word choice. When I say, could you use a better word? You know, well, it was really cold out. Well, could you use a better word? It was really, really cold. Not what I was looking for, right?

So how do you help them develop those words and word choices? Well, exposure to a variety of words. And I have to give my students words. I have to feed them sometimes, but we have to talk about those words. And levels of intensity. When I talk about, and we're going to do this little exercise with grouping some words and words that might be -- describe a big problem versus words that describe a small problem.

So if you have a glitch, it's considered fairly minor. But if there's a catastrophe, much more intense. So word choices, having a variety of words in order to use them with precision and knowing the meaning and the intensity behind those words. So if I left my lunch on the bus, would that be a catastrophe or would it be a minor issue? Depends on what grade you're in and peer pressure and if you're on a special diet. Yes?

AUDIENCE MEMBER: I was wondering if other languages, other cultures, particularly the more common languages, do they have as many multiple meanings behind their words as English? Or do you not --

MARY DAHLGREN: Anna's up here nodding her head, saying yes, absolutely.

ANNA: Yes. Every language that is alive, with the exceptions of Latin, always adds to its repertoire as we move along, you know. Many of the technology words, for example, 50 years ago we didn't have. So those are the kinds of growth that you see in multiple meanings.

MARY DAHLGREN: Right. And kind of an interesting thing which we'll talk about in just a little bit in the number of words in the English language and how many words we have, there's upwards of 600,000 words in the English language, some words, many that we don't use any longer. But words that we're adding all the time to our English language for the very reason that you said, technology, changing things in the world as we're adding new words. But there are languages that don't want to add new words. French is very resistant. And they prefer to be pure, so their language has more like 125,000 words in it versus all the words that we're constantly adding to our language. So, but nuances and multiple meanings of words still exist, so it's kind of interesting to think about.

So precision. I have to tell you, honestly, I typically bring baggies with these words, and they didn't make it in the suitcase this -- for the travel this week. So I'm going to put these up. And I'd like for you to look

at these, and here's what I'd like for you to do. Think about these words, group them into three groups: small, medium, and large. So if you're thinking about a problem, what words would you use to describe small problems? Just a little sort for you to do. Medium-sized problems, kind of middle of the road. Which words would you reserve for very big problems? So take a minute and, again, discuss with your partner. How would you rate these words by intensity?

Okay, hopefully I gave you enough time to have the discussion. And I didn't get to walk around the room and eavesdrop on all your discussions, but the beauty of this exercise is, one, I'm exposing you to lots of words. My students -- these are not all going to be vocabulary words that we'll be using in our reading, but it's okay because I'm developing these cognitive pegs to add more information to, and thinking about words and word meanings. And it's generating conversation, and I want my students to have conversations. Some of my students, when I'm doing an activity like this, and I'm -- and they're working in small groups, they won't know what the word nuisance means. But typically, someone else in the group can explain that word meaning and help them to understand that and where would you place that.

So I'm interested to hear, what were some of the words that someone share with the group your small problem words? And I -- everybody does not agree and there's not a right or wrong, but somebody share with us? You? Okay, go ahead, you'll start and then we'll --

AUDIENCE MEMBER: Okay, we said, glitch, a glitch, blip, a hiccup, snag.

MARY DAHLGREN: And that's what you had as your small?

AUDIENCE MEMBER: [Inaudible].

MARY DAHLGREN: And hassle is kind of in between?

AUDIENCE MEMBER: Nuisance, trial.

MARY DAHLGREN: Nuisance. Trial? You put trial as a small? And what else? Hiccup. I mean, that's -- there's not -- I shouldn't have said that with such emotion. Trial? Really, you know, because it's so fascinating because truly it is on your personal experience how you describe how things have happened. If you've had major things happen in your life, issues in your life, many of the big words, very few actually fit into the large problem category if you've had major issues that you've had to overcome in life. It's just been my experience that I -- as I've worked with groups. So in the pink, would you please tell us what did you choose for your big words?

AUDIENCE MEMBER: Tribulation, catastrophe, disaster, tragedy, calamity. And then we had trial and breakdown in the middle leading the march.

MARY DAHLGREN: Yeah. And I always have people that have those kind of -- they were on the line between,

couldn't quite figure out where to put them. Breakdown is always a word that's good for discussion because some people say, well, breakdown, when my car breaks down, it's not that big of a deal, I can get it fixed. But if you have a nervous breakdown, that is a big deal and it is a very big problem. So it depends, again, on experience and how you talk about these words.

But if I am focusing on words like tragedy and calamity, but I bring in all of these other words, I'm able to add those words and awareness of meaning, word choice, precision, without having to teach all of these words for my vocabulary instruction. Yes?

ANNA: And also if you have students who speak any of the Romance languages, [inaudible] some of these words in everyday vocabulary or interaction. In Spanish and in most of the Romance languages, some of these words are very common words that are actually used on a daily basis.

MARY DAHLGREN: Are -- which ones of these are cognates?

ANNA: Like tragedy [inaudible].

MARY DAHLGREN: Which one? Tragedy?

ANNA: Tragedy, disaster, catastrophe, calamity.

MARY DAHLGREN: Are all cognates in -- so Anna's talking about the fact that in many of the Romance languages, the languages that are based in Latin, have the cognates that are English -- in their own language that we have in English. And I found, as I've done a little study, I wish I could say I spoke a second language, but I don't. But just looking at languages, oftentimes you have higher-level words that we don't always use. We have them in our language, but our students don't use them in their common everyday language. So that benefit of having language knowledge that you can bring in to support that, that we need to use that as a resource with our students and realizing that they can bring that in through their own language. So thank you.

And so we have one more thing to think about, the depth of oral language here. So our multiple meanings, the usage of words, the precision, word choice, and choosing the right word, and then finally the function of a word. And so, as I asked you a few minutes ago to with your partner figure out who would be number one and who would be number two, I would like for partner number one to turn to partner number two and tell them the meaning of the word if. You just changed your number, didn't you?

Okay, so did you find that a little bit of a challenge to describe -- to define the word if? So it sets up a conditional state. And the idea of defining a word, it's not necessarily as important as understanding the function of the word itself and being able to appreciate that. So as we're looking at language and depth of language, these different pieces of language and ways to introduce words, the conversation, the language that

develops around these words, giving students opportunities to talk, of course addressing speaking and listening standards in the common core, great opportunity to do that.

And one of the things that we know through our study of vocabulary and word knowledge is the fact that the dictionary, it has its great limitations. The dictionary does not help with the richness of language and the conversations that we've just had. And a definition, reading definition, does not really help us to use a word. And that's -- we need the multiple examples. We need examples in context.

So going to the dictionary as a backup to make sure that I am using a word correctly, understanding how a word -- what part of speech that word might be is to use the dictionary as a resource. And as it says, dictionary definitions can be truncated and incomplete. Our lexicographers, the people who write the dictionaries, Daniel Webster, had limited space in which they could record their dictionary definitions. So they had to abbreviate them.

And we find, to great frustration, that oftentimes the definitions don't necessarily help us to understand the word. Many times, we're finding that our dictionaries actually use the word in the definition, so therefore -- or words that I don't know what the words mean, so therefore I have to go look up those words. And by the time I do that, forget it, who wants to do that?

So to be able to define a word is an end result of knowing the word very well. So typically, when I say define a word, if I were to say the word vacation, what comes to mind when I say vacation? How many people say a beach, someplace warm? You wouldn't -- when I say think of a word, you attach all of this information to that word, but not necessary a dictionary definition. So knowing a word well, knowing how to use it, knowing how to describe it is not necessarily attached with that dictionary definition itself. So the power of these experiences and understanding language, using words in multiple contexts helps in developing word knowledge.

So the English language itself, as we've discovered, is deep. And thinking about that depth of language, we use the term it's morphophonemic. So morpho has to do with meaning, and phoneme has to do with sound. The English language is meaning based and sound based. And we call the orthography of the English language deep. For example, we have -- I have the word walked as the first example there. We say the word walked. We don't say walk-ed, as many of our students do. And why can't we just spell it wokt, as many of our students do in beginning spelling and writing? Why do we have to have that ed there?

And, in this case, the word walked, the ed says the t sound. Why do we need E-D? Because there's meaning. E-D tells me that it happened in the past. And I need that spelling to help me understand the meaning of the word. So it's our English language is sound based and it's meaning based. There's meanings attached to

these endings.

Resident and what about the word reside? What happens when I go from resident -- from reside to resident? The syllable stress changes, the vowel sound changes. Actually, the I in resident becomes a schwa sound. It's not a clear vowel sound, and it's an unaccented syllable, that second I. But do my students recognize that reside and resident are actually related? Understanding the relationships of words. And this is where we're going to get into a little bit more of this is understanding the relationships between words, seeing words.

What word is pleasant related to? Please. Pleasing. So do my students actually recognize these relationships? And so these word roots or meaningful parts, morphemes that are embedded within words as we change the spelling and the sounds -- or not even the spellings, the sounds. Medic, medicine, medicinal. Do your students recognize that medic is within medicine and medicinal? I've changed the sound. That C has gone from a hard C to a soft C because of the spelling and the environment in which that spelling exists, but the meaning of that word, it's still there.

And so often that's -- that is elusive for our students. Native, national, nativity. Those are all related. The N-A-T meaning to be born. And do I recognize that root? Am I aware of that? Am I teaching my students that the endings on words help determine the part of -- or they do determine the part of speech? And am I aware of the suffixes and how those suffixes have -- carry meaning and change that part of speech? So we'll look at a few of those things as we go through this in studying our language.

So morphology and a little appreciation here, breaking this down. Morphos, meaning the form or structure. So with our morpheme and eme, that little tiny word part, an element or a little piece. So a morpheme is a form or a little piece -- a little piece of form of the word or word structure. And so we have base words, base words where we add affixes, or a base word can stand alone. So for example, the word desk is a base word. I recognize desk. I don't have to add a prefix to it or a suffix to it in order for it to be a word that I recognize.

But we also have affixes which are -- affixes are prefixes and suffixes. They're added to a beginning of a word or the end of a word, and they can be added to a base word or even a root word. A prefix, obviously added to the beginning of a word, and that changes that meaning of that word. And a suffix is attached to the end of a word. We know these things. You all are familiar with these terms, but helping students to think about when we're talking about morphology, I need to begin to recognize these, that my words are made up of meaningful parts and the fact that we use these different forms.

So a root. What's a root word? What's the difference between a root and a base? Well, typically we say that a root word, it may be a base word or it may only be a word part that we recognize because we have to

add a prefix or a suffix to it. And if you have your handouts, you're going to see I have root words listed there. Latin word forms are -- which we consider root words. And for example, D-U-C as -- or D-U-C-T, meaning to lead. So if I produce, produce has that word -- that root D-U-C in there. If I educate, I lead out information. Educate has D-U-C, meaning to lead. And if -- let's see, produce, educate, and I could use product as the same -- a different -- it still has that same root in it.

Do we recognize those word parts within words? Do we make connections between words as we're thinking about meanings? And I think the example of produce and educate, the word -- the part seems so different. Is my attention even drawn to the fact that those have the same roots in those words? That's part of morphology and the study of meaning.

So a morpheme is a unit of meaning, such as a base word, prefix or suffix, root words. Morphemic boundaries affect the pronunciations sometimes of letter sequence. I should have the sometimes in there. Reach, the E-A has a long e sound in reach. But what about react? The E-A separated because of morphemic boundaries. The R-E in react is a prefix. So recognizing those things and how those pieces shift based on morphology.

So another piece, when adding suffixes to words, inflectional and derivational morphology. In the common core, teaching inflectional endings kindergarten and first grade. Getting into second grade, it is -- it says we begin teaching the derivational suffixes, so in second grade on up and that recognizing those. So what's the difference between the two?

The inflectional endings, they alter that grammatical function of a word, but it doesn't change the class of the word or the part of speech as it is. So we have the word played, the suffix being E-D. It changes the word from play, present tense, adding suffix E-D, to past tense. So the grammatical function, that tense has changed, but it still remains a verb. Inflectional endings.

Then we have the derivational endings, which actually now take that morpheme and they change it into a different -- they change the meaning and a different class of word, so a different part of speech when adding a morpheme. Or I'm sorry, adding a derivational suffix. So playful, now the F-U-L changes the word from a verb to an adjective. So that derivational suffix changes that part of speech. Display, the prefix alters the meaning, and it can be either a verb or a noun. In that case, I've added a suffix -- I mean a prefix there to that word.

But understand the differences between inflectional endings and derivational endings to help us have an awareness of words and why they change. Those endings a very important part of beginning reading instruction, a very important part of language. And we'll look at in a few minutes the number of prefixes, the

most common prefixes that we have in our language, when do our students learn those as we begin adding them to our words.

So here's one more little exercise to -- for you to do with a partner. I have these words on the slide. Let's see if it'll pop up there. I'd like for you to see how many -- count and see how many syllables are in each of these words. Autograph has already been done with -- for you. And then how many morphemes, how many meaningful parts do you think are in those words? If you have the handouts, you will -- you'll be able to find the prefixes, roots, and suffixes if you downloaded those, which may or may not help you in this case. So take a minute and see.

Oh, did I use some different ones? Oh, I sure did. Just one, yeah. I'll have to tell you. Okay, so I saw a lot of this, syllable counting, which was good to see. And my experience is is that we are usually better at counting syllables than we are at counting morphemes. So that's why it's a good thing to talk about morphemes. So let's see how you did.

Salamander, four syllables, but only one meaningful part. It is -- it's all by itself, it doesn't have different word parts. Deconstructionist, five syllables and five morphemes. Phonology, four syllables, two morphemes. Thunderstorm, three syllables, two morphemes. Supervisor, four, which I didn't separate out, sorry. And three morphemes. Are you surprised by some of those? Questions that -- or clarification? We'll come up to more of these. Yes?

AUDIENCE MEMBER: [inaudible] have to have meaning and sound?

MARY DAHLGREN: Well, the English language is meaning based and sound based, but meaningful parts. So the word cat is one meaningful part. It's one unit of meaning. Cat. Right? But when I say cats, I have two meaningful parts now because I have cat and then suffix S that means more than one. So S is a morpheme in that case.

AUDIENCE MEMBER: So if I was going to do like more -- because I've taught this program. I won't say the program's name, but I taught this program and it broke up words into word parts. But they didn't have like children saying meaningful word parts. So I'm trying to --

MARY DAHLGREN: So they maybe recognize words like deconstructionist, but they didn't ever talk about what those parts meant?

AUDIENCE MEMBER: Eventually. [Inaudible] and then they revisited and did themes. I was just wondering because salamander kind of --

MARY DAHLGREN: Threw you off?

AUDIENCE MEMBER: Yeah, a little bit.

MARY DAHLGREN: Yeah, that's why I threw it in there. Because salamander's like -- oh, you got to have a trick one in there, right? Because you're thinking, oh, E-R, I know that has meaning, but not in the word salamander. So yeah, if you downloaded the handouts, I actually had the word elephant on there. So elephant is also a single morpheme. It doesn't have, yeah, other meaningful parts. So hopefully this is getting you thinking about language.

And I want to share with you just a couple of other things, then we'll take a quick break and come back -- come back to this. But as I said, suffixes and recognizing these suffixes and morphology and syntax that the suffix determines the part of speech. This is a very important part of instruction and something that's often glossed over, never mentioned, but a really important part in how do I use the word. And that suffixes as recognizing that part of speech and the meaning that's carried in that suffix. A couple of things, understanding, recognizing the morphological units within words.

Most of our Latin words are based in prefixes, roots, and suffixes. And as you're going to see, after we take a break, we'll do a little bit of the history of the English language, 60% of our language is based in Latin, which has these words with prefixes, roots, and suffixes in them. The idea, here's a nice study that was done on over 200 students that were followed first grade through sixth grade. And as they did this study, they realized that phonological awareness and orthographic awareness, so the awareness of speech sounds and awareness of print grow significantly until third grade, and then that slows down.

And that holds true on those first couple of slides that I showed you, when you saw the bar graph and how I'm relying upon my decoding skills so much in early reading. That as I learn that and it becomes automatic, that starts to fall off and my focus moves into comprehension and vocabulary. Morphological awareness grows rapidly from first through third grade, but it continues to grow through sixth grade.

And the study ended at sixth grade. I would guess that morphological awareness continues to grow throughout our lives because I'm constantly learning words, words I know. But as I'm looking at words, I have a deeper understanding of words the more that I study words. And the fact that morphological awareness influences vocabulary knowledge, semantic differences, and comprehension. So the study of morphology, it's really that higher level of -- it's beyond phonics study into word meaning study, but they both connect. And it is a higher level word study of developing that vocabulary.

Examples of morphological awareness. And again, these are easier word parts, I think, to see within words than maybe reside and residents, but science, scientist, scientific, how do those word parts -- how do those parts of speech change based on the suffixes that I've added? What do I know about those meaningful

parts? Those are the types of study that we need to get into with our students, third grade and beyond, and bringing that awareness into our classrooms.

So word study at the morphemic level, students who are aware of morphemes are better readers. Makes sense. It's not just that I can decode the words, but I can think more deeply about the meaning of the words if I have this morphological awareness and this word consciousness that talked about earlier, as that's being drawn to -- as my attention's being drawn to that.

Knowing common morphemes helps me in decoding words. So I can use it as kind of a backward way of decoding if I'm encountering words that I don't know. And typically when you're encountering multi-syllabic words in new content areas, you're going to encounter words that maybe you haven't seen before, but because you know meaningful parts, you can chunk that word and get to the meaning of that word more easily. And we know that three quarters of compounded words and affixed words can be deciphered morphemically. So again, the more I know about language and the word parts, the easier it is for me to use those word attack skills.

And in studies that have been done looking at reading comprehension, our vocabulary accounts for 50 to 60% of the variance in reading comprehension. And remember my opening slide, you need to know and understand 95% of the words in order to have good comprehension. So all of this builds into that vocabulary study and that side of language, but it also helps with my decoding skills. So it's a nice way to look into the study itself.

How about we take a break for about ten minutes? Would that be good? Take a quick stretch break, and then we'll come back and we'll talk about the layers of the English language and where the origins of our language came from and do a couple of activities from -- I have a seventh-grade science text that we'll look at some words and how to decode and teach some of those things. Okay? So ten-minute break.

SPEAKER: Neglected to mention or to remind everybody at the beginning that we're being recorded, Nancy -- Mary is being recorded. I did it again. I just came up here, apologize again. Mary is being recorded, so when she pulls us back from activities, please try and stop right away and then keep any sidebar conversation throughout, as she starts talking, down because that will make the recording less audible. And the recording will be available on the PaTTAN website then.

MARY DAHLGREN: Thank you. Okay, all right. So let's -- we're going to go into my favorite portion of this, the layers of the English language, the history of the language, which I think is so fascinating. And it really gives insight into understanding why we have so many different spellings, where our words came from. And as we look at these layers of the language, you're going to see three periods that correspond to these major

developments in our language and four different languages that influenced our English as we know it today.

So the first is the Old English, and we had the -- what is now known as Germany, the Angles, the Saxons, the Jutes, and even the Frisians that came over and invaded England. And with them, they brought their language. And when you look at this list of words that are here on the slide, you'll notice that these are words that are common, everyday words. The Anglo-Saxons were known for labeling their environment. So the sky, the moon, the earth, their animals. They had farm animals, cows and sheep, horse. The family member, their body parts, their outer body parts. Very simplistic terms. And they were hunters and fishermen. They lived, of course, on the ocean, so they also had the names of sea life as we know them and our most common words today.

And you'll see things like this in our Anglo-Saxon words. They are still a large portion of our words that are used in our everyday conversation, one-syllable words. Our prepositions, articles, conjunctions come from the Anglo-Saxon language. The digraphs in our language, which are -- and the most common pronunciations of those digraphs come from the Anglo-Saxons. So a digraph, two letters that come together to make one sound, which are different from blends. Blends represent -- they're individual speech sounds.

And then we have our vowel teams and vowel R, r-controlled vowels, those are from the Anglo-Saxon language. And compound words. So the Anglo-Saxons didn't necessarily use prefixes, roots, and suffixes. They would take two words and stick them together. So I see a shell, it's near the sea, let's call it a seashell. There's a bird, it's black. We'll call it a blackbird. So not a lot of prefixes, roots, and suffixes. Not real sophisticated language. Word parts that are still very much a part of our language today, but not the higher-level academic language.

And then we have, of course, the silent letters. And you have to remember, in Anglo-Saxon and if you were to listen to a recording of Beowulf, you would hear these letters pronounced. And you probably wouldn't recognize the language as it was pronounced in Old English, but we have many of the spellings that still exist today. And it's kind of interesting that I-G-H spelling and a lot of the G-H spellings, very guttural sounds, you have to remember the Anglo-Saxons were from Germany. So they had these guttural pronunciations in their words. We don't still pronounce those letters, but they exist to help us remember the origins of our words. So *nicht* might have been *night*, and I can't even begin to develop that guttural sound from the Germans as opposed -- and *knee*, of course, that pronunciation of those words.

We had -- so we had the Anglo-Saxon period, and then we have the Norman French. And is what happened at this period, William the Conqueror in 1066 invaded England. And with that, he brought the French language. And you'll see the words that are listed on this slide. Many of the words from the French language have to do with food. And they also have to do with words that we consider to be more of the upper-class

words. They're not necessarily higher academic level words, but words that have to do with class. And we'll look at some examples of those.

So he invades England from the French-speaking Normandy because there are different dialects of the French language, but it's the Normandy French that really came into the English language. They ruled for over 200 years. And as I said, the language was known as the language of the upper class. These are some of the words that you see that still exist in our English language today.

And there's some odd vowel spellings that come from the French language. One that fascinates me, the word parliament that the British parliament still exists, that even after -- that's a word that the French would have brought in, and they still continue to use that word. I just I think it's fascinating that they would do that.

But you'll also -- one of the things to remember is that the peasants continued to speak Old English. So while the French were the ruling upper class, the peasants were the ones who maintained and -- that base of the language. And so French words were added to the Old English language and they began to become a part of the English language.

Here are some things to know about the French words. They are based in Latin, but they have their own spellings and spelling structure. They have things like that final e that's pronounced as the long a. Actually, they have several things that have that long a, so fiance and saute. The E-T that also says the long a, as in ballet, croquet, gourmet. That E-T says the a. So why do we have that E-T spelling in the English language? Because it came from French. You know, it came from the French language and that's -- this is what we've done with our words.

The G-E that says that juh sound, and a lot of people are confused by this juh sound in the language. We have the genre, and oftentimes I'll encounter teachers they're not exactly sure how to say that word. And it is the juh sound because that sound came from French. We don't actually have a spelling for Z-H in the English language, but that speech sounds exist in the English language because of words that we brought in from the French language.

You also see that juh sound in a word like leisure, measure, as the -- and it exist in -- at the end of a word as in barrage, the beginning of a word, genre, and then middle of a word, lingerie. So remembering these are words that we tend to associate with class, not necessarily with higher academic language.

Let me ask you this. We have the word beige, which is French. What would be the Anglo-Saxon word? Would Anglo-Saxon choose a word like beige? Tan or brown. Very basic, the primary colors, basic language. Then our language, chartreuse, magenta, those are not going to be Anglo-Saxon words. Those are words that we brought in from other languages.

And we also have the C-H that says the shh sound. Anglo-Saxon, the C-H says the ch sound as in chin and chair and church, but the French language, a word like charade and chic, so words that have that shh sound spelled with C-H we know have probably come to us through the French language. And again, words like chandelier, champagne, chauffeur, words that have to do with class rather than words of academics that we think of.

The Q-U-E, this really odd spelling that throws our children for a loop oftentimes. Why do we have that odd spelling? It's because it came -- those are words that came from the French language. And then the E-A-U that says that oh. Again, if you're from Louisiana, you're going to see lots of words with the E-A-U, lots of names that have that E-A-U spelling in them. So, and I also remind people, you know, we like to use that French pronunciation when sayings word like we go shopping at Target, right? It's a word of class, so it sounds a little -- or Jacque Penney instead of J.C. Penney. So it's we tend to throw those French pronunciations in because they just sound a little more interesting and a little ritzier when we do that.

So we have this next time period, which is modern and contemporary English, 1500 to the present time. And the Old English and the French layers have begun to merge. The printing press, as -- which has really standardized the English spellings in 1500 thanks to Gutenberg, and the Renaissance also brings a number of words together in our language, especially from the Latin layer and the Greek layer.

We -- you'll also see we have the influence from other languages in the English language, but the Latin and the Greek layer are the next two languages that come in this third time period of the language development in the English language.

So Latin words, of course the church, language from the church. Language having to do with academics and engineering are words that are brought into the English language. And of course, the Renaissance time period was a time of growth and learning, the rebirth, changing of things. And here's what we know about Latin words. And I mentioned this earlier as we were looking at some of these morphemes, prefixes must come before the root, and of course suffixes must follow the root. Latin roots are -- 60% of our language is actually based around -- probably more accurately 55%, but Latin roots are unlikely to stand alone in English language.

And you'll notice these roots here, many of the Latin roots have that C-T ending or P-T. Recognizing those roots. And if you didn't get a chance to download the handouts, I have in the handouts when you look at them online, I have a number of Latin roots listed. See what page is that one? On page nine, of Latin roots and Greek combined forms. There's prefixes and suffixes also. I've listed the part of speech. But as a little resource to go to. There's a number of great places to go on the Internet that you can find those Latin roots and looking at words that are developed from those.

But many of our roots are closed syllables, so they have a short vowel sound in those roots. And the Latin root receives the accent, or the stress, when we're pronouncing that word. So we don't say, E-ject. We would say e-JECT. The emphasis is on the Latin root when we're saying that word. Con-tra-DIC-tion.

And the interesting thing, the schwa sound, this elusive schwa, has to do with an unaccented syllable. So thanks to Latin roots, the Latin root is accented, the unaccented syllable has that schwa sound in it. So a word like adapt, and we know words that begin with that A often have the uh sound at the beginning. And so this -- that's one of the influences of where we developed that -- or that schwa sound comes from and where it exists.

Then this fourth layer of language. So still within that Renaissance time period, but the fourth language, the fourth layer is the Greek layer. It's the -- as it says, when the Romans didn't have a word, they borrowed it from the Greeks. And if you're spelling in a spelling bee, you know these types of things because kids in spelling bees always ask, what's the origin of the word? Is it Greek? Is it Latin? Is it Native American? It makes a difference in the spellings, the pronunciation. Is it French?

So content words that come from Greek, and you'll look at these words and what do you notice about these words? A little bit longer and some different spellings that exist in those words. They're a little more complex. Lots of medical terms, scientific terms, but also the theater and the arts because you have to remember the theater and the arts that came through the Greeks and the mythology and those types of things.

So here's what we know about the Greek words, the origins of words. The C-H that says that k sound. Teacher, why does school have a C-H in it? Because it's Greek in origin. And you know, why can't we just spell school with a k? Because we don't -- it's Greek. It's not the Anglo-Saxon spelling.

So some examples of that. The P-S as in pseudonym, psychology, and psalm, that's Greek in origin. And the P-H. Why do we have this funny P-H spelling that shows up in some of our words? Well, the P-H is Greek in origin. So the more you know about the origin of the language, the easier it is to explain to your students why we have these odd spellings or even maybe these pronunciations. It really helps to make a little more sense of the language. It didn't just come from one piece, but it came from multiple pieces, especially these four different languages that has built our language.

The T-H. In the English language, T-H has two sounds. It has the voiced sound as in the and these, those. But you'll notice in these words, theology, theater, thesis, this is the unvoiced T-H. So words that happen to be content words, higher-level words, tend to be the unvoiced T-H. These are words that come from the Greek language, oftentimes. That's not to say -- we do have some Anglo-Saxon words that have the unvoiced T-H, but the Greek words you will find the unvoiced T-H that really are the higher-level academic content words.

So a little bit to support that unvoiced T-H.

And then, of course, Y in the middle of a word. And this is something that I find is frequently confusing for teacher is that Y, anytime Y is in the middle or at the end of the word, almost always it's a vowel sound, which is the short i or the long i sound. Y at the beginning of a word is always a consonant, as in yellow and yack, yo-yo. But occasionally, Y will exist in the middle of a word, at the beginning of a syllable, as in a word like canyon or beyond. In that case, at the beginning of a syllable, Y will be a consonant.

But any other time, Y is a vowel sound. And when I see Y in the middle of a word, as in symphony, typhoid, rhythm, I have a word like hydrant, gymnasium, those are words that are Greek in origin. And that medial Y tells me that it's probably Greek in origin. So that's another clue to language and understanding why we have those Y's that show up in the middle of the word.

And then, thanks to the Greeks, we have this -- the X that says that ss sound, but they also use the X for the zz sound. So just a little bit of confusion to be added there to the language and recognizing that ss and zz sound for the X.

This one. This is one of those kickers for kids. Once you teach them that silent E on the end of a word, and then they read these words and they say, epitom and hyperbol. It's not epitom and hyperbol. It's epitome and hyperbole. Psyche, why am I saying the end of -- why am I saying the E? Well, Nike is -- it comes from Greek mythology. Why isn't it Nike? It's because it's Greek in origin, so oftentimes words that have the E on the end in Greek, the E is pronounced. You actually say the name of the letter and the long final e sound.

One more thing, also, insight from the language, typically when we see two vowels together, we know that that's a vowel team. But in the Greek language, they have the vowel split. So the example of a word like chaos. Words -- more common words like poem, duet, lion, diet. Those are words where the vowels split apart. They're not a vowel team. Why is that? They're Greek in origin.

So the more you know about language, the layer of language of and the study of language, the easier it is to make sense of the language. And really, it gives you insight into those words. And one program I will say is -- I find is outstanding is Vocabulary through Morphemes. I don't know if you all are familiar with that. I know Susan Ebbers has spoken at this conference before, but Vocabulary through Morphemes is an awesome resource for teaching these types of things embedded within a curriculum in a meaningful way. It's fun, it's interactive, and everyone -- it's really, at the very lowest, fourth-grade, fifth- through eighth-grade instruction and very nicely structured to teach these types of things.

So the layers of our language, I don't know if you can see that 25% over there, 25% of our words are actually based in Anglo-Saxon language. So our Dolch common, everyday words, our numbers one through 100,

our basic color words, those are the Anglo-Saxon words. These are the most -- most often our irregular words. What, does, of, those words that are difficult for our kids to spell, they're Anglo-Saxon words. And they're the words that we use over and over again, and it's the -- they're the first words that we ever learn when we speak.

The Latin and French, the French influence comes in here and that's where that 60% comes from, the layer of the language of education. These are more academic words. And have you guys studied Isabel Beck's language tier one, tier two, and tier three words? So this is a great way to look at that. If you're thinking of tier one words, they're Anglo-Saxon. Tier two are the Latin and French. Tier three that happen to be content areas, very specific words are the Greek words, 10% of our language is made up of that. I say that because I don't want to confuse tiers that Isabel Beck uses with tiers of intervention. Sometimes they're easily confused.

You'll notice there's -- that still doesn't add up to 100% quite. We add in words from other languages. About 5% of the words in our English language actually come from other languages. And we -- you name a language, we probably have a word in the English language from that language. So Sanskrit, a word from Sanskrit is shampoo, actually, a word that we've had in our language for a long, long time, but we're constantly adding new words into our language and borrowing from other languages as we do that.

So here's kind of a nice visual of those historical layers of English and the morphemic structures of those words. So in the Anglo-Saxon language, they're typically taught in first through third grade, those -- that structure. That's also where you're going to teach the six syllable types because, as we said, closed syllables, open syllables, vowel team, vowel r, those are all part of the Anglo-Saxon language.

Let me emphasize that, even though we say those are taught in grades one through three, if your kid haven't learned it, when you're a fifth-grade teacher, you still have to teach that, so it's often like Swiss cheese for many of our students. Just because they're in fifth grade doesn't mean we skip over that if they haven't learned it. We have to go back in fill it in. That's the hardest part of our jobs and what we're doing.

The Latin and French language layers of the language brought in in fourth grade, prefixes, roots, suffixes. Again, as I am studying the common core and helping states to roll out the common core, derivational suffixes are introduced in second grade, and that awareness of what those are and adding -- how they change the parts of speech and those meanings. That's even being pushed down further than the fourth grade.

And of course, the Greek layer, the combining forms of words, are like phonology. Those are -- that's a - - those are Greek words or word parts. And Greek words are kind of interesting. They're combining forms. They're almost like compound words. They're different word parts that are put together, so it's interesting as you study the language and looking at the different layers.

A couple of things to know about our prefixes and this is -- was a study that was done as we -- as they

looked at the most common prefixes in the English language. You'll notice the first three make up a large percentage of prefixes that are prefix words in our language. Now when do your kids learn the meaning of un? Just in spoken language. When do they learn un? As babies, as babies. They do. As small, very small children, when they hear mom say, I am unhappy, they know what un means. It's true.

So they learn the -- they develop an awareness, but do we explicitly teach that's a prefix? And this prefix means not. This is something that we've been a little remiss in doing. We haven't been guided to do this necessarily, but it's a very important part of language development as we -- as I said earlier, going from the phonological to the orthographic to morphology. And that morphological awareness, that's where we're going to get the most bang for our buck. And the sooner we can introduce that -- these meaningful parts, the more rapidly our students will develop not just decoding skills, but that vocabulary and those comprehension skills.

One of the things I want to point out is the prefix in, which can mean in or not, but in this case, when it's spelled with these different variations, we call them chameleon prefixes. The prefix changes, the meanings still exist. So as in immaterial. We don't inmaterial. We say immaterial, and that prefix changes depending upon the word that it's added to so that it's easier to say. And we don't say improper, we say improper. And I say improper because when I say the puh sound, my lips are together, so it's easier to say im with my lips together than in with my tongue behind my teeth. And that's -- it has to do with speech sounds and with meaning as we're recognizing these chameleon prefixes.

But I find that's very helpful for our students to recognize, for teachers to recognize. And again, in the handouts I think I've included a list of common chameleon prefixes, C-O-N, C-O-R, C-O-L. That's all the same prefix, but oftentimes we don't recognize that as a prefix when it changes a form. So drawing your students' attention to that, it just helps unlock that many more words as you have that awareness.

There's a -- here's a list, and this is also in the handouts of common Latin roots and their meanings. I talked about the root D-U-C meaning to lead, as in produce and educate and how they -- recognizing, beginning to recognize these roots, knowing the meanings of these roots really helps to unlock those meanings of those words.

And then we have Greek combining forms. The most common Greek combining forms, of course, is we say ology, the study of. And graph is the other Greek combining form that's one of our most common Greek combining forms that we see in the English language. So knowing the meanings of these, recognizing these forms, also helps with unlocking the words.

So knowing that, I have this little exercise that, if you're familiar with Marcia Henry's work, Marcia Henry created -- shared this on a blog, Vocabulogic blog, one time. And another resource -- I don't have a

marker board to write these things down, another resource is realspelling.com. You will find a number of these, they're called word nets. But the beauty of this word net is that it takes your Latin root, and of course we have the meaning of the word struct here, but it helps you to, as my students, to build words going across from left to right.

And you'll see the words in the first column here in these boxes, we have to have those before these prefixes in order to build the words. But another little quick activity for you to do, I'd like for you to see -- I'm just going to give you about one minute. If you look at this going from left to right, how many words could you possible build with the root struct? You might not have time to write them down but just thinking about how many words. Just take a minute and brainstorm. I can do reconstruct, reconstructed, reconstructing, reconstruction. As I'm adding prefixes to roots, continue -- so just quickly see how many you can make.

Realspelling.com, and there's lots of videos on YouTube that also have some of these nets. Yeah, yeah. They didn't, they didn't. And I actually have had -- those are on my website. Yeah, I put them on my website because people always go, how do I get that? I need to say that, yes. I know, I know it, yeah. Well, not the whole thing, but you know, the layers of language that I just went through? All of that is on my website. Yeah, you can go download that information. Yeah, because so many people say, how do I get that?

So ladies and gentlemen, did you -- are you discovering you could make many, many different words just using this one root? And the beauty of the word net is, as they called it, it helps you realize how many words exist that might have one single root, but often our attention is not drawn to that, that realization.

One of the biggest challenges I find is to actually create other nets like this. And in my experience, it has been if I brainstorm as many words as I can with one root, like if I use the word port, report, export, import, it's easier if I brainstorm the words and then I create the net than trying to create the net before with just the roots. So there's just a tip for you.

Also, on my handouts, at the bottom of my handouts, it says -- it has my website, tools4reading.com. When you go to the website, you can download -- I have all the information about the history of the English language that I just went through, the three time periods and the four layers. That's all on my website. So you can just download that there if you'd like to have those as a resource. I know, [inaudible] you went through that so quickly and I can't get all the notes, so it's a resource that you can go to there.

All right. So I'm going to -- we just kind of talked about that. Let's pull all this together because we're coming to the end of our time. And an example from a -- this is a seventh-grade science text. And I know you can't see the text itself, but I pulled several words from this text to look at that have prefixes, roots, and suffixes, and thinking about how to generate my students' awareness of these words.

These are some of the activities that you could do prior to reading the text. And I find this is one of the great challenges for my content area teachers and even in literature class. You know, who do I -- what do I do to generate this awareness? Well, the first five minutes of class, I can do a warm-up activity to help draw my students' attention to these -- to morphemes and to words, building word knowledge.

So these are words, compress, pressure, expansion, ignite, protective, convincingly, that are all in the text itself. And we'll look at a couple of activities that can be done to help heighten their awareness of these words. So one activity, this is from Ginger Berninger and Beverly Wolf, the -- are compress and pressure related? Yes or no? Think they're related? Thumbs up if they're related. Yes? I agree. Expansion and pan. You think those are related? See some heads shaking. No, I don't think those two are related. Pan is in expansion, the word itself, but the meaningful part that is not -- I don't think there's a relationship between those two. Convincingly and convince? Yes. Protect and expect? No. A little tricky. And kids that -- they look, they kind of look alike when I say them, but they don't actually -- they're not related. Ignite, ignition? Yes, they do.

All right, so what's the root word in these, in compress? What's the root word? Press. Pressure. Press. How about expansion? Expand. Ignite? It's probably ignite. I mean, there's that -- I'm going to show you actually a Latin word part, but we'd recognize it as ignite. Protective? Protect. Convincingly? Convince.

So just getting kids to recognize those forms of words. Vocabulary webs are another way to draw out word, help kids to recognize words. And of course, commonly used. Neuhaus Education Center, which is listed down here on the bottom slide, is another great resource for vocabulary and comprehension instruction. Suzanne Carreker has done -- she's probably been here too to speak, but Suzanne has created some webs. These are common webs though that are seen in many of our programs.

Here we're using the word ignite from the science text, recognizing that it's a verb. So the word, the part of speech, and in the center of the circle, we actually have identified that ignis is Latin in origin and it means to set on fire. So talking about word origins when introducing words, the meanings of words, synonyms and antonyms are ways that we know good instructional tools tell us -- or instruction tells us that if I can think of a word that's similar and a word that's opposite, it really helps me to hold onto that meaning of that word. So combustible and flammable, words that relate to ignite. And antonyms might be fireproof or noncombustible.

And then, because this is a verb, we have listed down here adverbs. If it was a noun, we would have adjectives listed here. So what goes in the bottom circle shifts depending upon the part of speech that we're actually looking at. So an adverb, ignite, it might be -- intensely might be a good word to describe that. Or easily. So helping kids, because if I have words that I -- adverbs, I can put those into context. And can I use that word in a sentence? Can I use it correctly in a sentence? The parts of speech help to support that.

Fire cracks -- the firecrackers easily ignited when sparks from the fire blew into the bag. Sorry you can't see the rest of that. So we put that into context. Another one is using the word compress, and it's a verb. This one, com, the prefix, meaning together, press, to press. I love -- this is one of my favorite webs to use because here we actually take the prefix com and I ask students to generate what other words can you think of that have com in them? And they will generate a number of words. I put several, compound, communicate, compact.

It's amazing how quickly they start bouncing off one another. Oftentimes, they'll name words that are not correct, and we have to step back and say, let's think about that. Write it down, look at it, but it helps them to realize, I do have words that I'm aware of, and it's that word consciousness. We also have press. And I would ask them, generate as many words as you can with the root press in it. And again, it's fun to see what they come up with.

I want to skip down to another part because I know we're running out of time here. The words. So developing automaticity. Prior to reading, I've introduced words, we've talked about words, we've talked about word meaning, and I apologize for the way I bounced around on my slide here. But in this case, I'm just having students rapidly read these words because we're going to read them in a connected text in a few minutes and I want -- I don't want them stopping and stumbling over these words because it's going to interfere with the meaning. Because it's science, I need them to think about what we're reading, not spending a lot of energy decoding their words.

So as a quick warm-up, we're going to read the words. I'm going to put them in phrases. These are phrases that are right there in the text. Give them a little bit of practice reading the phrases before we actually move into the text itself. And then, of course, the questioning that follows up that text as we're providing that support and going through and reading the text. So remembering, as I started off with, that research indicates that reading with comprehension depends on understanding at least 95% of the words in text. What do we need to know and be able to do to support our students so that they can access 95% of those words for understanding?

So thank you guys for being great participants. You can contact me at Tools 4 Reading, mary@tools4reading. And as I said, the website has a lot of this information on there. And your website has all the handouts. So thank you.