Rebecca Abbott (00:00):

So it's not like you have to teach language arts or literacy in a separate block and then put all that language arts and literacy away, and now it's time for science. But really you can think about them merging together.

Eric Cross (00:25):

Welcome, everybody. This is Eric Cross with the Science Connections podcast, and today we have Rebecca Abbott from the Learning Design Group at UC Berkeley's Lawrence Hall of Science, otherwise known now for short as The Lawrence. Is that what you call it?

Rebecca Abbott (00:41):

That's right. We're calling it The Lawrence.

Eric Cross (00:42):

The Lawrence. I changed my school. I teach at Albert Einstein Academy. We just need to call it The Einstein. I like the name The Lawrence. Rebecca is a professional learning lead there. And is it fair to call you a literacy guru? I'm calling you that. Is that...?

Rebecca Abbott (00:57):

Sure. If I'm gonna be a guru of anything, I like the name Literacy Guru.

Eric Cross (01:02):

I am going to say that some of my colleagues would be proud—my professors, when I was in a credential program—because one of the things they taught me when I was getting my credential years ago is that we're all teachers of literacy. When I was getting my science credential. And that was ingrained in me back then. And so I know they'll be really excited to listen to this one. And so, Rebecca, welcome.

Rebecca Abbott (01:26):

Thank you. It's great to be here.

Eric Cross (01:28):

Can you tell us a little bit about yourself, your journey to the Lawrence Hall Science and becoming the professional learning lead and teaching teachers about literacy?

Rebecca Abbott (01:39):

Sure. Yeah. Happy to. So my background is that I taught elementary school. I always wanted to be a teacher. And I came to the San Francisco Bay Area and started teaching mostly third grade. And then I also taught—I was also an instructional coach. So I moved from being a classroom teacher for many, many years to working with teachers. And so that was one big leap where I...if you're a classroom teacher, you know that that there's a weird feeling you get if you're out of the classroom. Like everyone else is teaching, and I can walk around in the hallway during the day! But that was just an opportunity to work with teachers and see a wide variety of instructional practices and a wide variety of kids. And I just loved seeing teachers' growth over time. And so that was my first step towards professional learning, where I would work with teachers individually and coach and that kind of thing. But my focus was really in ELA and in reading. And I was early reading intervention instructional specialist and a multilingual learner specialist. And so all of that led me towards professional learning, as I mentioned, and in particular in the integration of science and literacy. And so my first introduction to the Lawrence Hall of Science was through a couple of workshops that I took that introduced P. David Pearson, who is the actual literacy guru of our project. And he was the Dean of the School of Education at UC Berkeley. And he collaborated with the former director of the Learning Design Group, named Jackie Barber. And so the two of them got together and had this question of what would it be like to infuse literacy in the service of science? And they created this project that did the research and got into the development of what that might look like in classrooms. And so I was introduced to the project through a workshop with David Pearson. And then, amazingly, they had a job posting for a professional learning lead, or at the time it was professional learning specialist, with this project, that merged exactly the kinds of things that I was looking to do.

Eric Cross (03:46):

And so now you're in this role where you went from being in the classroom to coaching and training teachers locally at your school, and then now you're doing it for Lawrence, across the nation, equipping teachers. So your impact on students has grown. When I became a teacher, I felt like the focus on literacy was something that I didn't see when I was in school. Learning about science, science and literacy, I think kind of extended to maybe like vocabulary words.

Rebecca Abbott (04:15):

Mm-hmm. <affirmative>.

Eric Cross (04:15):

That's what it felt like. I learned a bunch of vocabulary words. Especially in biology, there's like so much jargon I feel like you only say in biology. And we would get tests on them, and then we would go do the science kind of separately. And so can you talk more about the focus of on curriculum and research with literacy? Like you said, you said, in the service of science. Like this fuse-together that you have.

Rebecca Abbott (04:38):

Yeah, yeah, exactly. And that was the aim of the project. And the approach that the project and the program takes is figuring out where are those natural synergies, or the natural overlaps, of literacy and science. And it turns out that there are a million of them. That there's just a wealth of opportunities within science to do reading and writing and listening and speaking. And it turns out that in fact, half of actual working scientists' time is spent in the service of reading, writing, communicating with other scientists, making sense through their dialogue with their colleagues, and communicating their findings. So it followed that this most recent set of NGSS, the Next Generation Science Standards, incorporated that throughout. So the difference from between when we were going to school and what teachers are learning now and how kids are being taught, is that they infuse these literacy-rich practices throughout, NGSS. And it makes sense because it's an authentic way that scientists do science. So we want kids to have those same opportunities.

Eric Cross (05:40):

I don't know if this is...selfishly, but a science teacher, I feel like I would love to work with my team—and my team has been up for this, but it's just been kind of challenging lately—to do interdisciplinary work, or trans-disciplinary work, where my science would be the context that they would learn math and English through in their classes. Is that something that you've seen have benefit? Or that something that teachers do? 'Cause sometimes when I see them talk about or read certain books or things like that, I'm like, "Oh, we'll talk about what I'm talking about!" My students are doing labs that carry over. It seems to be something that helps students, when you kind of cross it across disciplines.

Rebecca Abbott (06:15):

Absolutely. And I think when we think about it in those terms, in terms of just supporting students across disciplines, we can really look to those types of practices. NGSS calls them practices; the math Common Core calls them practices. And then the ELA standards don't actually have practices, but there are researchers who have come up with, well, if they could distill the practices from the ELA standards, what are they? And if you just Google "Venn diagram practices," you'll see that there are overlaps. And there are convergences. And focusing on those convergences is a great way to support students across disciplines. It's just interesting, 'cause the way we're taught as teachers in our teacher education programs, the way that especially middle school and up is set up, is that we have these siloed programs. But kids don't think in silos: Kids think across content areas. So practices is a great way to start to work and see where you can find the overlaps and the convergences across all those subject areas.

Eric Cross (07:14):

So we have this Venn diagram. We have this overlap of practices. What are some ways that we can incorporate these best practices? So if I'm a new teacher and I'm driving, listening to this, what are some things that teachers could do to start incorporating best practices?

Rebecca Abbott (07:30):

Well, if we think about literacy across subject areas, some clear winners emerge. So we think about reading across subject areas. And we can think about, "Well, how do I read as a student or as a person to gather information about the world around me?" And the interesting thing is that you do that slightly different in math. You do that slightly different in science. And you might do it slightly different when you're reading a novel. So learning a little bit about those specific disciplinary ways of reading might be important. But regardless, you want to be reading closely. You wanna be reading actively. I think many of us have the experience—either our own reading or <laugh> when you're teaching kids—that you just sort of gloss through something that you're reading and you get to the end of a paragraph and realize you don't know what you just read. And so helping kids, being explicit about, "Well, when you're reading, you read actively. You come up with questions you wanna know about. You plan to ask someone else about the things that you're confused about. And so by reading actively and then having a discussion with someone afterwards, you're making sense of the article." And that's a middle school routine. But we can have a lot of parallels in elementary school, where either the teacher is reading out loud to the students and asking questions as they go, or the kids are reading in partners and talking to each other about the text and the pictures. We don't just assume kids know how to pick up a text and engage with it or get the information they need from it. So being an active reader, or reading closely, is one strategy that teachers can take away in that convergence area.

Eric Cross (09:03):

With like elementary school teachers especially, who are teaching kind of all content areas and with a limited amount of time, and now with a limited amount of teachers in the classroom, how do we address those aspects of reading and instruction in a shorter period of time? Like, how can they develop those skills or fit them in? Or another way of looking at it is if we were to maybe focus on a couple key areas or critical areas that a teacher can go and do tomorrow, that would help build these literacy skills, what could they do?

Rebecca Abbott (09:39):

<laugh> I would say if they had limited time, you might be looking for efficiencies. And so one efficiency is that the science is a super-motivating context. And I think you mentioned that a few minutes ago. You want just to take this context and teach everything within it. Like, start from science and teach from there, right? So if you find that there's subjects that the kids are excited about, you know—like, you know, second graders got excited about animals or, you know, kindergartners got excited about pinball, you know, these are the contexts that our science curriculum can offer us. And then they can investigate these concepts and these ideas, and again, the reading and the writing and the talking in service of science not only gives them those skills and the practice engaging with language and constructing explanations, and you can use all those to teach the language and literacy in this really motivating context. So it's not like you have to teach language arts or literacy in a separate block and then put all that language arts and literacy away. and now it's time for science. But really you can think about them merging together.

Eric Cross (10:51):

So it sounds very kind of cyclical, or very fluid, as opposed to, like you said before, siloed. Which is how many classrooms and education kind of is: Like, this is science; this is math; this is history; this is English. But life is not like that. And careers aren't like that. They cross back and forth and—

Rebecca Abbott (11:10):

And elementary teachers in particular have a little more flexibility in their school day because they have the students all day. They may be beholden to a particular curriculum, so they don't feel like they have the...I don't know, the permission <laugh> to be able to do that. 'Cause they're supposed to teach language arts in a certain time with a certain curriculum. Or they're supposed to teach a certain number of minutes of another subject area. So the challenge really is on a systems level. There are things that elementary teachers can do in order to capitalize on where those overlaps are. But it also might be speaking up and talking to administrators or talking with one another about what they can do, system-wide, to help break down some of those silos.

Eric Cross (11:56):

As I'm listening, I'm thinking about the word "literacy." And I feel like it's one of those words that you can ask 10 people and they can say 10 different things about what literacy is. And I feel like we need to talk; we need to address that <laugh>. When....what is literacy? As simple as it sounds, again, I feel like you can.... Literacy, I feel like in my science classroom when I was a kid, was vocabulary words. And it was vocabulary words in the beginning, and memorize, and then answer them, all 20 of them, on this little mini piece of paper. And, and that was it. But hearing you talk about it, literacy is so much more dynamic than that, it sounds like. Can you kind of maybe unpack that? What does literacy actually mean to a literacy leader?

Rebecca Abbott (12:46):

Sure. I mean, in its simplest form, we could say literacy is listening, reading, writing and speaking. Some might include visualizing in there. So you can read images and pictures as well. But the focus of the literacy instruction in science really is on, increasing students' ease of reading informational texts, engaging in science discussions, writing scientific explanations and arguments. So all of those components, as mentioned, are very natural ways that scientists do their work already. So those are the kinds of literacy that we wanna embed in a science classroom. And as you mentioned, in a math classroom, or across the disciplines.

Eric Cross (13:27):

So we're thinking about literacy and it's not just reading and being able to memorize definitions and terms. There's these talks about front-loading vocabulary, and I don't know if the term "back-loading" is a thing, but I feel like adding it on later is...

Rebecca Abbott (13:40):

Yeah, yeah.

Eric Cross (13:42):

...is there. Is there a best practice, in your research, for vocab in science? And if you could, would you mind sharing it?

Rebecca Abbott (13:48):

Sure. And you're gonna use this tomorrow, right? <laugh>?

Eric Cross (13:52):

I'm gonna use it tomorrow.

Rebecca Abbott (13:55):

Yeah, so vocabulary is a really good one. And again, coming from the literacy and language arts background, there was a lot of emphasis on front-loading. So, not to confuse folks, but if you're teaching sort of a piece of literature, language, it is helpful to preview some vocabulary before jumping into some dense piece of text or poetry. So you can make your way through something that you're trying to make sense of with reading. Now, with science, the methodology that we've relied on that's based on a lot of, of research that we've engaged in ourselves and that we've relied on, has more to do with starting with students' own language or starting with students' own concepts. Because this is the philosophy and the understanding, that kids come to us with a wealth of world understanding and knowledge. You know, two-year-olds understand what happens when a ball drops. Kindergarteners understand what happens when you kick a ball across the field.They don't need to be able to say, "I exerted a force on this ball!" but the word exert is something we want them to get to eventually. Even if they use their own words or try to explain something by showing you, by drawing, by, saying it in another language: They're starting to formulate a concept. So the approach in science is to have lots of experiences to investigate, to make sense of phenomena that are happening around you, and eventually to start using the words that help you explain that idea. And ultimately to learn the vocabulary word, the sort of academic word, that might latch on to the concept that you're exploring. So, it's a concept first and the word later. Which is different from how I learned in language arts, how we would do that.

Eric Cross (15:48):

That's a huge change. Like, you're accessing this prior knowledge and then attaching on this term later. And I know for some students the terms can be a huge hurdle when they get the concept, but because the term is, you know, maybe so abstract or just not connected directly to anything obvious that they can latch onto, that can actually be the barrier. And I know sometimes for teachers, we can sometimes think that we're not able to really assess what a student's true understanding is, because the language is getting in the way. And so being able to, like you said, attach it to an existing concept makes a lot of sense. I was in this learning experience for teachers and we were able to label different parts of a flower

whatever we wanted. And I called parts of it "the fuzzy Cheeto," and I got to use that the entire time. And then in the end, we actually used the scientific terms. But we were able to explore the concept for a long period of time, and then later we added the words. And that was a really neat experience for us. I had never taught that way, prior, with my students, but when I did it with my students, they had a lot of fun, 'cause they came up with silly names for different things.

Rebecca Abbott (17:04):

Yeah, that's a great way to illustrate that concept.

Eric Cross (17:07):

So when you're training teachers—what does the data say about effective ways to equip teachers with these skills? I know, you know, we have professional learning. We have professional development. And your title is professional learning lead. And when you Google the term, the two, professional learning versus professional development, professional learning kind of wins out. It's, like, this holistic, interactive thing. Versus, you know, a PD can sometimes even connotate things that are not always the most positive in teacher's minds, depending on what their experience with PD is. So how do you go about equipping teachers with these skills, as you're traveling, or now Zooming, around the country?

Rebecca Abbott (17:50):

Sure. Yeah, that's a great question. And I had to recall for myself, "Why did we make the shift from professional development to professional learning?" Because as we just mentioned a moment ago, these words are concepts. So what is the concept behind those two terms? And you're right, professional development more connotes something that's done to someone. Like, I'm gonna give you some professional development, you're gonna take it! And that connotes a little bit of training. The professional learning is really the goal, where we're providing teachers and educators with a learning trajectory, where, like we would with students, we know they're coming in with prior knowledge and are have goals that they want to work towards. And there's a progression or a series of activities they can engage in so they can grow along that trajectory. So when we're first working with teachers, you know, just because of the way school systems are set up, often you only get a single day or a single introduction. So one thing where you rely on is that the program materials themselves, the instructional materials that we develop, are hopefully also educative and also part of the professional learning. So if I do go and work with teachers for a morning, I try to remind them that their learning is just beginning. That they're gonna learn through doing. They're gonna learn through teaching. They're gonna learn through their collaboration with one another, planning their lessons, learning from their students, et cetera. And that this is a long-term process 'Cause learning new materials, learning something like NGSS, that's years and years, as you know, to master or to get good at. And the professional learning never stops.

Eric Cross (19:28):

It never stops. And yes, amen to to the years of learning NGSS and getting it. Getting it to the point where you're like, "OK, I think I got this." Or "I think we're doing it." We realized a huge shift from how science was taught when we were in school, versus how science is taught now. And it's easy to default back into how you learned, versus, this new, you know, iterative way of going through how we approach science.

Rebecca Abbott (20:03):

Absolutely.

Eric Cross (20:03):

I wanted to bring up, how should we see our pedagogy? How should we see things in these recent challenges, since we're not out of it yet? I mean, I'm teaching at the university and they delayed us for two months, or two weeks, went back to virtual instead of in person, when this new semester starts. So how should we see our teaching? How should we see our expectations? When you think of...when you hear learning loss, what lens and what filters do you see that through?

Rebecca Abbott (20:30):

Yeah, that's, it's a tough one. And, you know, I keep wanting to refer to the pandemic or the school disruptions in the past and it's absolutely not the case. That it's ongoing. That the reality is that some are still in remote learning, or just absent from school, or they're in schools where there's a series of substitute teachers, or they're in giant classrooms because there are no substitute teachers. So, you know, undoubtedly there has been a lack of the same high-quality instruction that there had been before the pandemic hit. And so during all these school disruptions, one thing I like to keep in mind is that students did learn a lot. They have learned a lot about being independent. They've learned a ton about being flexible. They've learned about their communities, their families. They spent more time at home...about technology, potentially. I think a lot of teachers learned a lot about technology during this time.

Eric Cross (21:19):

<Laugh> Yeah.

Rebecca Abbott (21:20):

So with all of that that we can rely on, you know, we can build from there. So the, the way I like to see it is to think about, "Now we're in this moment." And a lot of policy institutes and education organizations are talking about, "How can we accelerate learning from here on out?" And that kind of gets us in the mindset that we have a lot we're building from, but we need to, you know, push it forward and speed it up, and make sure that we're working towards this grade-level learning content. And not moving backwards. Because poor instruction that remediates never really worked for the kids that were behind in the first place. And so giving them the remediation solution is not gonna help them move forward. So

accelerating learning, or addressing unfinished learning, or ways that we see that as...just the phrasing of it even sort of connotes the moving forward,

Eric Cross (22:13):

Even how we frame it and how we view it, I think, in the way that you just described it, it's very much honoring the experiences of our students. Which also connects to something you said earlier, about accessing prior knowledge. How you just framed it is kinda a much more energizing, and, I think, empowering way for students to...when I honor your experiences and recognize what you've learned and leverage that, that's gonna give a teacher and a student and a family much more positive momentum towards continuing learning. Versus if I'm in debt and I have to pay off bills. Like, "You lost learning! You're two grade levels behind! Oh, you gotta read 80 books to catch up to a 12-year-old or a seven-year-old...!" You know, that doesn't make us energized. But when we look at it like you just said...and I was thinking about this, "What are all the things that you learned that you wouldn't have learned if you were just in school this entire time?" And like, let's unpack that. This is like formulating a lesson right now, as I'm thinking about this. <Laugh> 'Cause you're accessing all this prior knowledge and you're honoring this student's experience. So I love the way that you described that. Because, again, we're empowering students and we're empowering their experiences by honoring them. So I think that's really neat.

Rebecca Abbott (23:28):

Yeah. And the other recommendations for accelerating learning for teachers is really to focus on this grade level. I think there's this tendency—like in science, there's often—I've heard teachers say things like, "They just didn't get that content about stars in fifth grade!" Well, some things like that are OK if there's discrete pieces of learning; we don't need to go back and backfill that. The recommendation is to really move ahead with this year's learning. Because again, as you were saying earlier, there's only so much time, and it feels like now there's more things to stuff into a school year. So to sort of relieve some of that <laugh> stress on yourselves as teachers and to relieve some of the pressure on kids moving forward with this year, this grade-level standards is the recommendation. But being able to monitor student progress. They may still have difficulty or struggle with that concept if they didn't get it the year before. But if you know that, and you can help them just in that moment to to move through it, then you can move forward.

Eric Cross (24:27):

Is there, is there data and research on this? Like looking at this? And if anybody would have it, I know you all would. As far as what's driving you.

Rebecca Abbott (24:35):

There is research and recommendations from a variety of organizations. And I do have a list, actually, that we have called Accelerating Learning References and Resources that I can share with your listeners.

And those are from a variety of places like the Council of Great City Schools and California Collaborative for Educational Excellence. And what they're relying on is past ideas about —again—the failure of remediation. That students who don't learn well from rote learning or remediating by filling in gaps and discrete pieces of information, they're not gonna learn that stuff the second time. Or when they never got it. So, really, the recommendations to accelerate learning, are to teach in this more holistic way. Where you're attending to the students social-emotional needs, attending to what motivates them, what they get excited about learning, involving their families, where academic subjects aren't mutually—the academic subjects aren't to the exclusion of making sure students' voices and their excitement and their engagement are honored.

Eric Cross (25:46):

I wanted to shift...because it brought up another idea about those of us who are teaching emerging bilingual or trilingual, multilingual students. With literacy, this is an area that in many of our classrooms, we serve a variety of cultures and languages. And not only that, but also differentiating lexile levels. And I know in my classroom, I have some students that, that read—I teach seventh grade, so I have students that read at a very low elementary level, but I also have some students that read the college level. And for teachers who are listening like that, and they're like, "That's my classroom! I have, I have the whole range! For I'm teaching multilingual students." What are some some tips or strategies or methods that they could implement into their classroom to best support the, the populations that they're serving?

Rebecca Abbott (26:39):

Yeah, great question. And yeah, I think anyone who's taught before understands that wide variety of reading ability, of writing ability, of language proficiency, that a single classroom can have. But in reading, for example, in the science context in particular, one caution we have when talking about reading—and particularly when you mentioned lexile levels—is that science text often has rich vocabulary. And the vocabulary connotes important concepts. And, and so in our program, for example, we've authored articles or books that are at grade level, and they're considered complex text at that grade level. And we want...and complex being a good thing! We want them to be complex and rich and full of science ideas to support the kind of learning that we want kids to do, that's developmentally appropriate for that age. And so instead of giving students leveled text or, you know, an easier version of that article, what we try to do is provide all kinds of scaffolds and supports for accessing that text. Whether that's having them listen to it read aloud by a teacher or electronically, whether that's breaking it down into parts, or whether that's having them read it multiple times, or supporting with a vocabulary activity, et cetera. Those are all ways that we can support kids in making sure they access the text and access the concepts in the text. And then—but also, the same is true I think for writing. Like, you're gonna have students who have difficulty or aren't able to express their thoughts in writing, if it's something complex, like an explanation or an argument. And so we would never have kids just sit down and say, "OK, explain your thinking." But we don't just wait till the end of a sequence: "Now come up with an argument!" We have lots of times throughout a unit, throughout the lessons, that students practice argumentation, either out loud with one another, with sorting evidence on their table, in cards, et cetera. So when it does come

time to do create an argument, they have the skills behind them to be able to do that. Having those everyday experiences, having a build, having skills and strategies built up little by little, so that when they get there, they can't do it.

Eric Cross (28:56):

A lot of my students will choose to go to the audio, even though with their reading level, they can totally read it and they're fine. But they like doing the text-to-speech. In my head, as a teacher, I think, "OK, well, they're accessing the articles, but is that a bad thing? To allow students to have access to that? Or should we be saying, 'Hey, no, you're gonna read it and that's what you need to do. You can't use the audio.'"

Rebecca Abbott (29:29):

Yeah, it's a great question. And I have the same reaction. Like, I listen to audiobooks. I'm like, "Well, no. I actually read that. You know, I know the concepts now. I've listened to the whole thing." But I would say, you know, you wanna give students—you don't wanna deny students an opportunity to have the skill that they can read an article. 'Cause they may be in a situation where they do need to read. So, you know, withholding the opportunity to be a better reader, on paper, I wouldn't recommend that. But at the same time, why not do both? I mean, I know there's time constraints, is the "why not do both." <Laugh> But if students are—if you're noticing, when you see a student over time, if you're noticing they're only listening to the articles, I think a great scaffold is listen to it and then read it.

Eric Cross (30:10):

Right. So doing both...I know for them, sometimes, I would see them listening to it, and then they're looking off in the classroom and looking around, and I would tell 'em, I say, "Hey, this isn't Spotify. You can use the text. You can use the audio. But your eyes have to be looking at the words. Because that's gonna help you understand. And when you hear how the words are said, your eyes are gonna recognize it." And usually that works, when I explain it that way.

Rebecca Abbott (30:32):

Yeah. Or it could be that they listen to it in class, and then they take it home and read it for homework. Or you have 'em read it the next day. 'Cause they could do it in sequence, and so they're still accessing the text. And they don't have to do it every time. But maybe every so often, on something easier, or shorter. And as you know your students over the course of the year, you know who to sort of target and make those recommendations to.

Eric Cross (30:56):

The quality of literacy or parsing out information that is reliable...I feel like now, with the information—teaching students how to find reliable information to make judgments has been more in vogue and a big issue ever than than it ever has been in the past. Is there, are there...and I haven't seen

a ton of strategies on how to do that yet. I hear talk about it, but I haven't... we do that. Is that something that's kind of in your wheelhouse too? Of "OK, we're developing these skills, but then how do we know that the thing that they're reading is something that's that's a reliable text or media source?" Things like that.

Rebecca Abbott (31:39):

Yeah, absolutely. And I think that we want to, you know, arm students to be able to not just do this because they're doing it in class with the controlled set of materials, but take these practices and be able to do them. And so, great, you want kids to be curious and Googling things and wondering and finding articles. And along with that comes that that media-literacy piece. Where they need to be savvy about their sources. Is it peer reviewed? Where does it come from? Et cetera. And science in particular. 'Cause there's so much information out there. Again, we wanna encourage students to personalize their learning and make choices about what they wanna study and what they wanna investigate. And with that comes the independence and the need to be savvy about such things.

Eric Cross (32:23):

There was this old website, it's, I think it's still out...it was about the tree octopus. I think that's what it's called?

Rebecca Abbott (32:28):

OK...? <Laugh>

Eric Cross (32:29):

Do you know about this? The Tree Octopus? So it's a...let's see, I'll just look this up. Tree Octopus. It's a fake website. "Save the Pacific Northwest Tree Octopus." And it's a whole website dedicated to this tree octopus. And it's completely fictional, but it looks like a legitimate site.

Rebecca Abbott (32:48):

Sure.

Eric Cross (32:48):

It looks like it could be real <laugh>. And this website has been out for, I don't know how long. I feel like it's, like, Netscape days. Because it's so old.

Rebecca Abbott (32:54):

Oh my gosh.

Eric Cross (32:55):

You just look at how it's set up. But I feel like sites like this were great opportunities. And my students, once I showed it to 'em, they're like, 'That's fake." Because they went and Googled it and <laugh> found out. But sites like this were great ways to introduce them to the topic of sites that were reliable or how to have cautious skepticism about the things that you're reading. You know, things like that. It was—and it was a lot of fun. And when you talked about argumentation...the term, even, "argumentation" for a lot of students connotes something really negative. Because a lot of times the arguments that they've seen...they hear "argument," it's adults arguing. So I tell my students that I take the opposite of whatever position you're gonna have in the class. And so I end up defending some really ridiculous positions, but when they use evidence, then I start losing in the argument. And so it was a fun way for us to go back and forth, and for it to be a safe environment, because they know Mr. Cross is just gonna take the opposite—but he's never gonna tell them what he thinks. So I'm never gonna get my real position on something. I'm just gonna take the opposite of whatever you argue.

Rebecca Abbott (34:04):

Oh, that's a great strategy. Yeah.

Eric Cross (34:05):

It was a lot of fun. But they didn't like it when I made an argument about—we were talking about ecosystems and how hunters are controlling the population of deer. I had to take an argument to say that they were the most empathetic towards animals. And with 12-year-olds, if you wanna get 'em upset, that's a great way to do it. But I said, "Hey, look, if the population gets outta control eventually all these animals are gonna go extinct." And frustrated! They're like, "I don't want you to be right, but!"

Rebecca Abbott (34:38):

But yeah, that's a good point, to distinguish the idea of, yeah, when they hear "argument," they might think about people arguing. And that's, you know, not what we're doing with scientific argumentation. And so, yeah. Calling that scientific argumentation, where, you know, you're taking your claim; you're finding evidence that's gonna back up your claim; and then you have to think of your reasoning: Why does your evidence support that claim? And that's one of the hardest pieces for kids to articulate or to write. So if kids have never had an experience getting into scientific argumentation until they're 12 years old, there's a lot of steps that they have to take to get there. But I think that the scaffolds, like you said, to make it where they have to use that evidence to counter an argument, I think those are exactly the kinds of experiences we want them to have. So they understand what it's for.

Eric Cross (35:31):

And the English teachers I've talked to mentioned CER, Claim, Evidence, Reasoning. We found that that skill is one of the easiest ones for us to transfer back and forth across our classrooms. And so one of the things we had done, we had had students write a CER paragraph about genetic modification. And then the English team took it and they looked at it through a different lens. But the students liked the fact that

they could have one assignment that went back and forth between teachers. They're not doing double the work, but then they're getting feedback from two different lenses. It was a great experience for both of us. There were some logistical challenges with syncing up, as far as pacing and things like that. We found that they were talking about science in English. That was a great way. And I was thinking, as an elementary school teacher, when we're doing literacy activities, using—like you said earlier—those engaging topics, you know, scientific topics, there's so many of them. I feel like every class I teach, students always wanna ask me if something's gonna explode. <Laugh> "Is the thing gonna explode?" Like, we teach biology. Like, right now. Maybe a whale that's washed up on the beach. But like, for the most part, we're not gonna make things blow up. But...

Rebecca Abbott (36:34):

You know, that's just, it's heartwarming to hear because that's really why we do this work, is we want kids to improve overall. It's not like we just need them to improve in our subject area.

Eric Cross (36:45):

Right. And the movement of breaking down the silos, it almost feels like it's gonna happen faster if we kind of do it grassroots. When we reach out across content areas, grade levels, teams, things like that. But if we start teaming up and working alongside other content areas, I think our students will benefit a lot. And they, they really enjoy it. Plus it's fun. Like, you get extra teammates to look at things through a certain lens. And I find myself growing as even as a writer, as I'm looking through my students' work, as they're developing writers too. What are some things that we're getting right, right now, as you look at it from kind of this 30,000-foot view? You're looking at education; you've been in the game for a while; you know what it's like to be in the classroom; you know what it's like to train teachers; you know what it's like to train people who teach teachers. What do you think, what do you think we're getting right? And then the follow-up question is gonna be, what are our areas for growth? <Laugh> That's gonna be the follow-up. But what do we—let's start off with the thumbs-up. What do you think we're doing well, or we've improved in?

Rebecca Abbott (37:54):

Yeah, that's a great question. I would say what we're doing well in...more systems are going towards adopting high-quality instructional materials. When I was a teacher, when I worked in schools, often we were making up lessons and we would spend our evenings and our weekends writing lessons. And they weren't nearly as coherent or as robust or met the standards in the same way that a group of a hundred-plus people <laugh> at the Lawrence Hall of Science could do over a couple of years period of time. Curriculum developers develop curriculum, and teachers should be able to practice their craft teaching. They can adapt instructional materials; they can adjust the instructional materials for the kids in front of them. But they shouldn't be designing it and developing it in the moment. There's just not time. And it's not gonna be of the same consistency and quality across the schools.

Eric Cross (38:51):

So you—and you said something that I really keyed on and I felt guilty for doing this, and I feel like you just gave me permission for this, <laugh> is you said, you said, "Adapt and adjust." And I found myself in the same position where every year, I was writing my curriculum, 80% I was changing it. Not based on any data. Just because I just felt like I should. But then that was teaching all day and then at night and summers rewriting everything. And you said, "Adapt and adjust." And that makes me feel like, when you're using Amplify, it's not prescriptive. It is something you can kind of kind of remix. Was it designed that way?

Rebecca Abbott (39:32):

It was designed as a basis. As, a lever, let's say. Like, you can take this lever and you can do what you need with it. You know, a lot of teachers hear from their administrators that they're supposed to teach with fidelity. Teach with fidelity to the program. And we say more that we want you to teach with integrity. Integrity to the program's goals. Understand the coherent flow of instruction. And you have your students in front of you. You need to adapt based on what their needs are. And you need to make adjustments if their interests diverge. So you want to understand the core flow and trajectory and learning progression of a particular sequence. But if you do need to make adjustments to the timing or to the types of activities or to the length of activities, that's something teachers are always going to be doing. But it gives you a baseline from which to work, instead of starting from scratch.

Eric Cross (40:28):

So you hear that, teachers?

Rebecca Abbott (40:30):

<Laugh>

Eric Cross (40:30):

We have freedom! You can keep those lessons, you know, our favorite lessons that we had. That lab; that activity that you did. We can keep that! Keep that in there, and insert it in different places. <whispers> That's what I do anyways. <normal voice> But now we've just said it publicly. You can do that. We give ourselves permission. And then you said, "Teach with integrity for the goals." And so I just wrote that down. That was really good.

Rebecca Abbott (40:52):

Good!

Eric Cross (40:52):

1. And the next one, we're gonna limit to to one thing. If you had to focus on an area for growth...we're looking at education as a whole, but if you wanted to target it in literacy, or

whatever pops into your mind. An area of growth. Something we could improve on. What kind of pops into your head?

Rebecca Abbott (41:11):

Um, <laugh>, the first thing that pops into my head is more support for teachers and specifically pay <laugh>. I think it's just....

Eric Cross (41:19):

All right!

Rebecca Abbott (41:20):

But that's kind of out of the scope of what we're talking about right now. I just think...

Eric Cross (41:23):

Well, that's good too.

Rebecca Abbott (41:25):

...the professionalism, the professionalism of teaching is far beyond where it needs to be. If teachers are professionals, they work so hard, they get so much training and are so passionate about their jobs, and they just don't have the status in the professional world that they deserve <laugh>. But that is maybe my own soapbox. I would say overall, the equity in our systems. I think that there is just an unfortunate reality right now where there are schools and district who have the time and the resources to have the best of the best for all of their students, and others that do not. So just resourcing schools with the appropriate materials, and teaching staff, and time to be able to learn and todo the best for their kids.

Eric Cross (42:11):

I think that resonates with probably everybody who's listening to this. So thank you for sharing that. OK. Last question.

Rebecca Abbott (42:18):

Yeah.

Eric Cross (42:19):

Is there an experience or a teacher or something that you, you went through as you were going through school that really stands out to you? And if so, what is that experience or who was that person?

Rebecca Abbott (42:27):

I think it was in high school, where we had teachers—and it wasn't just one, it was a few of them who got together. I mean, I think one powerful thing is I realized these teachers collaborated, <laugh> and came up with a system for their...we must have been juniors. 'Cause I remember we could drive. So in my junior year of high school, they encouraged us to explore our communities. So I think just them encouraging us to make connections to the world, to our own lives, et cetera. That was powerful.

Eric Cross (42:59):

What a simple thing. Like a teacher encourages you to go out and explore. And you did that. You went out and just explored your community

Rebecca Abbott (43:07):

Mm-hmm. <affirmative>. Yeah, exactly. Yeah. Places I, you know, hadn't done before. 'Cause as a young person, you're not given permission to. And so by someone letting you, or giving you permission, or saying it's a school assignment, that was different.

Eric Cross (43:22):

<laugh>. Yeah. "Hey mom, dad, I gotta—I'm supposed to go out and go check out the circus and the museum and all of those things. You care about my grade, right? You care about school. Hey, I gotta, I gotta go do this."

Rebecca Abbott (43:33):

Now I have an excuse.

Eric Cross (43:35):

Rebecca. I want to thank you so much. One, professionally, because those active reading guidelines, those literacy supports, that you and your team have created, I've actively used over the years, and it's helped me become a better teacher of literacy. Which, I know through this conversation, and I keep getting reminded, is not just reading, but writing, speaking, argumentation—all of those things are literacy. And going back to my professors when I was in college, we are all teachers of literacy. Even, especially, even science teachers. As we're doing this. And, yeah, I just wanna thank you for being here, for taking the time, and for putting out great stuff for us in the classroom. And for all the kind things you said about the teachers that are trying to do what's best on behalf of students. So, yeah. Thank you.

Rebecca Abbott (44:22):

Well, thank you for having me. It was great to talk about this. I can't take credit for many of those approaches that I wrote, but I know our team will be thrilled to hear how much you value them and how they're being used to great success in your classroom.