# The Accessible Learning ExperienceS.01., Ep.06: How Assistive Technology Opens the Door to Opportunity in Oregon

Luis Perez: Welcome to the Accessible Learning Experience, where we help you turn learning barriers into learning opportunities. In this episode, we're joined by Bruce Alter and Jamie Maier from Tigard-Tualatin School District in Oregon. Bruce and Jamie share some powerful stories about the positive impact of assistive technology on the lives of learners they've worked with. And Bruce also shares his own personal story as an educator with a disability who has benefited from assistive technology. We'll also discuss the COVID-19 pandemic and the impact it has had on the work that Bruce and Jamie do to ensure that all students in Tigard-Tualatin School District have access to assistive technology and accessible educational materials. Here, then is our conversation with Bruce and Jamie.

 Hi, Bruce, and Jamie, and welcome to the Accessible Learning Experience. Jamie, I want to start with you, how did you get involved in assisted technology? Can you tell us a little bit about your background in the field?

Jamie Maier: So I have this knack of pushing my way into places and when I see a hole, I try to fill it. So I keep using my elbows to get into where I want and need to be. When I started at the School District, I was an admin assistant in student services. And one of the jobs that they gave me was managing these secondary iPads for our special ed students. And we didn't use them as much as we do now, but they were just a fleet of iPads where we had some communication apps, some extracurricular apps, things like that. And so I was tasked with making sure that the schools had their iPads that were supposed to go there. And managing those, I realized that there was an assistive technology team having meetings just outside my door, which I found very interesting, and I thought, one, working with the iPads, I'm working with these students. I want to be in that meeting. So I just kept scooting my chair closer and closer until they finally invited me to the table.

 And from that point on, they've had a hard time keeping me quiet. So if it wasn't for Bruce, I would not be where I am today. He has been an incredible mentor and has shown me just the power that accessibility and assistive technology can have for students, whether it's IEP, 504, gen ed, like, we can help so many students with what we do. And so that has awakened a passion in me for accessibility, that I am still feeding. And going back a little bit about the history of the district, my position as assistive technology specialist. This is the first time that our district has had someone officially in this role. So again, throwing elbows and scooting up to the table, we have been pushing for this to be an official position in the district. And this year is the first year that it is a job title and I'm honored to be the first official assistive technology specialist. But Bruce has been doing the work for a number of years. So I'm happy to follow his shadow.

Luis Perez: Now I'm going to turn to you, Bruce, and I understand you have a personal experience with accessibility. Would you mind sharing some of your personal story with our audience and just explain how accessibility has made a difference in your own life?

Bruce Alter: So I'll try to make this relatively brief, but I had meningitis as a child and my parents noted a major shift in the things I was able to do after that. Puzzles and games that I had mastered I couldn't do anymore. When I was in school, I had great difficulty learning how to read, and I had a lot of attentional issues. Later on when people had the vocabulary for it, I was diagnosed with dyslexia and ADHD, but that was pretty far into my school career. So I struggled as a student. Thankfully, I was verbally adroit. So the comment my father, I think even mentioned it at a toast at our wedding, ‘If Bruce would only apply himself, he would do so much better’. I mean, we all understand now that's kind of like asking somebody who needs glasses, that if they try hard enough, they'll be able to see the board, but this was the Dark Ages.

 And so I struggled a great deal in school. We used what was available at that time. I remember my mother getting me a misspeller's dictionary, a paper dictionary, because one teacher said, if you can't spell a word, you shouldn't use it, which meant I couldn't use just about any words. They got me books on phonograph records because that was available, at least for a couple of the books. And then I utilized whatever technology was available. So it was pretty much I was on the bleeding edge. When I went to physical therapy school in the early eighties. I got a 8 line, now it would just be called a keyboard, but it was a portable computer. At that time, it had an 8 line LED display. Was it LED? No, it wasn't even LED, it was liquid crystal. And that was the first time anyone had seen someone taking notes on a computer.

 And I remember getting a Franklin electronic speller so I could write notes to people. But the part that I've taken from that is wishing so hard that I could be normal, and just being frustrated that no matter how hard I worked I couldn't accomplish what other people thought I was capable of. And I've carried that forward. I'm now at a point in my life where because of my age and because mostly of the technology, I'm able to function in this world. One day, I woke up in the morning and realized that I had become the person that I wished I would've had, providing the technology that I wished would've been here when I was in grade school. So I have to be careful when I'm working with kids, not to turn it into an autobiography or project my problems on them. But I do think those of us who have learning disabilities, and those difficulties, have a different approach and maybe a different perspective on what students are going through.

Luis Perez: How about today? What are some of the technologies or strategies that you use as an adult to support yourself as you do your work?

Bruce Alter: The everyday technology that we have has made my life as a relatively successful, and I guess also a relatively adult, person possible. I use text-to-speech on all my devices to listen to content. I was an early adopter of Voice Dream Reader. In fact, I talked to Winston, the developer and told him that he developed the best program for students who have difficulty with reading ever and he was shocked, because he said it was for executives so they could listen to stuff in their car.

 All my devices are set up for voice dictation, which has gotten rid of the issues with spelling, of course auto correct. What I sometimes tell people is that many of the things that are thought of as scaffolding are no longer scaffolding, they're earthquake retrofitting. So rather than it being me having to use specialized technology that no one's ever heard of and is exotic, I'm just turning features on to devices that's already built in even if other people are unaware of them. A calendar that sets off alarms, a watch that reminds me what I need to do, things to help me maintain attention to task like setting timers or putting things on a to-do list. I don't have to think about them. I mean, I'm pretty much surrounded by tech every day.

Luis Perez: I am as well. So I know exactly what you speak about - having those technologies that used to be specialized but now that are built into so many of the devices we already know and use. It’s is really important. So as a follow-up to that question, I know that in a recent publication you mentioned the story of one of your students who have similar challenges to the ones that you mentioned. Can you share that story with our audience?

Bruce Alter: I'm more than happy to. The student is Carlos and this one student had a massive impact on - this is in Woodburn - on the entire district because his case manager is now the special ed director of the district. So she had the experience of seeing what happened. Carlos is a bright and a good-looking kid. Oh, boy he is a man now, and I don't mention that just as an aside, but I think that's helpful. Because he was good-looking and was in good social groups, it didn't destroy him that he couldn't read. So rather than a lot of our kids who end up with severe emotional trauma because they can't read and it affects their social standing. He was fine with it except if anybody pointed it out, he'd beat him up. And he was a pretty big kid. So he was on his way to ending up in juvenile detention by the time I started working with him.

 And his case manager was unfamiliar with auditory reading support and what could be done. And I brought in an iPad, which the district was not using at that time and showed how he could listen to webpages and books. This was before we started even using Bookshare and other content that could be moved to his iPad. And he took to it immediately. He understood the technology. He's a smart kid - that wasn't the issue. And his father came in for a meeting and his father was like, ‘My son needs to learn to read. You need to teach him to read.’ And the case manager showed what could be done on the iPad. And the father cried and left the meeting and went and bought his son his first iOS device, his first iPad. Because he realized that this was a way for his son to succeed.

 So Carlos is graduated from high school. He has a child and a landscaping business that he's setting up. As he went through high school, we got him a landscaping text, landscape architecture textbooks, through Bookshare. I helped him with screen reader technology so we could use some of the software that he needed. He got an iPhone. I taught him how he could scan documents or even menus, so he could listen to them. I mean, his dyslexia was so severe he couldn't even read a menu. And every now and then I get a text from him asking to help him solve a problem, even though he is not a student anymore, but I stay in touch with him. And he's having a good life. And what I want to end with is one of the things that he said. When we first showed him this, he said to his case manager, he said, ‘I was really worried about having my own business, because I can't read a contract and I knew I was going to get ripped off.’ He said, ‘Now I'm not going to get ripped off.’

Luis Perez: What a powerful story. Thank you so much for sharing that, Bruce. It really illustrates the power of assistive technology to empower learners to be successful, no matter what path their lives take. I'm going to shift gears now because I know that you've worked closely together for a number of years now. So tell us a little bit about how the two of you work together to create more inclusive environments for all students. What have you learned from working with each other?

Bruce Alter: So as a physical therapist, I was dealing with access to education. So what did that mean as a PT? That meant that students were able to get in the building. That if they needed help with a bathroom, if they needed positioning, if they needed different equipment, if they needed alternatives to the standard PE curriculum and et. cetera. I was providing access to their education. And that's how I saw my role. And I'm making a hand gesture, which you can't see without the video, but it was a pretty narrow focus. I felt like when I started doing assistive technology, I started looking at access, not just to the physical parts of the building or what the students needed, but actually looking at access to education itself. And that was a big shift in my thinking. So in 2010, I approached the special ed director at the time with a proposal. And it's significant. The reason why it was 20 is that was the first year the iPad came out. And I said, our current assistive tech program is focused on bringing in a specialist one day a week to set up switches for our students with physical disabilities. I said, which is fine. But 80% of the kids in special education have difficulty with reading. I would like to see if we could help them through assistive tech. And then I demonstrated what was possible on the iPad. And she agreed it was worth doing a trial of this and we got some iPads and we set up starting to use them. Like Jamie said, it was pretty crude at the time. But starting to think about the students who had difficulty with reading, writing, and math, rather than the more obvious students who had physical disabilities. They're all equally important, but the needs of this larger group wasn't being addressed.

 As the program developed and morphed, the amount educational technology in the district started to come up. So instead of it being only the kid who was in special ed being in the classroom with an iPad, other kids started getting devices. And when Jamie came in was about the time we were going one to one with devices so that every student was going to be equipped. They phased it in with an iPad or a Chromebook, depending on what grade they were in. And that really changed the role of what we were doing. And that's where I want to talk about what we've been able to do together. So prior to this, again, I'm a physical therapist, so I have other responsibilities. And I also mentioned I have ADHD. So that's another problem with… it's one thing to think of an idea, it's another to follow up and make it concrete.

What I found in working with Jamie is a true partner. She says she follows in my shadow. That's not true anymore. I'd say we're complete equals or in some places she's definitely ahead of me. What Jamie has insured is that the things that students need is available at a district level in an organized fashion, and that staff is educated about, at least to the level that we're capable of. And she can talk more about what we're trying to do, but we collaborate together a great deal, and we're aware of each other's weakness and strengths. And I think we leverage off that really well. I feel very lucky to have her in the district. Otherwise we wouldn't be nearly at the place we're at now. I'd still kind of be fumbling around trying to help a few people at a time.

Jamie Maier: Well, thank you, Bruce, for those kind words. I agree completely with what Bruce is saying. We are really a great partnership. He has some of the technical knowledge and historical knowledge of what's happened in the district that I don't have. And from his support I have, like I said before, found a real passion for assistive technology and accessibility to the point where I went to California State University, Northridge and completed my certificate in assistive technology. And so he has helped me just continue to grow and I'm still a learner and I still seek all the knowledge I can. And I'm even going through getting that Certified Professional in Accessibility Core Competencies. I'm going to take that exam in a couple months. And so without his support and encouragement, I wouldn't be doing any of these things. But to the point of how we work well together, we really are the Ying and Yang of accessibility in the school district, because we go in and I have a tendency to sort of bullet point things and cut to the chase, and we don't need all of the extra fluff for history or extra words. And so I say, X, Y, Z, and Bruce says, well, and these other things and explains X, Y, Z a little more clearly than I do. And then sometimes he gets real flowery and goes on too long and I say, ‘That's really great knowledge. Let's not focus on that right now. Let's do X, Y, Z.’ And so we really play off each other with that, but it's such a good partnership because he will learn about things that I am not aware of yet. And I will learn about things that he's not aware of yet. And then we meet and we nerd out on all of this stuff together and then pretty soon we have a district license for Read&Write. So these things really feed off each other. And I think it's benefiting a lot of students.

Luis Perez: That's a great point that you make about when we build a team it's important to have a range of skills and a range of different working styles as well, and different perspectives that really help you bring together the strengths and the challenges that everybody has, because we all have both. And so it's a matter of kind of balancing them out, which is why coordination and collaboration is so important. So I know that over the last year it's been definitely a big challenge, addressing the challenge of the pandemic with COVID 19. So I want to hear from you some of the lessons that you've learned, because I know you're probably are still sort of learning some lessons. We're not over this pandemic yet as we record this podcast, but I want to hear from you, you know, that collaboration, that working together relationship that you have, how have you been able to leverage that as part of that COVID-19 response.

Bruce Alter: Our district went through a great deal of difficulty and is continuing to, although the difficulties are different. When we went to distance learning last school year..? Whatever the, yeah, last school year, right around the start of the school year, the district adopted Canvas as a learning management system and then Florida Virtual School as a curriculum. And I mean, **right** before the start of the year, like **right** when the year started. Jamie and I scrambled to try and understand the platform, especially from the standpoint of accessibility, which no one in the district was even considering. How would blind kids be able to access the curriculum? How could teachers differentiate the quizzes and the assignments for the kids in the class? Remember this is an inclusive district. So you might have a student who has an intellectual disability that's in the class. How will their assignments be different, even though they're accessing it using the same platform. And what we ended up doing were two things that really did play out well. One is we had a virtual office hours, which we did together and teachers could drop in, started out twice a week, I think. And we were pretty full of people. I mean, we had some, we called them groupies who came to every session because there were things they wanted to learn or maybe they just thought it was interesting. But we would have people come in with very specific questions, some of which we couldn't answer at the time. Typically when we were able to find an answer, we would make a short video and then make it available. In fact, we created a Canvas classroom where we parked all the videos by topic, because that way, since teachers were in Canvas all day, anyway, they didn't have to learn. They didn't have to go to Google doc or something else. So all our videos were linked to that. And we ended up with well over a hundred videos on every topic from how to turn on accessibility settings on the iPad, to, like I said, how to use Canvas to differentiate content. And those videos have continued to be in pretty good rotation. We still get requests to this day, and we can easily share a link, ‘Oh, here’s how we did that’. But we were the only ones that were really considering accessibility. Everybody else just had their plates full. So we worked incredible hours - I know everybody did during that time - but we worked incredibly long hours because if we didn't find a solution, it meant that a student might not be able to have access to the same curriculum as the other kids. And it was a big shift from our utilization of Bookshare and other resources to finding out how can we make the resources that are being used in the classroom accessible to all kids. It was a big change because before, well kid has a paper textbook, we get them a Bookshare copy and teach them how to use it. And that was like, everybody was using Florida Virtual, how do we make that accessible to the kids with various disabilities?

Jamie Maier: I think it really brought universal design up to the forefront as well, because not only were we looking at accessibility, but we became a way aware, very, very quickly of the connectivity issues and the difference between who could connect and who had the ability to, and we worked with hotspots, we worked with different cable providers, giving some extra boost and Wi-Fi at homes and apartments. And we had mobile hotspots on buses that we would drive to neighborhoods so students could connect. But then we found that sometimes the digital just didn't work for our students. And so then we were back to paper and pencil and delivering them to the front door and waving at kids from their picture window or having parents pick up bags in front of schools. We really, [it] really was universal design. And one of my favorite parts about the pandemic, whether anyone can believe that there's a favorite part or not, was that these silos that we have in education just fell apart because everyone was scrambling.

 No one knew how we were doing the things that we needed to do and how to reach these students. So normally special ed is over in one silo working to get those students set up with what they need and gen ed’s on another side. And then we have English language learners in another silo. All of these people, whether it be directors of departments or people who were doing the assistive tech consulting, or coaches or whatever, we were coming together in weekly meetings discussing what was happening in each of these departments and how we could make it all work together. And so it was the collaboration. It was the ability to pivot on a dime, to try to make education work for students. It was the understanding that this isn't just going to work for everyone. And so going to pass/fail instead of letter grades or allowing people to demonstrate their knowledge in different ways, which exactly is universal design.

 So we weren't sitting down to take a test. We were maybe singing a song in Spanish to show that we understood what the vocabulary words were or we were doing plays. And then it was just the trying to make the community and the fun as well. I sat in on a lot of Friday dance parties in sped classes where I would pop into a Google meet just to watch the kids in their own little box dancing and trying to connect with their classmates. And so just the camaraderie, the collaboration, the pivot, the flexibility, and the growth of technology, because that is going to help us as we go forward with trying to get education more accessible.

Luis Perez: And it's not so much that we're looking for a favorite part as much as it is a silver lining, if you will, right? So that there are lessons that we've learned from the pandemic that hopefully shift people's mindset. So that now when you speak to people about universal design for learning, they have a context for why it's important and the difference that it's made for these learners during this difficult time. So are there any other tips or lessons that you want to share from your careers, working with students who need accessibility and assistive technology? What are some lessons that you would share with others listening to the podcast?

Bruce Alter: Here's the most powerful, and that is most students with disabilities don't want to be singled out. We may think it's helpful for them and for them to use auditory reading support, but they may be embarrassed. When all the other kids are using a paper book and they're using an iPad, we used to think, ‘Well, they'll be cool because they have the iPad’. Didn't work out that way. When I talked about Carlos, he was extremely self-assured and I worked with another girl who had difficulty with reading who was in the highest click in the high school. And she had terrible problems with reading, but her self-esteem was really high so she didn't care. She would just pull out an iPad and listen to it right in the middle of class. But the vast majority of students that I've worked with are reluctant to look different.

 So one of the greatest things that's happened in our district and many others is the one-to-one use of technology. If every kid in the class has an iPad or Chromebook, and the only difference is you're the ones with, who's allowed to put earbuds in, because you're listening to the content instead of visually reading it, we found much better acceptance. And I think that's, that's probably the biggest. And Jamie, maybe you could talk about how we add kids to our Bookshare because I think that's unique in our district and I think other people might benefit from that.

Jamie Maier: Sure. We use Voice Dream Reader, like I mentioned before. And so in our district K-8 have iPads, actually pre-K through 8, have iPads. Our high school students have Chromebooks. And like I mentioned before, we have a district wide license for Read&Write, but sometimes that doesn't work as well for a student. So they can use the Chromebook for Bookshare books or they can use the iPad. But one of the things that I think is super important that we learned through the pandemic is that we have to listen to the students because they really will tell us what they need and what is the best way for them to access the learning. And so we need to listen to the students. And so if a student in elementary school is having trouble accessing Bookshare books with their iPad, let's get them a Chromebook. And vice versa. If a high school student is having trouble using the Chromebook for it, let's get them an iPad. But the method that we use is we will get the books, textbooks, recreational books, whatever they need from Bookshare, and put them in Google drive because we are a Google district. And so all of our students have Google drive. And, we download the books into that Google Drive folder, which makes it so much easier for them to use Read & Write and for them to pull it into Voice Dream Reader because they have the tool right there. They don't have to go looking for it themselves or try to find a way to pull it in through Bookshare. It's just right where they're used to going. And so it's a path that they know. And then they have teachers and learning specialists and aids and counselors who also are familiar with Google Drive and the path to get there. And so they can help pull those books in as well.

 And then we also encourage individual memberships with Bookshare to partner with their organizational memberships so that when they're at home, they don't need me to get the Harry Potter book for their them that they want to read. And so they can go and search for any books that they want to read on their own without going through the school for it. But one of the other things that we started to do before the pandemic is we use a system called ORSPED, which is a database where we have all of our IEP students in there. And we are able to pull a report that shows all of the students who have an SLD or a specific learning disability for reading. And I can reach out to the case manager of those students and say, ‘Your student is eligible for a Bookshare account and does not have one. Let me explain to you what Bookshare is and how it can benefit this student. They can get textbooks, they can get recreational reading. Their language arts class is going to be less cognitive load on them because they are going to have this Bookshare account’. And so we reach out to the teachers and tell them that their students are eligible. And then once we get that account open, I will reach out to all of the teachers of that student who has a new account and say, ‘You have a student in your class that has a Bookshare account. Here are the things that we can do for them. Please tell me which textbooks or books you are using in your class so I can pull those down and load them automatically for the student in their Google drive’. So I am doing a lot of the front work for them so that we're not playing catch up when the student is in the language arts class and realizes they need The Giver, but they don't know how to access it. So I can already have it there for them.

Luis Perez: Excellent. Thank you for sharing all those helpful tips. So as we wrap up our conversation, I want to look into the future a little bit with you both. What's your vision for your district, Tigard-Tualatin, when it comes to improving access and inclusion? What are some of your future goals that you have in this area?

Bruce Alter: Well, this is definitely something Jamie and I are working on together and her unique position of being an actual assistive technology specialist, instead of the gadfly AT person that I've been, is really come to force. So up until very recently. and maybe even and continuing, making sure that educational materials and content was accessible to kids was a jury rig backfill situation. We were always behind. A teacher would prepare a slide show in Paired Deck and then I would get a call saying we have a blind student and he can't do the science assignment because, well, it's in Pair Deck and he can't see it. So we would be retrofitting accessibility. And it was like, you know, trying to run to catch a bus. What we're working on now are two different areas. The first is trying to ensure that the curriculum that the district takes, that uses, is accessible from the start. And Jamie can talk more about that. The other part that we're looking at putting professional development information together is on making sure that if teachers create their own content, which has become a real issue for us, that it's accessible from the start. And by issue for us, what I mean is it's fine the teacher creates the content, but if they don't understand they need to use all text so kids who use screen readers can understand what the image says, or they don't use headings, or they don't use other aspects that will make a document accessible, then they’re creating…

 Or if it's an image PDF that they're providing to the kids electronically, then what they're doing is creating inaccessible material. And even if we made sure the district was purchasing accessible content, which is, like I said, Jamie will talk about that, we would still have a big chunk of content that we would still be retrofitting. So that's really what we're pushing for. I mean, the idea is I think ultimately for us to be involved with the more complicated areas of assistive technology. If we can get it where the breadth of curriculum is accessible to the majority of students and then we focus on a student who's blind and needs math for refreshable braille display, or, I don't want to do us out of a job. I don't think we ever will. But it should be the exception rather than the rule.

Jamie Maier: What Bruce is talking about with the curriculum adoption is that, you know, best intentions, but for the first time ever, because of me scooting my chair up to the table where I wasn't invited, we now have an accessibility expert in the committee that makes the procurement decisions. And so we are in the process of adopting a new health curriculum and the teachers and the administrators that are on that committee are focused on standards that are required within the state of Oregon, and part of those standards are accessibility, but they don't necessarily know what those mean. And so having me or Bruce or one of us, whoever gets on these committees, there at the beginning, so that we can say, well, that's really great. And that does address this. But have we thought about how the accessibility piece works into that? I think that is very important and I'm very excited and really honored to be on the committee and have been, not invited, but welcomed to the committee once I got in there.

 And so I'm excited about where that's going and also I really have to tip my hat to CAST and the AEM project. Tigard-Tualatin is one of the districts in Oregon that is on the AEM project the CAST is doing and I am learning so much. And the fact that I can get some of our administrators, the director of teaching and learning was at one of our meetings recently. And he got off the meeting and came into my office and said he learned so much. We are going to go leaps and bounds from where we are now, because of our involvement in that project. And so I don't think that we would be getting the traction that we're getting now without some of that from you guys. So thank you.

Luis Perez: Well, thank you for that thought and it's learning together. We're learning together with you as well, and we're leveraging the best of what you do locally and what we can do nationally. So it's a great partnership.

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