# The Accessible Learning ExperienceS.01., Ep.08: Making Learning Inclusive with Clusive

Luis Perez: Welcome to The Accessible Learning Experience where we help you turn learning barriers into learning opportunities.

Luis Perez:

On this episode, I'm joined by two of my CAST colleagues, Lynn McCormack and Kristin Robinson.

Luis Perez:

Lynn and Kristen share information on Clusive, a tool developed by the Center for Inclusive Software for Learning, or CISL, at CAST.

Luis Perez:

Stay tuned to the end to learn about some exciting new features that are now available in Clusive to support a more customizable and accessible reading experience for everyone.

Luis Perez:

Here then is our conversation with Lynn and Kristin.

Luis Perez:

Hi Lynn and Kristin, and welcome to The Accessible Learning Experience. Let's start by having you each introduce yourselves, and if you don't mind sharing, what is your why when it comes to accessibility?

Kristin Robinson:

Thanks Luis. My name is Kristin Robinson. I'm an instructional designer and research associate here at CAST. And what is my why when it comes to accessibility?

Kristin Robinson:

Well, for me, it's about justice. It's about inclusion. It's about equity. And honestly, when environments are designed with accessibility in mind from the start, it's so clear that everyone benefits. Who doesn't use curb cuts? Who doesn't use captions? Who doesn't enlarge text at different times when they need to? All of these were designed as accessibility features, and they're features that everybody uses. And more importantly, it includes everyone. No one is excluded, no one is made to feel like they're different than anybody else, and it just includes everyone.

Luis Perez:

Thank you so much, Kristen. And how about you, Lynn? What is your why for accessibility?

Lynn McCormack:

Hi there, my name's Lynn McCormack. I am a senior technologist or software developer here at CAST, and I absolutely love the work that I do here. I spent so many years in technology without the purpose that I have here at CAST. And so when I do work at CAST, I try to make sure that everybody is included and that the pieces of learning that folks struggle with are just made easier for them.

Lynn McCormack:

When I think about programming, it's a really important part of that development effort to make sure that the user is supported in areas that they need to be supported.

Lynn McCormack:

So for instance, I have a dictionary right on the front page of my phone. So how do we put things like dictionaries right in front of the user when they need those sort of things? And so that's a really important part of the work that we do here.

Luis Perez:

And both of you work on a project called Clusive, which is what we're here to discuss today. How would you describe Clusive to someone who's new to it?

Kristin Robinson:

I'd like to start by just saying at first glance, what Clusive looks like. At first glance, Clusive just looks like a really great reading tool, but it's more than that.

Kristin Robinson:

It's an environment that's built to promote learner self awareness, and it's an environment that's built to support learner agency, so that learners themselves can know what tools are available, and know where they can go to get them, and know why and when they should access them for their own learning and for their own agency.

Kristin Robinson:

That's what I would say Clusive is. It's an environment that is there to promote learning, of course, and comprehension, but more importantly, learner awareness of themselves and learner empowerment so that they know what they can do, and that they can do things themselves.

Luis Perez:

And Kristin, you recently shared a powerful story of how Clusive had proven helpful to a student that you know. Would you mind sharing that story with our audience?

Kristin Robinson:

This is a story about a recent high school graduate. His name is Reid, and Reid has severe dyslexia and he had a one-on-one aid throughout high school. He had no autonomy, no sense that he could do things, no sense of competence. He didn't have any sense of belonging with his classmates because he had to have this one-on-one aid throughout high school.

Kristin Robinson:

I just want to pause a moment and just let us really think about what that must have been like for a teenage kid to never be able to just read what he wanted to read by himself. I think that's so isolating.

Kristin Robinson:

So his plans for after high school were to get a job. Any job. He was done with school, he was thinking maybe real estate because he was a people person. He just could not decode text.

Kristin Robinson:

So, shortly after graduation, someone from the Clusive team actually showed Clusive to Reid. So Reid went in. He explored settings, he explored features, and after a while, he just looked up and he said to the person from the Clusive team, he said, "If I had had this in school, this would've made such a difference. I could have done this. I could have understood. I could have read this myself."

Kristin Robinson:

Now that's a good story, and if it ended right there, that would've been a good story for Clusive. But I recently met one of his relatives and his relative approached me and said, "I want to thank you for creating Clusive."

Kristin Robinson:

I've never actually had somebody thank me for creating a product before, so this is big. So she thanked us for creating Clusive because she realized I was on the team, and she said, "Do you know what he's doing?"

Kristin Robinson:

I said, "Well, I thought he was studying for his real estate license."

Kristin Robinson:

And she said, "That was plan A, but now he's on plan B." Because that encounter that Reid had had with Clusive turned out to be life changing. And I'm not exaggerating about this.

Kristin Robinson:

So Reid started uploading materials himself into Clusive and he saw that he could do it. He could read independently, and so he changed his plans.

Kristin Robinson:

Now he's going to college. He's working toward an associate's degree, and his plan right now is to go on and get a four year degree in forestry and environmental studies.

Kristin Robinson:

And he's going to be able to do this because right now he has a straight A average in college. This is life changing work, and this is why we do what we do.

Luis Perez:

Thank you so much, Kristin, for sharing that powerful story.

Luis Perez:

Indeed, that's why we do the work that we do because it does change lives and it speaks to the power of technology. And when people have the appropriate support, they can really get the most out of their potential.

Luis Perez:

So we've already introduced Clusive a little bit, but in addition to being a highly adaptable learning environment, Clusive is also an accessible one.

Luis Perez:

Since we're on The Accessible Learning Experience podcast, where we talk about accessibility, can you explain some of the ways in which accessibility is supported within Clusive?

Kristin Robinson:

Okay. So how is accessibility supported with Clusive?

Kristin Robinson:

First, there's the display accessibility. Users can adjust text size. They can adjust text style, spacing. They can adjust letter and line spacing. They can adjust the contrast. We have different themes that users can choose from and they adjust, so for a dark background, or for light background, or a sepia background. So they have those options for display.

Kristin Robinson:

In addition to display accessibility, there's also features built in to support accessibility of learning itself. And we include text-to-speech as one of those learning accessibility features because it's how you can receive or how you can consume information in an auditory way.

Kristin Robinson:

But there's more than text-to-speech. There's also comprehension supports. So there are vocabulary support activities built in to build fluency. There's a word bank that continues to collect users' vocabulary self ratings, and that's to support self-awareness and metacognition of who you are as a learner. There are comprehension prompts that are built in and that's to promote that self-reflection of, "How much did I feel like I learned?" But also response areas, because we know as educators that saying how much you learn is one step, it's one point of self-reflection of, "How much did I learn," and then explaining what is it or why I learned that much.

Kristin Robinson:

That's where you support, and build, and concretize understanding. So those are built into Clusive as well.

Kristin Robinson:

There's also a feature that is included to build social and emotional awareness. And that's an affective response opportunity where you are encouraged to rate how you feel about the reading or how the reading made you feel.

Kristin Robinson:

And again, those comprehension supports you mark on two axes how energized you are and how positive and negative you feel, where you are in terms of a reaction to a particular piece, but then you explain why you are feeling this way.

Kristin Robinson:

So again, it's a self-assessment of where you are, and it is concretizing and building a sense of self-awareness by further explaining that reaction.

Kristin Robinson:

So those are just some of the ways. There are actually more, but I think I should stop there.

Lynn McCormack:

One of the things I want to just share with you, this story that I have from one of our AT service providers and we met with them and we've met with them a few times now. But with the first meeting, they said, "This is the first time that I've seen a tool that is designed for my learners specifically."

Lynn McCormack:

So they're providing AT support, but in the true spirit of UDL, yes, we are designing for students that have AT support needs, learning needs, but it's usable by all.

Lynn McCormack:

And that was so important for me to hear from this person, because we definitely, from the beginning, design for students that needed additional support. And this came true to this person and their learners were going to just be able to use it in a way that they weren't able to use other tools because it was designed specifically for them.

Lynn McCormack:

But we do expect that everybody can use it and everybody can learn better while using it, but it is certainly designed with students who have additional support needs in mind.

Luis Perez:

So I understand that Clusive has a dashboard that provides helpful information for both learners and teachers based on what it knows about them. Can one of you explain how that dashboard works.

Kristin Robinson:

The dashboard actually starts collecting information about users right from the start, as Lynn pointed out. So when you are reading a story, the dashboard notes, what you've been reading and what your activity is.

Kristin Robinson:

It also, for the student user, will start assembling those emotional reactions that you have to different readings so that you can see what your constellation of thoughts or your feelings are around those readings.

Kristin Robinson:

In terms of teacher supports, the teacher features, they become a collection of all students' reactions. And so the teacher dashboard actually is the super powerful tool that supports teachers to discover how students are feeling and how they're reacting, what students are doing, and where students are.

Kristin Robinson:

It supports teachers to see what students are understanding and what tools and support students are using. So it becomes this really powerful environment that teachers can get a 10,000 foot view of where their students are and then can narrow down and actually get individual details about each student and where they are, what kind of tools they're using so you can make instructional decisions based on actual data that's right at your fingertips.

Lynn McCormack:

Thank you, Kristin. One of the things that when we were actually preparing for demonstration, I'm going to say this is about three months ago and this just speaks to how Clusive continues to respond to the users and the feedback that we've been getting from them.

Lynn McCormack:

But one of the things that I did was went to the dashboard and we had been working on a specific title and I clicked on that title on a specific student, and up popped this information that was so amazing to me because it said, "Here's the title. They spent this amount of time reading it. They looked up these words. They used the text to speech or they didn't use the text to speech."

Lynn McCormack:

And I was just flabbergasted how it allowed me to actually evaluate what things that student was using and what information they got from it. It was just fantastic. And that's this little student detailed piece that pops up for the teacher.

Lynn McCormack:

And if you want to work with us, we are continuing to evolve that dashboard to make sure that it actually fits the needs of our teachers and our parents, because parents are also using this with their learners. So we'd welcome that but it really does evolve to make sure that we're meeting your needs.

Kristin Robinson:

So that's really important, Lynn because what you just pointed out about parents, I just want to reinforce, because parents get the same dashboard that teachers get. So parents get insights on what their children are doing, what they're learning, what they're thinking about, and what kind of tools they're using, so they can be co-educators with their children's teachers, as well as the children themselves.

Luis Perez:

And as you both mentioned, Clusive evolves over time. I'm really excited to hear about this new feature that you've added that I heard one educator in a recent presentation, describe as a game changer.

Kristin Robinson:

Actually, we've had a lot of changes and a lot of new features added to Clusive, but I think the one that you're talking about is our recent integration with Bookshare.

Kristin Robinson:

And we know from what we've just been discussing that Clusive is a flexible, adaptive, powerful learning environment that really adjusts to every learner individually.

Kristin Robinson:

Bookshare is the largest library of content for people with disabilities that impact their ability to access text. So imagine combined, Bookshare books, Clusive, including those in copyright, textbooks, the entire one million plus library of titles in Bookshare are now able to be brought into Clusive and they become fully flexible, fully adaptive, and they become powerful learning environments themselves that continue to grow and continue to help meet the needs of each individual Bookshare learner.

Lynn McCormack:

So one of the things that happened in this Bookshare integration was we had to start somewhere. We always to start implementing a feature in the smallest pieces that we need to. So what we did was we started the Bookshare integration with an individual account. Now that can be an individual user within a home environment or an individual user within a school environment.

Lynn McCormack:

And what we found is that Bookshare users may not have been fully available to the books by themselves. They had a teacher in that process. And so we have been working with some AT specialists within schools and they've made accounts for their students, and their students are getting the books by themselves. And the AT specialists were so thrilled that those students were able to get that information themselves, make their own choices to really own their learning.

Lynn McCormack:

And that has been just a happy accident that happened because we started in that one spot, and that the folks that we worked with were just so thrilled to be able to provide that support to the learning for their students, and so we're so thrilled that is working for those students and that those students are able to make their own decisions.

Luis Perez:

And that's just one of the powerful features built into Clusive. But you're always building in new features as you continue to evolve the tool.

Luis Perez:

If you can, would you mind explaining some of the upcoming things that people can look forward to as clusive continues to evolve?

Lynn McCormack:

Sure. I actually want to go back to one of the things that we talked about on the accessibility, if that's okay, then this will build into another piece that we're talking about. So one of the things that we have is this setting inside the application because people wanted more fun. We want this environment to be more fun and then they wanted to make everything super fun, and I said, "But not everybody can handle what you're calling as fun." I'm using quotes around my fun because it involved animations. It involved things popping up, and that was fantastic but knowing that not every user could actually learn in that environment was critically important.

Lynn McCormack:

So one of the things that we did add recently was an animation preference, and that animation preference in there says whether or not you like those things moving, whether or not you want that to happen.

Lynn McCormack:

And that's fantastic that that's in Clusive, but maybe you've already come with that. Your device has been set up in a way that I would like, motion limited, and so we respect that anything that you've put into your system to get that to work for you, that's already going to be available and we're going to make sure that we tamp down or lessen any of those things that might be distracting to you.

Lynn McCormack:

And so I'm so thrilled that all of that is getting to work together to provide the just right environment for the learners. So I'm so thrilled that's available.

Lynn McCormack:

And in addition, we have lots of new features. We have one that we are right in the thick of things right now, which is how do we put together scaffolds and supports to make text available, supported, and the best just right supports that you as an end user might need?

Lynn McCormack:

And so we've kind of bundled three pieces together, and part of that comes from the fact that we've been working with English language learners. Part of that comes from we've been working with learners who have been really reading below grade level, so how do we support them? And so we've put in this package, one is translate. So you can select a specific piece of text or word and have it translated for you into your language. And then we're also very recently put in simplification, so then you can have the text read aloud, and in there, any of the very complicated words are then simplified for you as an end user.

Lynn McCormack:

And right now we're working on also image support for that, and that includes using a black and white icon type image and providing that support on the very complex words. And that's different than the simplification, and I'll use this example for you.

Lynn McCormack:

For instance, we were testing it recently with iguana. Iguana is one of those words that the synonym for iguana is maybe not all that easy, but the icon for iguana, the small little lizard is actually fantastic and really puts that scene together for you, that you can consume that text and really understand it more thoroughly.

Kristin Robinson:

I'm going to add on to what Lynn was just talking about and mention some of the supports that we're going to be adding or have just added for teachers and parents as well.

Kristin Robinson:

So one of the things, and I don't know if we've mentioned this, but users or anybody that goes Clusive will see that we have an existing public library and those are public domain resources, and they're nice and it's good. And that's one of the reasons why the Bookshare integration was so important, because while it's a perfectly fine starter library, it's not going to have everything that people want to read. And so with the Bookshare integration, you can get in copyright books that are contemporary and of high interest, and maybe those are the books that are being assigned so that you can get them and include them in this Clusive environment.

Kristin Robinson:

So that's one of the things, and we've already talked about that, but another piece is that now users can actually upload documents into Clusive and you can add an EPUB, which is a particular format, but you can also just start with a Word doc, if it's in saved in a docx format, just that that flat Word document. You put it in and it becomes a dynamic flexible and adaptive learning environment when it's incorporated Clusive.

Kristin Robinson:

Now, that's a feature that's already in there right now, and what we're going to be doing and as we move forward is we know based on the feedback that we've had from teachers, as well as some parents, they need some more support. So we're working on creating a teacher bookshelf of resources to help teachers and parents know what features are in Clusive and know how to effectively use those features for teaching and learning.

Kristin Robinson:

And so that teacher bookshelf is going to be incorporated and right now, we are in the design and discovery phase of thinking about how can we provide support for parents and teachers that are quick, they're bite sized, but it's innovative, and creative, and engaging for teachers and parents themselves, so that it's not just going to be a how-to where these features are, but it's going to be why you would want to use them yourself and why you would want to support your learners to use them as well in order to build comprehension, in order to build learner agency, and in order to build learner metacognition about themselves and their strengths, and how to get the resources that they need.

Kristin Robinson:

So that is actually a current line of work that we're going to be pursuing, and we should be working on that for the next six to eight months, and it's really exciting that we're going to be doing that. We're looking forward to building those resources.

Kristin Robinson:

It's like a teacher guide, but in a really different way, so we're excited about that.

Luis Perez:

Well, that's all really exciting and I'm sure if someone's listening to the podcast and they've listened this far, I think we've done a pretty good job of convincing them that Clusive is a pretty cool tool that they should check out.

Luis Perez:

So if someone wants to get started, what's the first step that they need to take? How do they get started with Clusive?

Kristin Robinson:

I'm going to start off, and I know Lynn will chime in. The first thing to do is to just go to the website, clusive.cast.org.

Kristin Robinson:

Right on that dashboard that you go to. There's a two minute video. It's an introduction to get an overview if you want to see it. And then if you want to dive in, just create an account and you can get started. You get sports and scaffolds, just an introductory activity to do to get touch points with important introductory elements and tools that you can use in Clusive.

Lynn McCormack:

More recently, we have had teachers, assistive technology folks, or support staff that have contacted us and said, "We've looked at your product. It's amazing. We can't wait to show it to our students, but we are stopped right here."

Lynn McCormack:

And what happens is that we have 32 states in the US that are part of the Student Data Privacy Alliance, and many other states just might have districts and so forth, and they have to go through this process before they can get to using us.

Lynn McCormack:

Just know that have been through this with several states, several districts, and we are here to support you, so do not hesitate to contact us because we would love to work with you and get you started, and it's not a problem at all.

Lynn McCormack:

And other times, teachers are thinking about, "I have big classes. How do I get all this working?"

Lynn McCormack:

We have full integration with Google Classroom. And that supports nearly all of the K through 12 here in the United States. So if you are one of those schools that have the needs for the student data privacy, or if you have needs for Google Classroom, we're here for you and we're trying to make this as easy as possible for you to get going.

Luis Perez:

And I think a theme here is that Clusive has been very much a collaborative effort with the community.

Luis Perez:

So as we wrap up, how can people continue to get involved in the ongoing development of Clusive? How can they follow the work of the Center on Inclusive Software for Learning and Clusive?

Lynn McCormack:

So we would love for you to have another look at Clusive as we talked about. If you are interested, we are going to have in our notes the link for you to create an account, the link for you if you want to sign up to be a partner for Clusive. That would be fantastic.

Lynn McCormack:

We know we have some upcoming things happening later this spring, and this summer we have cohorts of groups going through, so if you are a teacher or a parent and you're interested in being one of our testers, we would love to have you join us and participate in any of those coming up.

Lynn McCormack:

And you can also sign up for our newsletter. We have that link as well. We would love for you to join us. We are very infrequent newsletter senders. We let you know when big things happen, like when we had our Bookshare integration all set. We let you know those sort of things and we would absolutely love it if you joined us in our process.

Luis Perez:

Thanks for tuning in to this episode of The Accessible Learning Experience brought to you by the National Center on Accessible Educational Materials at CAST.

Luis Perez:

You can find us on the web at aem.cast.org. There you'll find show notes with links to all of the resources mentioned on each episode.

Luis Perez:

Thanks again for listening, and remember accessibility is everyone's responsibility.

Luis Perez:

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