



CIDDL Research and Practice Brief 2 Interview Transcript

0:01

Ling Zhang: Okay, so hello, and welcome to this CIDDL Research and Practice Brief Series.

0:07

Ling Zhang: The purpose of this series to have conversation around innovative use of technology in special education, early childhood, related services, leadership personnel preparation programs.

0:18

Ling Zhang: Today we have Dr. Lorna Quandt, who is an assistant professor at Gallaudet University as our guest speaker.

0:24

Ling Zhang: to share with us her research and practices about using emerging technology such as virtual reality and mixed reality as new ways to teach and learn sign language. Welcome, Dr. Quandt.

0:37

Lorna Quandt: Thank you so much for inviting me. I'm happy to have this conversation with you.

0:41

Ling Zhang: Yeah, so Dr. Quandt, so, can you tell us a little bit about your research and practices on VR and MR and how they can be used in teaching sign language. And what kind of issues are you trying to address?

0:55

Lorna Quandt: Yes, so i'm fortunate to work at Gallaudet University, which is the world's only university dedicated to deaf and hard of hearing students.

1:06

Lorna Quandt: And so we have an incredible team at Gallaudet University in one of the labs that I work with the Motion Light Lab.

1:15

Lorna Quandt: And with the Motion Light Lab and my own neuroscience research lab the Action and Brain lab.

1:23

Lorna Quandt: We are working on some amazing technology to develop new tools for learning sign language in virtual reality.

1:32

Lorna Quandt: So this is a very new concept using immersive virtual reality to create a new way of interacting with a sign language. So, our ultimate goal is to create a virtual reality game essentially that any person who has a virtual reality headset can go into our game.

2:01

Lorna Quandt: Our game is called SAIL, Signing Avatars and Immersive Learning (SAIL).

2:07

Lorna Quandt: And a person who's interested in learning sign language vocabulary in American sign language can use this game to learn sign language from a signing Avatar.

2:19

Lorna Quandt: And all of this requires a ton of work and effort. So our pipeline starts with recording a fluent adult signer in a motion capture system.

2:32

Lorna Quandt: And we use that motion capture recording to create really, really high quality signing characters like virtual 3D characters. And then in the virtual reality system, the user has a sort of back and forth exchange with this Avatar.

2:50

Lorna Quandt: That helps them to learn ASL vocabulary.

2:53

Lorna Quandt: So, right now, the work is you know we have a proof of concept, we can do this work.

3:01

Lorna Quandt: Yes, but it's not yet finished or released to the public, because this is emerging technology and the challenges are so great. We're still at early stages, but we do have big dreams.

3:16

Lorna Quandt: So we hope that

3:18

Lorna Quandt: This type of access to learning sign language and virtual reality can make access to learning more available more sort of attractive.

3:31

Lorna Quandt: It's very easy to play a game from the comfort of your own home, whereas signing up for ASL Level one class.

3:43

Lorna Quandt: That's probably the best option if someone can do that. And but it requires more time, effort and even money to sign up for a class that you must attend in person.

3:55

Lorna Quandt: Compared to a game that you can do in your own home. So, we're really envisioning sort of a complimentary way of learning ASL.

4:06

Lorna Quandt: Just something more fun and more in like more interactive and immersive.

4:13

Lorna Quandt: The power of VR is really important for our project.

4:17

Ling Zhang: Yeah, I really appreciate that you mentioned that we need to make learning more

accessible for students who are deaf and hard of hearing, right.

4:26

Ling Zhang: Because, like our center's mission is not only to improve faculty capacity to use technology. Another focus of our center is to promote the framework of Universal Design for Learning. So, this framework can design can guide the design of inclusive technology

4:45

Ling Zhang: and learning environment things like that to meet students' diverse learning needs. So I like

4:49

Ling Zhang: Like your technologies like, which is

4:54

Ling Zhang: are still in process, but can address the issue of accessibility, right, for students who are deaf and hard of hearing.

5:00

Ling Zhang: And also can improve their engagement level so that's very important that's also aligned to the framework. So I really appreciate that you said that. So I think.

5:10

Ling Zhang: Because this is a very important topic for deaf education and preparing for professionals who can.

5:16

Ling Zhang: Better support students with disabilities, who are deaf and hard of hearing is very important, right. So my next question is what opportunities do you think that your research and practices may have for improving

5:32

Ling Zhang: Like those programs who that prepare for professionals for teaching students who are deaf and hard of hearing.

5:40

Lorna Quandt: I think that's a great question and it speaks to the idea that the work we're doing right now.

5:46

Lorna Quandt: could potentially have really, really broad impacts and that's important to why we're doing this work. So right now, our focus is on building a system that adults who do not know sign language can use to learn introductory ASL.

6:05

Lorna Quandt: And how does that benefit deaf and hard of hearing students or deaf and hard of hearing people.

6:13

Lorna Quandt: Our perspective is that for deaf and hard of hearing people who use sign language as a primary form of communication, the more people know sign language in their world, the more accessible their world is. So the more that sign language is something that can be learned

6:33

Lorna Quandt: By any person with as few barriers as possible, more accessible the world is to people who use sign language to communicate. Imagine if a deaf person can go into any coffee shop.

6:50

Lorna Quandt: And order what they want in their sign language and be well understood for a simple transaction like that.

6:59

Lorna Quandt: We have that at Gallaudet University in several of the shops near the university. There are you know deaf and

7:07

Lorna Quandt: Hearing baristas who sign and there's some stores that have iPads that helps to sort of facilitate communication. But it speaks to the idea that the more people learn sign language, the more accessible the world is.

7:24

Lorna Quandt: Of course, really it speaks to

7:26

Lorna Quandt: Any professional who's working with deaf and hard of hearing people, they should be learning sign language or they should already know sign language and the more tools available to them, the better.

7:38

Ling Zhang: Yeah, I think that's the mission of the whole special education and professionals, right? Because we need to make learning and like a

7:48

Ling Zhang: broader sense, like the whole world more accessible to anybody, for anybody. So I like I like what you just shared. So, um, I read an article actually so it was it was actually an early article in 2008 so it said

8:06

Ling Zhang: Like those innovative practices, and practices of educating deaf and hard of hearing children

8:13

Ling Zhang: was overlooked in general education settings and sometimes was kind of hard to implement those innovative practices. But it was it was like 10 years ago at that, I bet like with the

8:25

Ling Zhang: technological advancement and all those, like, practices and development right? So things may have improved or engaged, involved over time. But here's another question for you, like, what kind of

8:38

Ling Zhang: Like challenges you think that may still exist in teacher preparation programs or any



field of educating professionals for teaching those children.

8:52

Lorna Quandt: One of the big challenges related to what we just talked about, you know, the more people learn sign language, especially if you are working in a field where you're interacting with deaf folks.

9:06

Lorna Quandt: The more people learn sign language, the better for communication.

9:11

Lorna Quandt: However, it's hard to learn a new language. So honestly it's a very simple answer, but I think that's a really the true core answer is

9:22

Lorna Quandt: It is hard to tell people, you must learn a new language in order to, you know, work with some of your students. So it's a challenge in

9:33

Lorna Quandt: Learning a new language is not always something that a person can take on balancing with the priorities of you know other priorities they have in their life.

9:46

Lorna Quandt: But it's

9:47

Lorna Quandt: Critical, so I think that's a core challenge and, however, a lot of the challenges we face with our work, our technical challenges, so we are working with these.

10:00

Lorna Quandt: emerging technologies to create some really amazing tools and but they're still emerging, which means that a lot of the research is still.

10:13

Lorna Quandt: siloed in the research lab and is not available to the general public yet. And so I am aware of many very

10:23

Lorna Quandt: very exciting tools for helping people learn sign language, but many of them are still in the experimental phase.

10:32

Lorna Quandt: So one challenge is bridging that divide from what is being developed in the fields of engineering, computer science

10:42

Lorna Quandt: The kind of work my team does and actually bring in those products to people who could benefit from them. That's something which I hope will see more and more as the technology develops over the next few years.

10:59

Lorna Quandt: yeah there is a divide there.

11:01



Ling Zhang: Yeah for sure. So as what you just said, like

11:05

Ling Zhang: We have, for sure, we have still have challenges in terms of like emergence of those technology, right? Because there are so much we need to learn and we need to research on.

11:17

Ling Zhang: So for those people, for those like faculty members or who teach or who are preparing professionals who can serve students who are deaf and hard of hearing so

11:28

Ling Zhang: What resources or tools that you can recommend for them, for them, like either incorporating more technology in their programs and how to improve their practices? So do you have any recommendations?

11:45

Lorna Quandt: One fun recommendation is my amazing colleague, Melissa Malzkuhn, she has a team that has developed the ASL APP. It's just called ASL APP and it's a freely available APP on the Apple

12:02

Lorna Quandt: APP store and it has thousands of small sign language lessons. And it's very interactive, so it's a fun tool that I would recommend to anyone.

12:16

Lorna Quandt: And that's important because it's a technological tool but it's already developed. It's already there and ready for people to learn.

12:25

Lorna Quandt: And so that's one recommendation for anyone in this field who doesn't already have that, get it on your phone. And in terms of thinking more broadly and

12:37

Lorna Quandt: becoming integrated into the field of this, like, emerging technology in the area

12:44

Lorna Quandt: And my colleague, Melissa and I have recently founded this network called CREST network, which stands for Cultivating Research and Equity in Sign Related Technology.

12:57

Lorna Quandt: This network is open to anyone who's interested in the overlap between technology and sign language. So things like

13:08

Lorna Quandt: Teaching and Learning tools involving technology of, in sign language and then other things more experimental

13:18

Lorna Quandt: sort of in that overlap area. So anyone is welcome to join that network, and you can find out more on our website is

13:27

Lorna Quandt: crest-network.com. So that's open to everyone, and we have teachers in that



network we have deaf professionals, we have students, academics, researchers. So it's a sort of core place for anyone who is interested to collaborate and learn more.

13:47

Ling Zhang: Wow, those sound really amazing. So if you don't mind, probably I will share those resources on our website and I will put links to those website and labs you just mentioned.

14:00

Ling Zhang: Yeah. Thank you, thank you, Dr Quandt for sharing the research and the practices on application of those emerging technologies in sign language teaching, so we really appreciate your time and work.

14:13

Ling Zhang: So hopefully we can have more opportunities to continue our conversation about amazing work you are doing.

14:20

Ling Zhang: And so for more information about CIDDL Research and Practice Briefs and other resources in teacher education, related services, personnel preparation, please go to CIDDL.org.

14:32

Ling Zhang: Don't forget to follow us on social media, subscribe to our channel, and leave us a message. Thank you, thank you again, Dr.Quandt.

14:41

Lorna Quandt: Thank you so much for having me. It was my pleasure.

14:44

Ling Zhang: See you next time.

14:45

Lorna Quandt: See you.