

# Developers Partner With Teachers to Improve Technology Tools: Online Exclusive

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[April 2024](#)

## Foreword

Since the beginning of the pandemic, the use of education technology in schools has skyrocketed. Schools have embraced a wide range of digital tools, from curriculum and instruction to assessment, professional learning, and family communication. One report found that school districts used an average of 2,591 different edtech tools in the 2022-23 school year — nearly three times as many as the year before the pandemic (Learn Platform, n.d.).

With the proliferation of technology in the classroom, ensuring that teachers and students have access to digital tools that have the greatest impact on learning requires meeting three key conditions. First, a digital tool should help teachers implement research-backed practices that lead to positive student outcomes. There must be a clear throughline from the science of learning and development to what teachers and students do in the classroom.

Second, education technology products must respond to the real day-to-day needs of teachers, addressing the pressing challenges they face and ideally giving them opportunities to learn and grow as professionals.

Finally, education technology must be efficient for teachers to use and fit within the school context. If it's too clunky or bumps up against the structure or culture of a school, it will sit on the virtual shelf.

An effective way to meet these goals in our experience is to ensure that educators are full partners in building research-backed education technology tools that respond to the daily classroom challenges teachers face. At Chan Zuckerberg Initiative, we engage educators and students as co-builders of education technology by creating opportunities to elevate their voices and expertise. In partnership with teachers and students, we're building easy-to-use technology tools grounded in the science of human learning and development.

## Elevating Teacher and Student Voice

While education technology companies listen to user feedback and engage advisory groups of educators to provide input on new features and content, research-backed tools are rarely co-built with teachers and students from the beginning (Tamez-Rebledo, 2022). Several obstacles stand in the way.

First, the translation of academic research into classroom practice is underfunded. Without greater investment in making research findings usable across a wide range of schools, education technology developers aren't able to design products that put research-backed practices at teachers' fingertips.

Second, for-profit companies face practical challenges in establishing relationships with schools and coordinating with a variety of teachers, which can hinder their intentions at co-building. Moreover, co-building is a different process that not all education technology developers are prepared to embrace because educators are often not making purchasing decisions. It requires a commitment to honoring the perspectives of teachers and students and careful planning to ensure the process provides value as a learning experience for everyone involved.

Fortunately, that's changing. Over the past few years, a number of organizations have worked to connect educators and students with education technology developers. These collaborative partnerships help developers create better products while offering learning opportunities for educators and professional experience for students.

Leanlab Education is an example of a nonprofit that specializes in co-design research between education technology companies and schools. Since 2014, Leanlab has launched nearly 50 research projects that have been co-designed with school communities, influencing tools that reach millions of students (Boody Adorno, 2024). Educators interested in ongoing professional learning related to evidence-based education technology can join Leanlab's Codesign Collective. As part of this cohort-based learning opportunity, teachers meet quarterly to learn research best practices and how to apply these approaches in their schools.

For nearly a decade, Chan Zuckerberg Initiative has brought together researchers, technology developers, and educators to build products and technology solutions grounded in the science of learning and human development and directly responsive to specific educator and student needs. These solutions integrate high-quality research, practices, and content, making them easily accessible to teachers nationwide.

It's an approach we followed in the development of Along, a teacher-student connection tool co-built with Gradient Learning, a nonprofit team of educators, administrators, and parents working to enhance education for all.

Along was developed during the pandemic to help teachers and students build trusting relationships. Teachers pose questions to get to know their students, and students respond

through short videos, audio, or written responses. The platform is grounded in research that shows when students have positive relationships with their teachers, they are more likely to feel motivated and engaged in school, develop positive social and emotional competencies, and perform better academically (Cornelius-White, 2007; Gehlbach et al., 2016; Osher et al., 2020; Wentzel, 2012).

As schools returned to in-person classes under stressful conditions, establishing connections with new teachers became even more important. Teachers also face enormous pressure to support their students' academic success and well-being. We believed that Along could play a role in giving teachers the resources they need to better support their students.

For teachers, learning about their students is an important and ongoing form of professional learning. As teachers know well and abundant research supports, being a great teacher isn't just about content; it's about relationships and connecting with students. When teachers develop positive relationships with their students, they set them up to succeed not only academically but in life beyond the classroom as well. (Gehlbach et al., 2016; Osher et al., 2020). Along is a tool that makes it easier and more efficient for teachers to get to know their students and reach them.

## Evolving Along with Educator Input

In 2023, we undertook our most comprehensive co-building project to date: a multistage research and design effort to enhance Along. Through one-on-one interviews, focus groups, surveys, and in-person design sessions with educators and students, we developed, refined, and tested new ways to elevate student voice, give teachers greater insights into how their students engage in classrooms, and provide opportunities for professional learning.

A strong research base supports the idea that soliciting formative feedback from students — inviting student voice to improve the learning experience — can increase engagement, motivation, and belonging in classrooms. Teachers are invested in creating a more positive learning environment that ultimately drives more equitable outcomes. What's more, when educators know how students experience their classroom, course materials, and instruction, they can adjust to meet their needs (Jeffs & Piera, 2016).

From the earliest stages, we spoke with students and educators to explore ideas for the new features and test activities for broader educator engagement. These preliminary engagements laid the groundwork for a daylong workshop with teachers and school leaders in Kansas City, Missouri, organized in collaboration with Leanlab Education.

This session allowed us to work alongside a small group of educators — eight teachers and three school leaders representing six schools — on how Along could better help them in their respective classrooms. We spent the day listening to and understanding their motivations, unmet needs, and pain points.

Researchers and technologists partnered with educators to sketch out products and work together to describe their ideal product and pitch it to their fellow educators. Co-building was a new experience for many of the educators who participated, allowing them to grow professionally and apply their classroom experience and knowledge in a new context.

Following the co-building workshop with educators in Kansas City, we engaged students in a series of focus groups to understand their perspectives and needs in a tool built for teacher-student connections.

What we learned from these and subsequent sessions directly shaped the new features. First, teachers are eager to get student feedback because it helps them gain insight to inform their daily instructional practice. Second, teachers are looking for efficient and continuous methods of getting feedback from their students.

However, teachers don't have access to structured ways to hear from all students. Some schools administer schoolwide surveys, but those happen only once or twice a year and don't provide teachers with specific information about their students. Teachers report that they receive student feedback informally, if at all, and often only the more vocal students speak up and share. In practice, it would be almost impossible for teachers to have individual conversations with each of their students, given the time constraints of the school day. One teacher summarized the challenge of hearing from all students: "My students are respectful, attentive, and seem happy. But the truth is I don't know. This really rattles me. I need to know. I need to ask. I cannot assume."

On the flip side, students consistently say they want to share feedback (and don't feel like they have opportunities to provide it) but need certain conditions met before they feel comfortable doing so. We heard that students need to be asked for feedback. Because teachers are in a position of authority, students fear negative reactions for providing unsolicited feedback. That means there must be a baseline sense of trust so students know their feedback won't damage the relationship with their teacher. Finally, students want some assurance that teachers will act on their feedback.

These sessions represented a few of many engagements with educators and students during the development process. However, they were critical to helping us iterate and land the latest set of Along features that help teachers give students a voice in how they learn while providing teachers with opportunities to receive actionable feedback.

The updated version of Along includes more questions about the learning experience. For example, a teacher might ask, "What's one way you would like to be recognized when you've worked hard?" to better understand student preferences on public praise. Instead of exclusively open-ended responses, Along now includes multiple-choice options and sentence starters so students can respond quickly, allowing teachers to check in more often, such as through a quick survey at the beginning or end of class.

Teachers also have more tools to help them take action on the feedback they receive, including word clouds and charts highlighting themes across the whole class and recommendations for the next steps. Demonstrating to students that things will change as a result of their feedback is essential for building trust. An abundant body of research supports the importance of trusting relationships to students' development as learners in a variety of contexts, including academic environments (Osher et al., 2020).

The new features launched at the beginning of the 2023–24 school year, and we have already heard from teachers about the stronger connections they are developing with students — and how those connections help improve student motivation and engagement.

One teacher said of a student: "Everything about the dynamic of our relationship changed (using Along). I remember something he shared on Along and asked him about it, and that just transformed our relationship. There's no other tool in my life that could do that. None. Absolutely none. Hands down. That is a life-changing event for me." The teacher went on to describe how this connection translated into this student showing up in her classroom more engaged and motivated to learn (Along, 2023).

## Lessons for the Future

A core lesson from Chan Zuckerberg Initiative's technology development is that the future of education technology is in developing effective tools that solve challenges at the intersection of educators' urgent needs and the research about how students learn best. Schools need products that bring coherence to the classrooms — coherence between research-based practices and local curriculum, school priorities, and instructional models available to teachers.

Developing these tools requires technology companies (and those who fund them) to make a sustained commitment to bringing learning science research forward and engaging deeply with teachers and students. Co-building takes a commitment on the part of education technology developers.

For example, teachers and students need materials and support tailored to help them engage fully. Developers should also recognize that different stakeholder communities (administrators, classroom teachers, students, parents) may have different perspectives, and it's important to take the time to explore them.

By partnering with educators early, similar to what we did with Along, it's possible to use learning science research to create practical tools for educators that give their students a voice in their learning experience, let educators hear from a wider breadth of students, and help them build more inclusive and effective learning environments. If more educators have opportunities to sit at tables of innovation alongside researchers, tool developers, and students, we can build the needed solutions that help teachers better support success for all students.

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