



Inclusion:

The Key to the Future of Education

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Having tools available that are both intuitive and inclusive has changed the classroom experience for my district's students in a tremendously positive way. The students feel supported, they feel empowered, and they are engaged. Best of all, they are learning and making real progress. It's been a tough couple of years for everyone with the disrupted learning from Covid and being able to provide my students with supportive tools that they like to use means everything to me. I hope that more teachers are able to bring inclusive tools into their classrooms and see how they benefit everyone and energize the students in a new way.

Julie Bassett,

Assistive Technology Intervention Specialist - Cincinnati Public Schools



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Everyone has the right to understand and to be understood

In our rapidly shifting K-12 education landscape, this has never been more true than right now.

The events of the past two years have drastically changed teaching and learning. They have propelled us into a new era of education. The sudden shift to remote instruction and the following months created new challenges. Students and teachers were navigating unfamiliar, remote classroom environments. Research shows that [learning was measurably interrupted](#) as a result, despite the best efforts of teachers.

In some cases, the interruption was due to a lack of access to technology, both at school and at home. **In other cases, it was linked to the lack of collaboration students experienced** when learning remotely. While academic achievement was lower for all student groups in fall 2021, students in special education and other historically marginalized students were more disproportionately impacted.

The pandemic disruption left in its wake both expected and unexpected consequences in K-12 education. There are still many challenges to overcome. However this disruption has also created an unprecedented opportunity for education leaders to reassess standard practices. With an eye toward the future, we can prepare for new education realities and learning environments.





UDL is an approach to learning that is based on the **understanding that every student learns differently.**

One of the biggest opportunities we need to tackle is ensuring inclusion in K-12 education. The pandemic brought to light issues of access and equity, and the importance of recognizing the unique learning needs of all students. Making sure that all students have the tools they need to learn is critical to the future of education. This is the premise of Universal Design for Learning (UDL).

They may require a different way of engaging with, and expressing understanding of, grade level content. UDL has the potential to maximize learning experiences and minimize barriers for all students.

During the pandemic, teachers, parents, and students moved quickly to find and implement digital solutions in response to the prevailing crisis. Edtech companies

rose to the challenge, innovating products and solutions to meet the needs of teachers and students.

As a result, technology-based solutions are more available and easy to use than ever before. They have refined user experiences that allow for quick implementation and access across different learning management platforms and devices.

Educators have realized that digital learning tools offer new possibilities for learning. They create the potential to design a more accessible and supportive learning environment for all students.





“Technologies that are built with UDL in mind and are used widely across the student body act as tools for collaboration, expression, and productivity.

They promote a more inclusive classroom environment and create better learning outcomes for all students.





The **53 million K-12 students**

in U.S. schools today are more diverse than ever before. We now understand that the way each student learns and communicates is diverse too. **It's a challenge.** In any given classroom today, there are:



Students with both identified and unidentified learning needs



Students who are English Language Learners



Students with sight, hearing, or mobility disabilities



Students from diverse cultures and economic backgrounds



Students who meet grade-level expectations and those who fall short



Students with varying learning and classroom support needs



How students learn has changed over the past few years.

As a result of the pandemic, the use of technology has been pushed into the mainstream more quickly than most people expected.

Many teachers who were once hesitant have now embraced on-line instruction. They've seen first-hand how well-designed digital tools can increase student engagement, access, and understanding. They've also seen how these tools can support personalized learning, efficient grading, and hands-on practice.

Students who use supportive digital learning tools are more likely to engage with their learning materials rather than causing disruption and taking up extra teacher time. They can learn independently without the need for extra teacher support.

Digital tools can also help make subjects like mathematics and science more accessible for students. Prior to Covid, math was typically taught using a white board, pencil, and paper.

This approach didn't leave much room for students who have learning difficulties or vision impairments. When the pandemic hit, many teachers also struggled to move their math and science classes online. Digital tools that leverage UDL principles can help all students learn and express their knowledge, including in STEM classrooms.

Looking to the future, it is clear that technology will continue to play a major role in supporting student engagement and learning.



Making sure that all students have the tools they need to understand and to be understood is critical.

It allows us to create resourceful, goal directed, independent learners and workforce ready adults. That is why more inclusive approaches to learning, such as UDL, are the future of education. UDL evolved from the concept of Universal Design in architecture. It's based on the idea that the

“design of products and environments should be usable by all people to the greatest extent possible - without the need for adaptation or specialized design.”

A **“universally designed”** building is accessible to everyone. Disability access is always well considered as part of the building design phase — not retrofitted. Yet, when you think about who can benefit from a wheelchair ramp installed at a hotel entrance, it is not only people in wheelchairs, but also travelers with luggage, delivery people with carts, families with strollers, and others.

UDL means designing learning experiences and content in the same way. If you design an e-book with built-in literacy support tools, you will certainly help kids with dyslexia. You'll also help students who do not have a disability, are not making grade level or are English Language Learners.





When UDL is applied, the barriers to learning disappear.

It begins with the idea that every learner is different with strengths and weaknesses. Brain science shows just how unique each brain is. Students will show different strengths and weaknesses depending on the task, the environment, the resources and tools available. Educators know students will vary - we can anticipate this and plan for it from the start.

It aims to change the design of the environment and curriculum rather than change the learner. By thinking about how students learn in different ways and removing the barriers to learning, UDL empowers all learners to engage with their teachers and learn independently.

These guidelines can be applied to all areas of the curriculum. All learners can access and join engaging, meaningful, and challenging learning

opportunities. UDL aims to remove barriers to learning, not make exceptions.

It provides phenomenal opportunities to remove barriers and make the learning experience more accessible to every learner. So although it's not required, technology is a huge asset, especially when it ensures that learning opportunities are equal for every learner, regardless of age or ability.

**Thoughtful,
inclusive design
makes the world
easier for everyone.
UDL minimizes
barriers and
maximizes learning
for all students.**



UDL does not rely on technology.

However, UDL applied with technology does create a richer and more inclusive experience

Technology can help students with different learning preferences by supporting, and in some cases accelerating, their learning by providing reinforcement where required. Software can support students in checking their work for spelling and grammar. It can help them to understand the editing process, as well as encourage them to expand their vocabulary.

Tools built with UDL in mind from the start, offer benefits to all students. For example, 'speech to text' software can help to express words while learning online. Using 'text to speech' tools can aid comprehension. It can also give alternative ways to study, revise, and learn. These digital learning tools

can be used to scaffold and support all learners, both at school and at home.

Edtech tools that are built using UDL help make sure that students can succeed academically. They empower, encourage and enhance the learning experience.

Schools need to prioritize inclusive learning. It is vital that these kinds of tools are provided to everyone, not just those with identified learning differences. Embedding the use of these tools into the culture of learning will optimize the learning experience for everyone.





Technology can **never** replace teachers, but it can remove friction from teaching and learning.

As we look to the future, we have the opportunity to tackle the challenges of change head on. We can not only meet the demands of our time, but we can also advance learning and understanding in new ways. We can use what we've learned over the last few years to create an updated and improved way of delivering education. One that supports both educators and students. We can unlock the power of technology to transform education and create a level playing field that meets the needs of all learners.

Technology can help to create more inclusive learning environments. It can create independent learners, giving them the tools they need to succeed and achieve their full potential.

Now is a good time for all of us to look back at the last few years, learn from them, and design a better tomorrow. The best way to get comfortable with shaping our future is to get involved with designing and delivering the change that is required.

At Texthelp, we want to help shape that future with our digital learning tools. It's our collective goal to positively impact the literacy of 1 billion people by 2030. But we need you too. We can't do it alone.





Schools should prioritize accessibility not just physically, but also digitally. The classroom of the future should be an inclusive classroom, supporting all of the different types of disabilities, both visible and invisible. Using the guiding principles of UDL, we can help transform learning for all students.

Federal and state governments also must lead the way by continuing to invest in education. There is \$122.8 billion allocated for the Elementary and Secondary School Emergency Relief (ESSER) Fund and \$3 billion for the Individuals with Disabilities Education Act (IDEA).

Schools have a once in a lifetime opportunity to address not only the impact of recent instructional loss, but also long-standing opportunity and achievement gaps that have been made wider by the pandemic. These funds can be used by state and local education agencies to equitably expand opportunities for students who need the funds most. They include students with disabilities, English language learners, and students with inadequate access to technology.

More equitable, inclusive access to education needs to be our shared goal. The right tools can help us get there, supporting new generations of successful learners.





There are
50 million
students in public schools
in the United States

Another
5 million
who are English Language
Learners.

Yet **70%**
of K-12 public school
students are without district-
wide provision of assistive
tools.

12%
are enrolled in special
education, equaling about
6 million students

Add to this all of
the students who have
fallen behind in the past two
years and that is
**millions
more**



Closing the Achievement Gap at Plymouth-Canton Community Schools

Plymouth-Canton schools see measurable increase in district wide reading assessment with the use of Read&Write.

Plymouth-Canton Community Schools is the fourth largest district in Michigan, with 18,000 students, 10% of whom are students with Individual Education Plans (IEP), and 10% of whom are English language learners (ELL), speaking up to 60 different languages.

The large student population, coupled with a diverse range of learning needs, led district leaders to search for a solution to help close the achievement gap for IEP, ELL, and students who don't receive support, but who may be struggling.

Stacey Banks, Teacher and Assistive Technology Consultant for Plymouth-Canton Community Schools, commented, **"As a part of our district's dynamic plan, we are always continuing to work on closing the achievement gap for all of our students. We want to make sure that we are able to provide learning opportunities that are accessible and effective for all students, incorporating **Universal Design for Learning (UDL)** principles as a key component to address academic barriers and **empower all of our students, not just those who may be struggling.**"**

Plymouth-Canton schools implemented a two-year pilot program of Read&Write, measuring the success of the tool by improvement in scores on the NWEA's MAP assessment between a pilot school and a control school. The pilot demonstrated that although all schools were growing, the school using Read&Write was growing at a much faster rate.



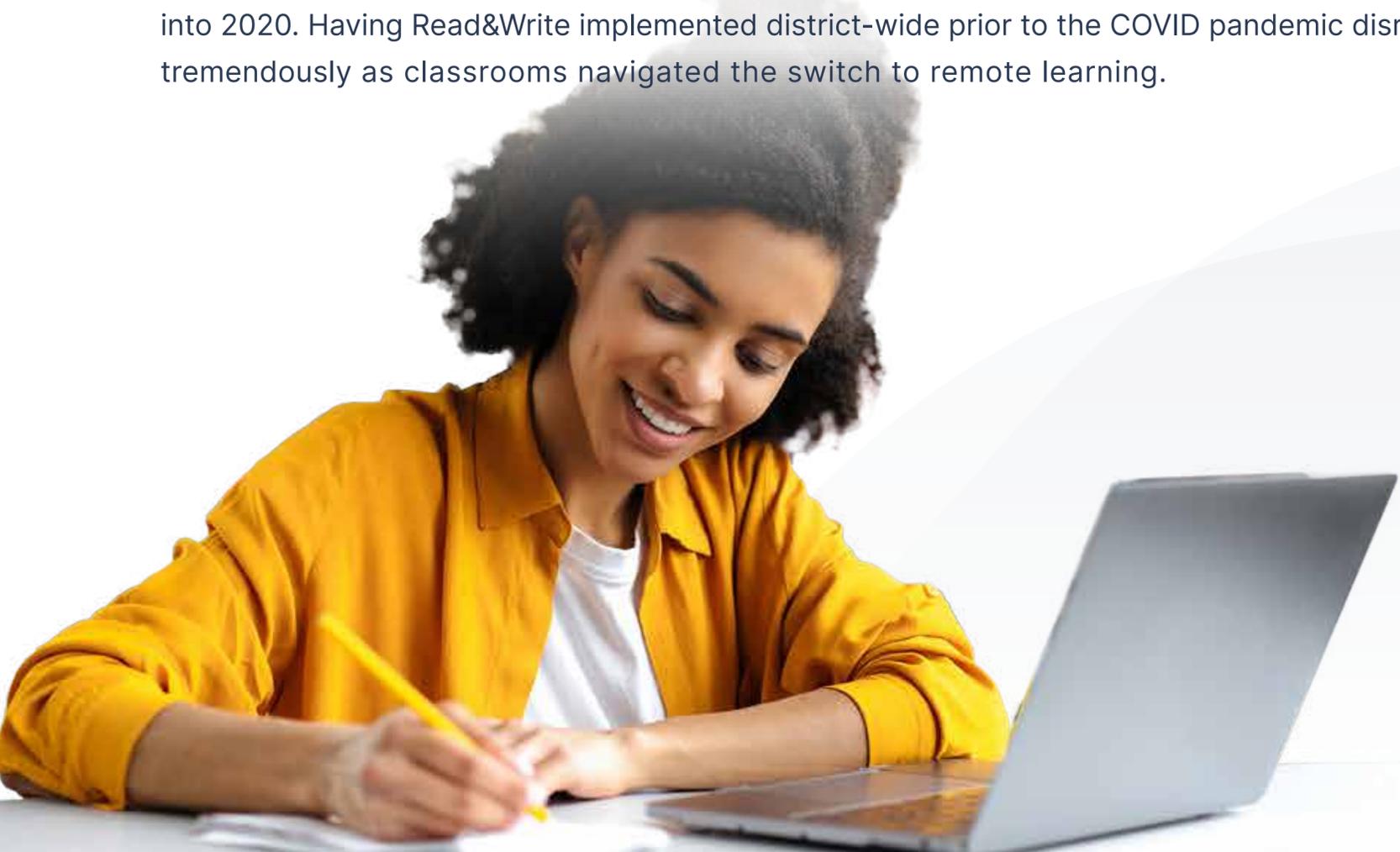
PLYMOUTH-CANTON
COMMUNITY SCHOOLS
GLOBALLY FOCUSED. LOCALLY CONNECTED.



The school using **Read&Write** achieved a **10 percentile growth** versus a 1.4 percentile growth at the control school. The sample group also saw **additional gains after using the full suite of Read&Write tools** between the Fall and Winter assessments. Low growth, low achievement students' scores **increased by almost 1/3**, From 4.4 points in the Fall to 12.06 points in the Winter, with many of the third grade students having as many as 30 growth points in that 2017/18 school year.

The success of the pilot resulted in the approval of a **district-wide purchase of Read&write for every single student** in the district who “now have access to all the tools to help address any barriers they might have and push them even further.”

Since then the usage of Read&Write has **continued to grow** within the district, from a base of 32,000 events in September 2019 to consistently exceeding 100,000 events throughout the rest of that year, into 2020. Having Read&Write implemented district-wide prior to the COVID pandemic disruptions helped tremendously as classrooms navigated the switch to remote learning.



We've been pleased to see that our students are continuing to access these tools as they ease into the transition of remote learning, and as a district we have found ourselves extremely fortunate to have a solution in place already that addresses accessibility for all of our students. It's really one less thing for us to have to worry about when building our remote learning plans at a district level.



Giving students the best opportunity for learning and progressing in Math

Dan Lyons, Math Teacher at Lakeview-Fort Oglethorpe High School which is part of Catoosa County Schools District in Georgia, revolutionized his math class into a fully digital environment with the help of EquatIO®.

The Catoosa County School District is a public school district in Catoosa County, Georgia, United States, based in Ringgold, Georgia. It serves the communities of Fort Oglethorpe, Indian Springs, Lakeview, and Ringgold. The district has around 9.8K students enrolled in its ten elementary, three middle and three high schools.

Catoosa County itself is a suburban district in northwestern Georgia, bordering Tennessee. Thanks to Interstate 75 cutting through the middle of the county and the E-SPLOST, an Education Special Purpose Local Option Sales Tax, the county is in the advantageous position to invest heavily in education technology and infrastructure.

When the school district put a specific emphasis on using new digital teaching and learning methods, each student and teacher received a Chromebook. This prompted math teacher, Dan Lyons, to revolutionize how he taught his math classes, taking them from the pen and paper era, into a much more digital and collaborative classroom.

“When I discovered EquatIO, I was jumping for joy! This was the real turning point for me and my students, finally we could all learn math in a fully digital and inclusive way.”



**Catoosa County
Public Schools**



Dan submitted an EquatIO decision guide to his senior team, showing them that buying the tool was the only way for his students to do things digitally in math. **“Because the district is committed to digital teaching and learning, and to using Google operating systems, we were able to purchase premium access for every student,”** Dan comments.

Fast forward some time to March 13, 2020, everyone went home from school, and stayed home. Dan’s students were in the privileged position to have been learning digitally for at least two years at that point, so the move to remote learning was pretty much seamless for them. And following the shift to a hybrid model at the start of the new school year, Dan’s classes continued to thrive using EquatIO across both remote learning and in the physical classroom. Dan says, **“Every student’s work is digital, nothing changed for them.”**

For some of Dan’s colleagues the learning curve to a more digital path for math instruction has been steep, and quick. “The day we found out we were going to be out for an extended period of time, the Math department got together to talk about how they would teach remotely. ‘Oh we know what you’re going to say,’ they all told me. That’s because I’d been playing a one string guitar for three years. Every year at our instructional fair I show my colleagues how to use EquatIO, and how it helps. The more people I can get using it, the more I can justify having premium access.”

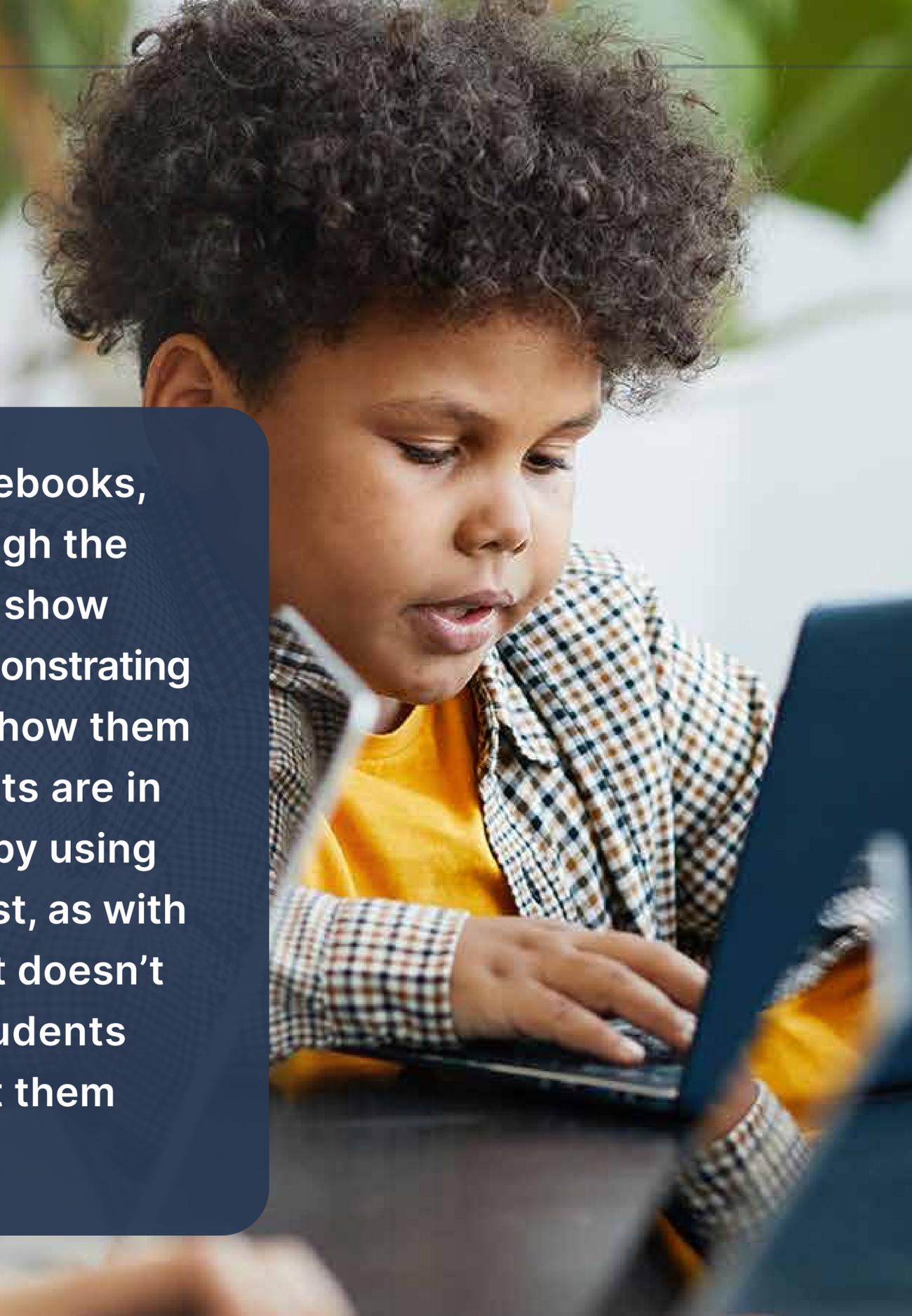
Dan is a cheerleader for digital math and EquatIO. He is constantly encouraging his peers to try new ways of teaching math. He says, “Teaching is still teaching. By switching to more digital methods and tools you’re only changing how you arrange content to make better use of the technology available. In fact, a lot of the time technology helps make me a better teacher. For example, I love using graphical solutions alongside algebraic ones. And the partnership between Desmos and EquatIO really helps me and my students work on this together.”





Dan reflects on how easy it is to get even his new students up to speed on working collaboratively and digitally with EquatIO in his math classes.

“ On the first day that students have their chromebooks, I send students to Equat.io and take them through the features - fractions, exponents, and graphing. I show them the handwriting tool and the voice input, demonstrating all the ways they can do math digitally. Then I show them Google forms, because most of my assessments are in forms. I teach them how to show their working by using the multi-line feature. I do hold their hands at first, as with anything, but their learning curve is quick and it doesn't take long for them to get it. I got some new students recently, and the kids around them have taught them the EquatIO ropes. ”



Martin McKay

CEO & Founder, Texthelp

Martin founded Texthelp in 1996 to help people with communication difficulties. What started as a company focused on people with profound Speech and Dexterity Disabilities has become a world leading Assistive Technology company. His goal is to make sure that by 2030 Texthelp will have advanced the literacy and understanding of one billion people. In 2017, Martin received the Presidential Award in recognition of lifetime contribution to dyslexia and literacy from the International Dyslexia Association. Today, Martin serves in an advisory capacity on the Universal Design for Learning council.

