

Digital inking on Microsoft Surface for teachers and students

Save teachers time and drive positive learning outcomes with Surface Pen and Microsoft Classroom Pen



The write path to success

Students in primary and secondary schools are in a critical stage of their development, building key life skills and gradually preparing for adulthood. In addition to learning the basics, they're also gaining familiarity with technology that will aid their success in the working world.

As paperless collaboration becomes more and more prevalent and people want to communicate ideas more deeply than they can through typing, digital inking has emerged as an important tool.

Using digital ink, students retain information more effectively and express themselves more freely than they can with a keyboard alone. And while early styluses were slow to respond and difficult to control, today's options are smarter and more responsive—and they feel as natural as using a ballpoint pen on paper.





How digital ink enriches the classroom experience

By introducing digital ink into the classroom, educators save valuable classroom time and help students at every level expand their possibilities and sharpen their skills.

Teachers can take their whiteboards with them

Using a shared digital whiteboard and Surface Pen, teachers can present handwritten information or annotate slides in real time from anywhere in the classroom. And because the whiteboards are digital, teachers can create as many as they need, save them for later, and search the handwritten text in each image.

Teachers can quickly share handwritten information

Using the inking capabilities in Microsoft Teams, teachers can share information with classes and individual students faster, provide better feedback, and facilitate richer discussions.

Symbol-based subject matter is more accessible

With digital inking, it's easier than ever to teach and learn subjects that involve symbols, diagrams, and annotation, with no need to find and insert special characters. For example, students in a math or physics class can work out equations by hand. Chemistry students can diagram compounds and write out formulas. Students learning languages such as Mandarin, Japanese, and Russian can write freely in those languages. And in art classes, Surface Pen offers a level of creative control that just isn't possible with any other stylus.

“Having a tablet PC with a wireless projector in a classroom is huge—a lot of what you’re teaching requires annotating or presenting while walking around.”

—Elementary School Teacher

“Now I have exactly what I want as a teacher. I can sit down with this device and pen, open up a piece of [digital] paper, give feedback, and then go on to the next digital paper.”

—Math and Science Teacher

“Digital ink is transformational in terms of the way feedback for students occurs. Often the feedback takes the form of simple annotations, mark-ups, and highlights. You don’t want a student to have to mouse over a pop-up comment—that just doesn’t work.”

—Math and Science Teacher

“Without digital ink, we would use the computers as a typewriter or for research ... but we would never use it for math, science, or art.”

—Elementary School Teacher

Why educators believe in digital ink¹

50% say it saves them time when grading assignments, papers, or exercises

67% say it saves them save time when preparing materials and curriculum

88% say it allows them to increase the quality of instruction to the entire class

"I'm so much more organized, and I can find all my notes."

—Elementary School Teacher

"Now I can grade in between breaks or when I have small windows of time. I can use my time more efficiently—it's easier to stop and start because I don't lose my place."

—Elementary School Teacher

"Now I'm ahead of the curve. And I'm not asking myself, 'How do I present this to my students?' I'm asking myself, 'How do I present the material to my students better?'"

—High School Math and Science Teacher

¹ InfoBrief: Digital Ink in the Classroom, IDC (sponsored by Microsoft), 2015

Empower students at every age

Retention and comprehension

According to findings that were published in *Psychological Science*, taking notes by hand leads to better fact retention and long-term comprehension.¹

Unrestricted creativity

Young minds don't think linearly. With digital inking, they can tell their story their way. Instead of being limited to what a keyboard can offer, they're free to go "outside the lines" and be as expressive as their imaginations dare.² And by fostering creativity, educators help students prepare for a job market in which creativity is the most vital soft skill for their career success.³

Fine motor control development

As children develop, their motor control and stability starts at their trunk and progresses to their elbows, their wrists, and then finally their hands,⁴ and writing with a pen helps them practice their fine motor skills over time. Surface Pen and Microsoft Classroom Pen are designed to feel real and substantial in students' hands, rather than feeling like a chunky stylus or magic marker. And based on where a student's motor skills are, they can digitally change the Surface Pen tip to be as fine or as broad as they need.

The right tech at the right time

Until students are ready to use a keyboard and get comfortable with typing, they can write by hand with digital ink. And as they grow, they can shift from the Microsoft Classroom Pen, which is designed for smaller hands, to the full-sized Surface Pen.



¹ *Take Notes by Hand for Better Long-Term Comprehension*, *Psychological Science*, 2014

² *Benefits of Handwriting vs. Typing: Here's How to Combine the Two*, *Simply Written*, 2018

³ *The Number One Soft Skill Employers Seek—And Five Ways Top Leaders Say To Cultivate Yours*, *Forbes*, 2019

⁴ *Gross Motor Skills and Handwriting*, *Your Therapy Source*, 2016

Give teachers more time and freedom

Creative lesson planning

With digital inking, teachers can easily adapt traditional lesson plans to incorporate handwriting and drawing. And as they develop new lesson plans, they can get creative and adapt to different learning styles.

Faster, easier grading

When classwork and homework are done digitally, teachers can use Surface Pen to quickly and easily mark it up and make changes on the fly.

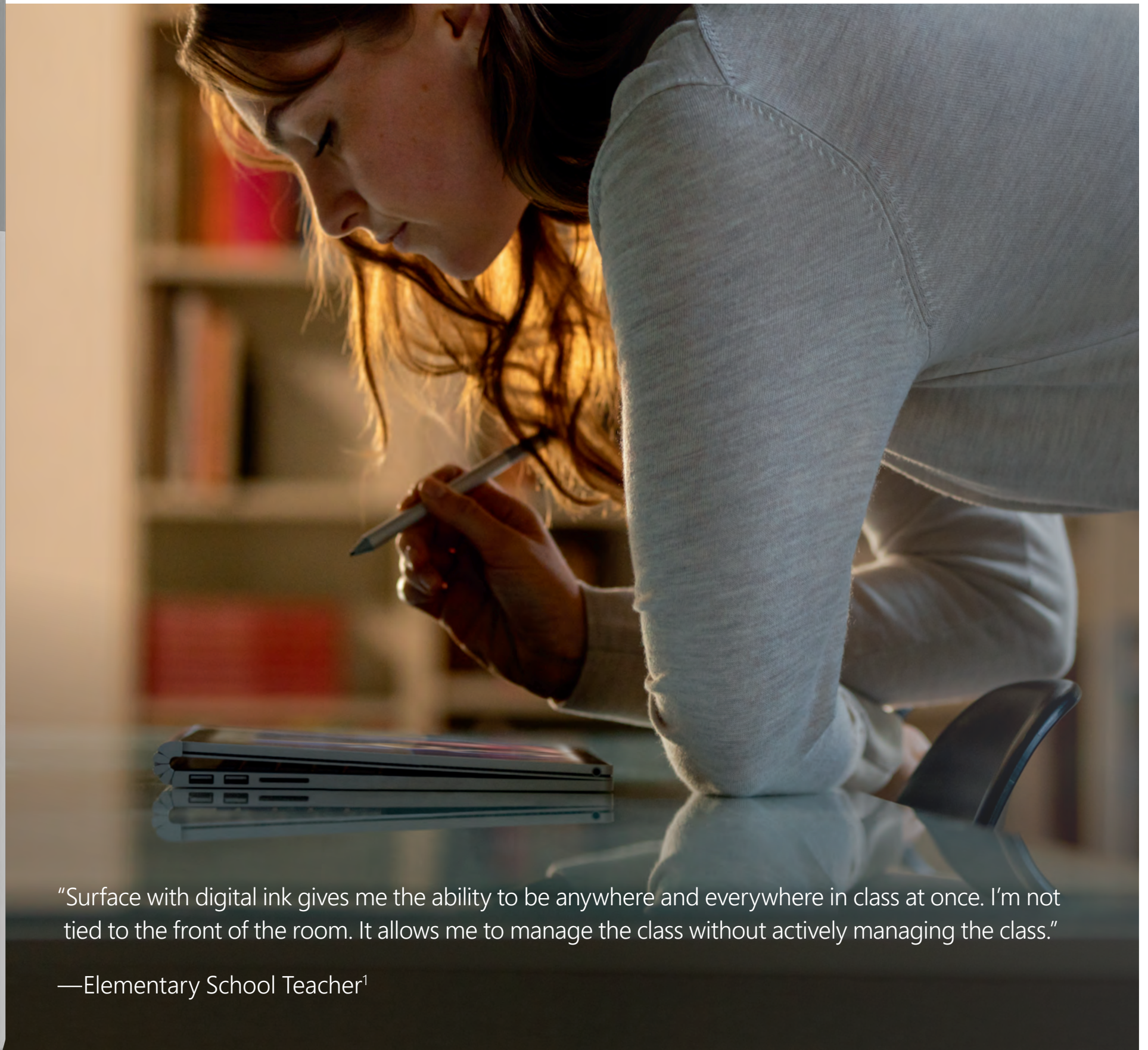
Digital whiteboards

Unlike physical whiteboards, digital whiteboards are mobile, endless, and easily converted to searchable files. Instead of erasing and rewriting the same physical board multiple times a day and interrupting a lesson to capture the information, teachers can prepare whiteboards for every lesson ahead of time and pull them up from wherever they are in the class.

Mobile versatility

In an IDC InfoBrief sponsored by Microsoft, the majority of educators who were surveyed found it easier to use a tablet and pen than to switch between actively teaching and sitting behind their desk.¹

¹ [InfoBrief: Digital Ink in the Classroom](#), IDC (sponsored by Microsoft), 2015



“Surface with digital ink gives me the ability to be anywhere and everywhere in class at once. I’m not tied to the front of the room. It allows me to manage the class without actively managing the class.”

—Elementary School Teacher¹

How Surface can help

With two pen options and a range of apps that make the most of digital inking, Surface is ready to help your school provide an innovative and well-rounded educational experience.

It all starts with a pen—compare your options

Surface Pen and Microsoft Classroom Pen both offer up to 4,096 pressure levels for more precise and accurate inking experiences. And both are designed to pair with Surface devices through a Bluetooth connection.

Surface Pen

Made for artistic precision and fine control

- Available in multiple colors to express your personality
- Available: Options that include a rubber eraser at the end
- Available: Options that change your ink stroke based on the tilt of the pen

Microsoft Classroom Pen

Made for little hands and big imaginations

- Designed with K–8 students in mind and built for heavy wear and tear
- Easy to deploy and intuitive to use
- Available exclusively to educational organizations and sold in packs of 20 with replacement tips

[Identify your Surface Pen and features](#)

“Tablets will be essential in the classroom. Surface Go and Surface Pen make it easy for teachers to express themselves with words and graphics. They’re so intuitive that even new users will soon find them indispensable.”

—Education Planning Department Director¹

¹ *This Japanese prefecture is revolutionizing education with Surface Go and M365*, Microsoft, 2020



Save and search your class notes in one place

Help students keep learning long after class is dismissed by saving all of your notes in OneNote. Notes stay together and persist over time, so they’re easy to find and refer to often, which helps students deepen their understanding.

In addition to typing notes, students can also write them by hand, record audio and video, snap a photo, or clip research that they find online. Handwritten notes are included in OneNote results.

And for students learning math, the Math Assistant in OneNote can help. Have them write or type any math problem, and Math Assistant helps them learn how to solve it themselves by displaying step-by-step instructions.

Mark up docs and annotate presentations in real time

Add illustrations, handwritten notes, and annotations in Word and other familiar Microsoft 365 applications. Use the pen to highlight shared documents or to make annotations during live presentations on a shared screen.

Create and collaborate on an endless whiteboard

Brainstorm, sketch ideas, and plan creative lessons with Microsoft Whiteboard. Just grab the pen and start writing. And if you have the Whiteboard app on another device, you can switch between them and pick up right where you left off.

Bring your lesson plans to life with 3D creativity

Create 3D models, diagrams, and graphics that students can explore from every angle using Microsoft Paint 3D. Instantly create cut-outs from pictures by using Magic Select, and then use them as stickers that wrap around your 3D models. Drawing in 3D is fun for any class, and it’s ideal for immersing learners in STEM (Science, Technology, Engineering, and Mathematics) subject matter.

Hillcrest primary and secondary school improve writing outcomes with custom Surface solution

Located in Queensland, Australia, Hillcrest Christian College is an independent, coeducational day school that serves more than 1,400 students, ages 3–18, in levels Prep to Year 12. The College also runs a full-day day care program for children ages 3–5. The College believes in preparing all students for a digital world and, by using tailored applications that include Surface and Surface Pen, has seen early learners develop reading and writing skills up to 12 months ahead of expectations.

“With the pen, children can access the writing app and practice writing the word sounds, so they’re building great fine motor skills as they’re learning their academic skills,” says Education Consultant Michelle Cecil. Cecil adds, “It doesn’t matter whether it’s a Preppy or Year 12 student. Our students can do far more with Surface Pen than what they thought was possible on a computer.”¹

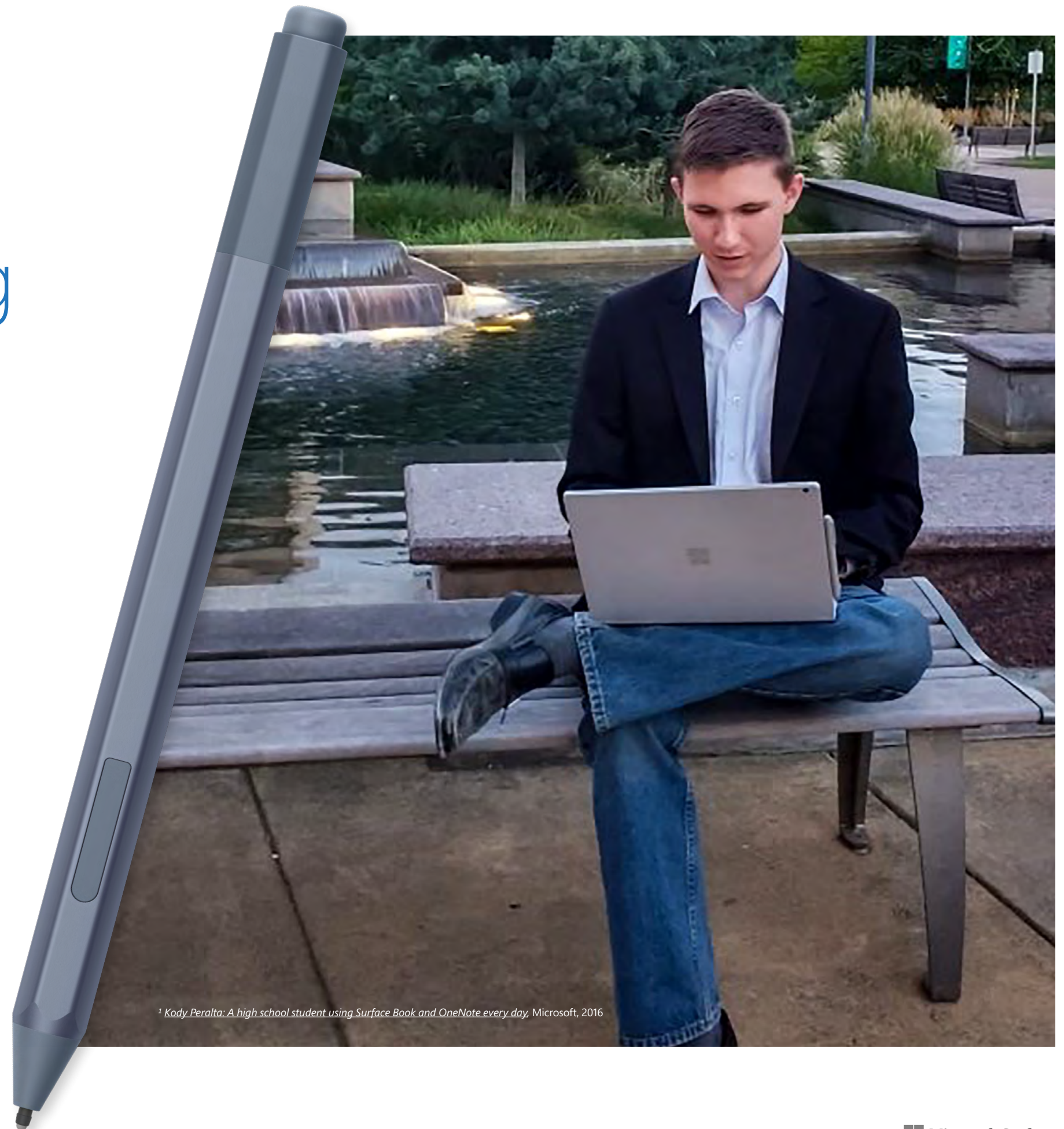
¹ *Hillcrest students learn to read 12 months faster with digital education tools*, Microsoft, 2019



A student with dysgraphia gets a new lease on learning with Surface Pen and OneNote

Kody Peralta is an ambitious high school graduate whose Surface Book has changed the way he learns. Kody now has the ability to take handwritten notes, which he couldn't do on pen and paper because of his transcription disability, dysgraphia. People with dysgraphia have difficulty with handwriting, and it can interfere with their ability to express themselves. Surface and OneNote together have encouraged him to start taking handwritten notes again because he can write on a much larger scale, using Surface Pen, and easily scroll in and out to make his sentences legible on ruled lines.

"I decided to get a Surface Book because I needed a laptop that would be light enough to carry around from class to class yet provide enough power to handle top-of-the-line games in between classes," says Peralta. "I also wanted to find a laptop that would help me with my dysgraphia. Before the Surface Book, I had both an iPad and a MacBook that would allow me to write down my math notes yet type up my lecture notes—but it was a pain carrying around two devices. The Surface Book combined the best of both worlds, and with the help of OneNote, has given me all the tools I need to be successful at college!"¹



¹ Kody Peralta: A high school student using Surface Book and OneNote every day, Microsoft, 2016