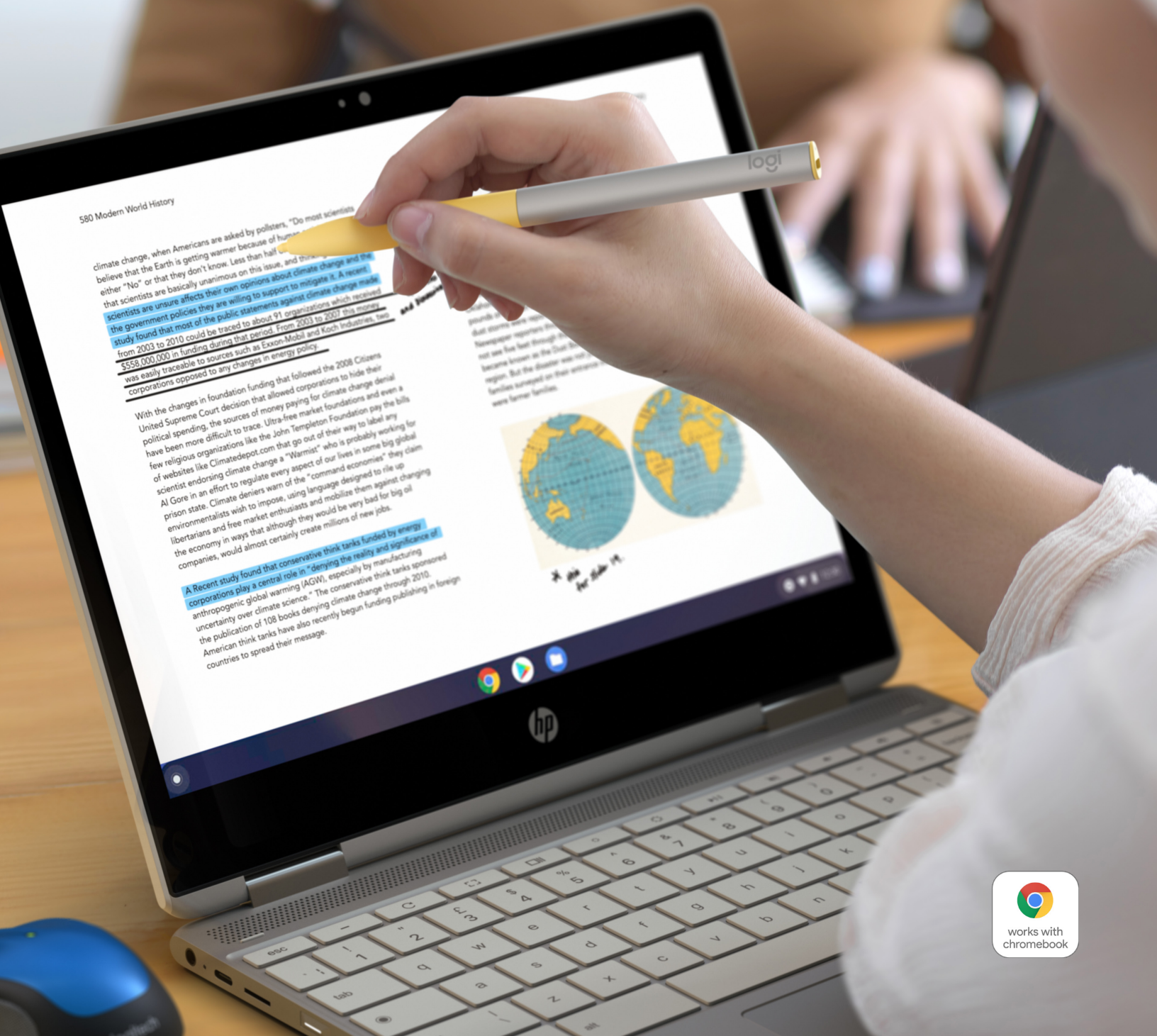


logitech®

DESIGNED FOR LEARNING, BUILT FOR SCHOOLS: LOGITECH PEN



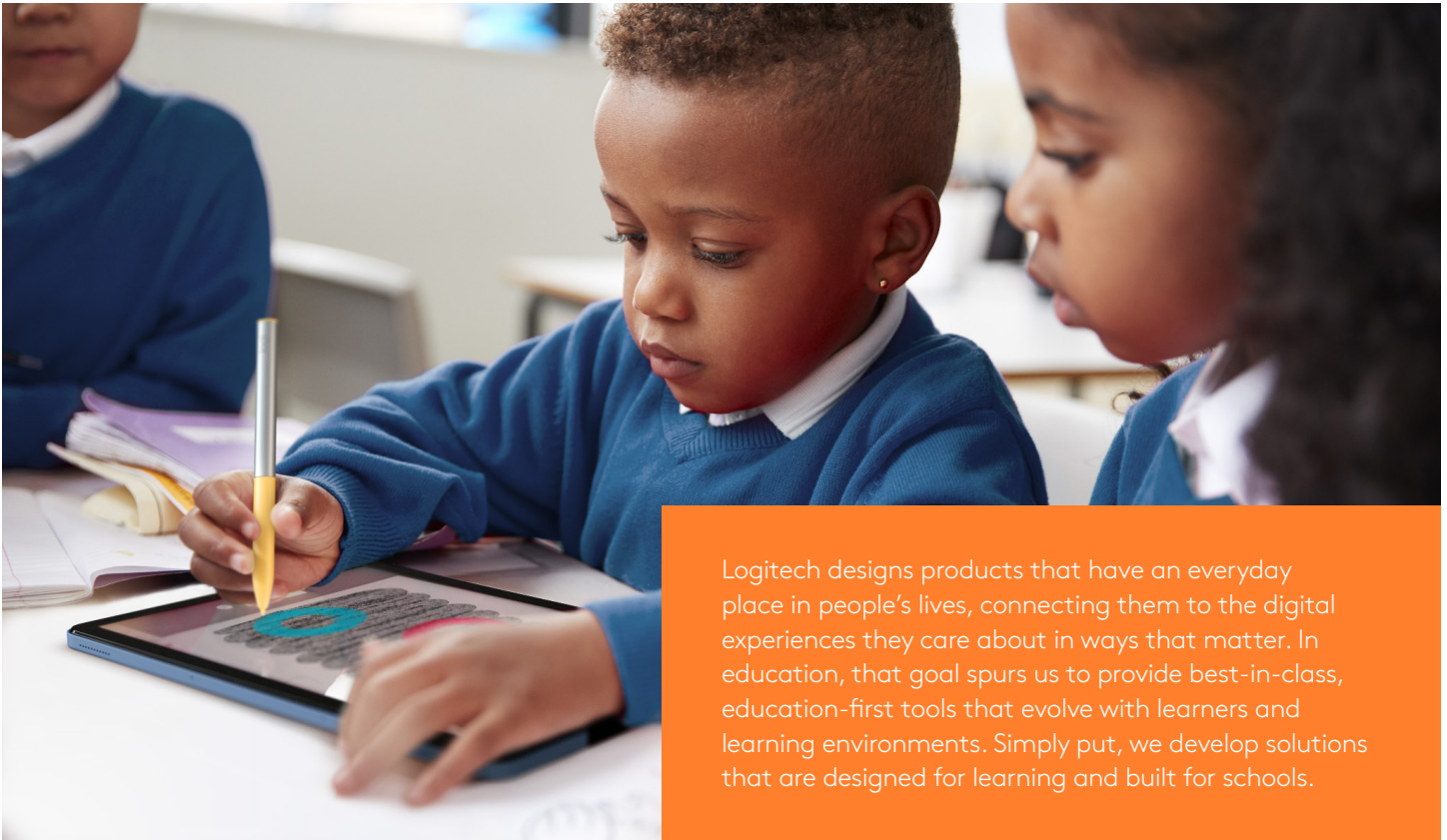
580 Modern World History

climate change, when Americans are asked by pollsters, "Do most scientists believe that the Earth is getting warmer because of human activity, or is it either "No" or that they don't know. Less than half of Americans believe that scientists are basically unanimous on this issue, and those who do believe that scientists are unsure affects their own opinions about climate change and the government policies they are willing to support to mitigate it. A recent study found that most of the public statements against climate change made from 2003 to 2010 could be traced to about 91 organizations which received \$558,000,000 in funding during that period. From 2003 to 2007 this money was easily traceable to sources such as Exxon-Mobil and Koch Industries, two corporations opposed to any changes in energy policy.

With the changes in foundation funding that followed the 2008 Citizens United Supreme Court decision that allowed corporations to hide their political spending, the sources of money paying for climate change denial have been more difficult to trace. Ultra-free market foundations pay the bills of websites like [ClimateDepot.com](#) that go out of their way to label any scientist endorsing climate change a "Warmist" who is probably working for Al Gore in an effort to regulate every aspect of our lives in some big global prison state. Climate deniers warn of the "command economies" they claim environmentalists wish to impose, using language designed to rile up libertarians and free market enthusiasts and mobilize them against changing the economy in ways that although they would be very bad for big oil companies, would almost certainly create millions of new jobs.

A recent study found that conservative think tanks funded by energy corporations play a central role in "denying the reality and significance of anthropogenic global warming (AGW), especially by manufacturing uncertainty over climate science." The conservative think tanks sponsored the publication of 108 books denying climate change through 2010. American think tanks have also recently begun funding publishing in foreign countries to spread their message.





Logitech designs products that have an everyday place in people's lives, connecting them to the digital experiences they care about in ways that matter. In education, that goal spurs us to provide best-in-class, education-first tools that evolve with learners and learning environments. Simply put, we develop solutions that are designed for learning and built for schools.

Logitech Pen is a USI-enabled Chromebook™ stylus designed to help students unlock the full potential of technology. Throughout the concepting, design, and engineering process, we applied seven core principles. The result? A solution that was truly built from the ground up to meet the needs of students and schools.

1. DESIGN FOR STUDENTS, WITH STUDENTS

Schools and districts need tools that keep pace with today's evolved learning environments. That's why we collaborate with students and educators in real-life classroom situations to develop education-first solutions. During the prototype design process for Logitech Pen, we gathered input from over 100 students ages 6 to 17 in classrooms and in sessions at the Logitech Ergonomics Lab. We collected feedback on every detail and used student feedback to modify many aspects of Logitech Pen — including the size, weight, shape, and color. Students thought a triangular shape was most comfortable. Yellow was the most popular color because it resembled the iconic #2 pencil and was easy to find in the bottom of a backpack. (The color yellow has also been linked to boosts

in memory and attention in outside research, reinforcing this design choice.¹)

During the prototype sessions, students were asked to perform tasks on a tablet using their fingers, a Logitech Pen, and another stylus.² The results of the study were compelling: 89% of participating students found Logitech Pen comfortable and precise, leading to fewer overall distractions during the learning process. In subsequent studies, 96% of students said that if given a choice, they would prefer to use Logitech Pen with learning apps.³ These findings align with outside research indicating that students ages 8 to 9 perform significantly better in drag-and-drop tasks when using a stylus instead of a finger.⁴



2. DESIGN FOR ULTRA-COMFORT AND INTUITIVE USE, SO THE FOCUS REMAINS ON LEARNING - NOT THE TOOL

If a tool is uncomfortable to use or unintuitive, students may give up using it before a lesson is over, let alone focus on what their teacher is saying. In a survey conducted by Logitech and Education Week, 74% of teachers said students' level of physical comfort while using educational technology impacts their level of engagement in learning "some" or "a lot."⁵ And 1 in 6 educators reports technology ends up sitting on the shelf and not being used in classrooms because of the troubleshooting time required to use it. With Logitech Pen, we optimized the experience for learner comfort through an easy-to-hold tri-lobe shape, extended soft silicone grip, and optimal sizing and weight distribution. Each design element makes the Logitech Pen as easy to use and just as good — and in some cases better than — a traditional pencil. One student tester said, "It's easy to hold and easy to write with. It's the right weight, not too heavy and yet not too light."⁶

3. DESIGN FOR LEARNERS AT DIFFERENT LIFE STAGES

We build products for learning and also for learners who are going through the phases of growth and development. Designing for students' cognitive, social, and emotional changes is not simply taking a tool for adults and making it smaller — we consider the unique needs of students at different stages. During our prototype testing, we saw how young learners, including those just mastering handwriting skills, hold their Logitech Pens in unique and different ways, including right at the tip of the stylus. These observations, along with research regarding fine motor performance and the amount of force control young students have over a tool, led to a modification with the Logitech Pen prototype.⁷ In the end, we extended the length of the silicon sleeve on the stylus to get it as close to the tip as possible. This adjustment ensures that students with all sizes of hands and levels of motor control can feel comfortable.

4. BUILT AROUND STUDENT BEHAVIORS, NOT IN SPITE OF THEM

We build tools for learners and educators that blend in seamlessly with what they are already doing. For example, there's a reason handwriting instruction is still required in many schools. Handwriting is a foundational skill that can dramatically affect how much students are able to benefit from other learning technologies.^{8,9} Also, writing by hand helps boost students' reading confidence, and research shows that taking notes by hand may be better than typing in terms of retaining and understanding content.¹⁰

As education adopts more digital tools, Logitech Pen lets students practice handwriting skills while taking advantage of the benefits of tech-enabled learning.

5. TEACHERS SHOULD TEACH, NOT TROUBLESHOOT

Teachers wear many hats; they shouldn't have to spend time troubleshooting technology. Teachers and students need tools that just work. Even something as small as an uncharged battery can be a major classroom disruption. To lessen the time teachers spend troubleshooting we designed Logitech Pen, when fully charged, to provide up to 15 days of battery life under regular school usage. Using the same USB-C cable that comes standard with a Chromebook, a 30-second charge gets students 30 minutes of use — equal to nearly a full class period.





6. PRIORITIZE UNIVERSAL COMPATIBILITY

With a growing number of edtech tools, administrators and teachers need new additions to be compatible with existing setups. Logitech Pen's no-pairing-needed capability makes it easy for students to work on each others' Chromebook laptop or tablet with their own stylus, without having to ask the teacher for help. Teachers, too, are freer to move about the classroom, switching from one students' device to another — just like they were using pen and paper. In our studies conducted with educators, this level of ease and compatibility received positive feedback.

7. HOLD UP TO THE SCHOOL ENVIRONMENT, WHILE BEING BETTER FOR THE ENVIRONMENT

In a school day and school year, a lot can happen. We build our products to stand up to continuous and repeated use and extend school budgets. But we have our eye on the long term too, and design products in ways that don't hurt the planet.

We test for durability, real-world use, and repeated cleaning. In a 2021 survey of school employees who tested Logitech Pen, respondents noted that Logitech Pen's smooth shape made it easy to clean with a wipe, while its carefully chosen materials and components made it tough enough to get through the school day.¹¹ According to one school tester, "Logitech Pen could withstand curious elementary students."

Additionally, Logitech Pen, like all of our products, is certified carbon neutral, a step that matches our climate positive approach at a company level.



THE FUTURE OF LEARNING

Learning is not one-size-fits-all. It happens anytime, anywhere, and in any style. As learning evolves, so must the technology that enables it. We worked hand-in-hand with educators and students to be sure Logitech Pen was grounded in insight and tested in the rigor of a real world classroom — taking into account everything from small hands and backpacks to developing minds and motor skills to design an education-first tool. Because when technology adapts to every size and shape of learning, it becomes more accessible, more meaningful, and more impactful.

To learn more about Logitech’s suite of education solutions, go to

<https://www.logitech.com/education.html>



¹ Khan, J., Liu, C. (2020). The impact of colors on human memory in learning English collocations: evidence from South Asian tertiary ESL students. *Asian. J. Second. Foreign. Lang. Educ.* 5, 17 <https://doi.org/10.1186/s40862-020-00098-8>

² (2021). Ergonomics Lab study. Logitech.

³ (2023). Case Study: Christie Elementary. Kami x Logitech Pen: Removing Obstacles to Learning. Logitech. <https://www.logitech.com/content/dam/logitech/en/support/qsg/education-centre/christie-elementary-school.pdf>

⁴ Cassidy, Brendan et al. FittsFarm: Comparing Children’s Drag-and-Drop Performance Using Finger and Stylus Input on Tablets. (2019). *Human-Computer Interaction – INTERACT 2019. Lecture Notes in Computer Science*, vol 11748. https://doi.org/10.1007/978-3-030-29387-1_38

⁵ Logitech and EdWeek Research Center. (2022) The Ergonomics Equation. Logitech. <https://www.logitech.com/en-us/education/education-center/whitepaper/ergonomic-equation.html>

⁶ (2021) Survey of IT decision-makers who tested LogiPen. Logitech.

⁷ Lin YC et al. (2017). Comprehension of handwriting development: Pen-grip kinetics in handwriting tasks and its relation to fine motor skills among school-age children. *Australian Occupational Therapy Journal*. <https://doi.org/10.1111/1440-1630.12393>

⁸ Bonneton-Botté, Nathalie et al. (2020). Can tablet apps support the learning of handwriting? An investigation of learning outcomes in kindergarten classroom [sic]. *Computers & Education*, Volume 151, 103831. <https://doi.org/10.1016/j.compedu.2020.103831>

⁹ Fogel Y, Rosenblum S, & Barnett AL. (2022). Handwriting legibility across different writing tasks in school-aged children. *Hong Kong Journal of Occupational Therapy*, 35(1):44-51. <https://doi.org/10.1177/15691861221075709>

¹⁰ Mueller, P. A., & Oppenheimer, D. M. (2014). The Pen Is Mightier Than the Keyboard: Advantages of Longhand Over Laptop Note Taking. *Psychological Science*. <https://doi.org/10.1177/0956797614524581>

¹¹ (2021) Survey of IT decision-makers who tested LogiPen. Logitech.