Google for Education

Challenge to Excellence Charter School students explore the world using Android tablets with Google Play for Education

About Challenge to Excellence Charter School
- Charter school serving 510 students in Douglas County, Colorado
- Focus on science, math, and technology
- Google Apps for Education user since 2010
- Chromebooks user since 2013
- Nexus 7 tablets user since 2014

Goals
- Help students and teachers stay organized and eliminate slow paper processes
- Give younger students access to technology tools
- Empower students to find information online, teach themselves, and become accountable for their own education

Approach
- Give students and teachers a single log-in for all class projects with Google Apps
- Bring tablets to kindergarten and first- and second-grade classrooms to help students start learning to use technology for learning
- Allow teachers to find the apps they need for their classrooms

Results
- Introduced new ways of learning outside the classroom
- Empowered teachers to download apps that respond to specific class needs, like special education reading and writing tools
- Students teach each other

Institution
The Challenge to Excellence Charter School (C2E), in Parker, Colorado, serves 510 students in the Douglas County School District. C2E specializes in math, science, and technology for its K-8 classes. Students come from a range of ethnic and cultural backgrounds: many speak Hindi, Bengali, Russian, and Spanish in addition to English.

Creating a culture of mobility and access
When Beth Mossholder joined C2E as a fourth-grade teacher in 2006, shortly after the school's founding, she found very little technology to share with students. "There was no Wi-Fi, and I brought in my own laptop and router to create a hotspot," recalls Mossholder, who's now the school's K-8 technology teacher.

By 2010, the school had wireless access building wide. "I had a vision for going paperless," says Mossholder. Before, C2E students used paper planners to keep track of classes and homework; if they lost the planners, they didn't have a record of their assignments.

Mossholder thought adoption of Google Apps for Education could not only help the school go paperless, but also solve other challenges like making it easier for staff to communicate outside of school hours. "I told my boss we wouldn't have to come back to school at night just to get our email—we could all be more mobile," Mossholder says.

Today, students manage classwork using Google Calendar. They can subscribe to their teachers' calendars, and teachers also post the calendars online so parents can see what's going on in class. "It's been great for our students who are on the autism spectrum, for whom organization can be a challenge," Mossholder says.

"Google Calendar helps us hold kids accountable because they can access their online calendars, which powers the planner, from anywhere," says Linda Parker, principal of C2E. "We wanted to eliminate the 'I don't have homework, Mom' syndrome. Now parents can download the teachers' calendars themselves." Replacing paper planners with Google Apps was also a boon for the school budget: C2E is saving the $2,500 yearly costs for the planners, and has allowed the school to reduce student fees.

Empowering students to learn and explore together
Excited by these positive changes, technology integration specialist Julie Stewart applied for an EdTechTeam grant to bring Android tablets with Google Play for Education to C2E. "We wanted to get kids used to technology from an early age, and also wanted devices that they could take home," she says. The EdTechTeam grant gave Stewart 25 Nexus 7 tablets for her classroom.

Google Play for Education empowered C2E teachers to find and share fun and educational apps for their classrooms. Google Play for Education contains badges that show which apps have been approved by educators, and teachers

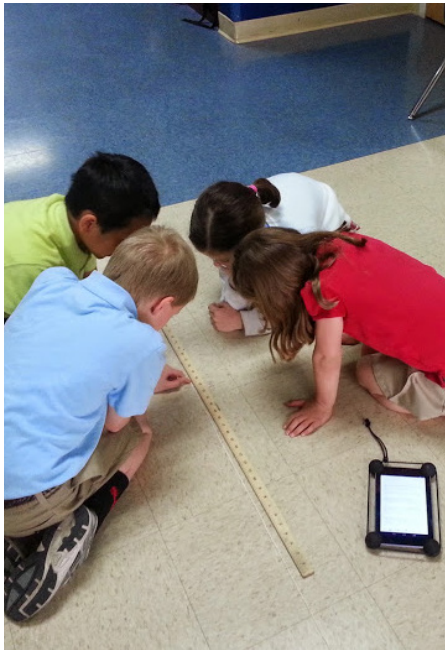*"Students are empowered to find their own answers, which places them on a path to becoming leaders. They know that no matter how old they are or what grade they're in, they're all smart and capable."*
—Beth Mossholder, K-8 Technology Teacher, Director of Instructional Technology, Challenge to Excellence Charter School

can browse by grade, subject, and educational standard to find just the right apps for student activities.

"I used to spend my nights and weekends searching for apps that teachers needed," says Mossholder. "Now teachers have the power to get creative about finding apps on their own." Mandy Krien, the school's special education teacher, was an early adopter of Google Play for Education. She located an app called **Read & Write** that helps children with learning difficulties to write and communicate.

Third-grade teacher Sean Carmody also likes to search for apps that can help students work on their own, even when the whole class is studying the same concept. "I like using **Math Pack** and **Math Evolve** because they have various levels of difficulty," Carmody explains. "My students can work at their own pace, and challenge themselves to get to the next level."

And students have weighed in on the appeal of tablets and apps as well. "They helped me learn by opening another world to technology," says Laura, a fourth-grader who used tablets in the second and third grades. "I learned new and cool things by fun apps that were like games, but make your mind smarter too."

Taking virtual field trips using tablets

Teachers have been pleasantly surprised at the creative ways that tablets can enhance lessons. When Aryaman, a second-grade student, told classmates he was going on a family trip to India, Stewart had an inspiration. "I decided that a tablet was going with him to India, so he could take pictures," she says. "He started emailing us amazing photos, and I thought, 'this is like a virtual field trip for the kids.'" Back at school, students used their tablets and Google Earth to research where their classmate was traveling, including landmarks such as the Taj Mahal.

"When the student came back from his trip, his classmates showed him all the pictures and information they'd collected," says Stewart. "You could feel their excitement—the project helped take my students outside the four walls of the classroom."

Students on a path to leadership

C2E now uses 105 tablets for kindergarten, first- and second-grade classrooms, and offers 1:1 tablets in second grade as well as 1:1 Chromebooks in grades three through eight. Across grades and subjects, teachers and students are exploring new ways to dive deeper on class projects.

"When a couple of second-grade kids became interested in World War II, we asked my friend's father, a veteran, to talk to our students about his experiences as a soldier," says Stewart. "The kids used their tablets to read a news article about the veteran and the war, then they collected their questions on a Google Sheet and talked to the veteran using a Google Hangout. It was wonderful to see a group of eight-year-olds interacting with a 95-year-old."

During projects like this one, Mossholder and Stewart realize how technology changes the teaching and learning dynamics in C2E classrooms. "I had my big 'aha' moment when I saw that teachers were no longer standing in front of the classroom with a line of students waiting to ask for help," Mossholder says. "Students are empowered to find their own answers, which places them on a path to becoming leaders. They know that no matter how old they are or what grade they're in, they're all smart and capable."