School Case Studies

School Name:

International School
Bellevue School District

Grades:

6-12

Student population:

578

Location:

Bellevue, Washington

In teacher Cheryl McClure's seventh-grade earth-science class, you might encounter a group of students who are laser-focused on a serious global issue: natural disasters. Thinking about earthquakes, tsunamis or volcanoes may not seem especially pleasant to the average adult, but studying this kind of material can make science come alive for middle schoolers at a time when it might be easier for them to tune out such subjects.

The fact that these students are both challenging and supporting one another while working together in Minecraft might be surprising.

This type of project-based learning is collaborative at its core, so there's an exciting opportunity created for educators and learners when it can be accomplished with a game that is familiar and accessible. Developing discipline-specific material that also supports a student's personal growth sounds almost too good to be true. Encouraging collaboration in a 1:1 device environment could appear even less realistic.

What factors create an environment conducive to this kind of educational experience?

Photo(s) courtesy of International School

An Emphasis on Social and Emotional Learning

At the International School in Bellevue, SEL is emphasized through a school-wide “Character Strong” initiative, in which lessons about characteristics such as kindness, respect and humility are integrated into courses throughout the curriculum across all seven grade levels. Such holistic approaches to educating “the whole self” can be bolstered with the right tools.

McClure has chosen to incorporate Minecraft into her teaching to support academic content knowledge, and to showcase her students’ understanding of specific concepts.

The result? McClure is confident that Minecraft supports her students’ communication, critical thinking and collaboration skills. “It feels like they’re utilizing critical thinking skills any time that they’re building. There’s a lot of work you don’t see that they’re doing within the program.”

Working Together Toward a Shared Goal

Building illustrative 3D models in a virtual world enables her student teams of research scientists, engineers, media specialists and project managers to connect and collaborate on a meaningful project—the creation of a Public Service Announcement about natural disasters—with a sense of autonomy and personal accountability.

Students are graded within their individual roles, but McClure’s rubric also allows for feedback from the entire class. As they work alongside one another to build, communicating about challenges and sharing new ideas, it’s clear that these seventh graders can work together to successfully reach a common goal.

Photo(s) courtesy of International School

School Name:

Bryant Montessori

Grades:

Pre-Kindergarten-8

Website:

Tacomaschools.org/bryant

Location:

Tacoma, Washington

K-12 extracurricular clubs are outlets for students' creativity and experimentation. Often, students across grade levels are able to participate in an area of interest, with guidance from a teacher or industry expert.

In an environment where adults typically run the show, one school has a club with a flipped leadership model. Aligned with Montessori learning, which highlights strength of student autonomy in learning pursuits, this Minecraft Education club stays true to form by placing the leadership in the hands of a group of very capable students.

At Bryant Montessori, three eighth graders led and facilitated a Minecraft Education club over the course of the 2015-16 academic year. A staff supervisor served as a guide, but the students were in the driver's seat.

In the club, a group of third through sixth graders participated in all kinds of challenges that were proposed by their peer leaders at the beginning of each club meeting.

On some occasions, the student leaders would share or show what club members had created in the virtual world, using a smartboard; in other meetings, the students would collaborate on building something as a group.

Photo(s) courtesy of Bryant Montessori

Camaraderie Outside the Classroom

The club offered flexible learning experiences in which students—a mix of boys and girls of different ages—worked alongside each other in the school's library. Bringing the virtual world to a large screen made for lively debate, and opportunities to help one another in constructing homes and elaborate farms full of livestock—including one that featured "a lot of goats," as one group laughingly put it.

The club created a level playing field in terms of technology use, as one student described. "I don't have XBox Live at home [with the ability to play online], so I could only play with friends who came over to my house. At school, I was able to build with my friends while we were all together."

Whether digging into caves or building 3D replicas of their own homes and backyards, students acknowledged that they were learning principles of design and mathematics—and the club had made it fun.

Students revealed that their staff supervisor was also learning how to play the game—she had never played Minecraft previously—and they were able to teach her different aspects of it.

Embracing Failure as a Learning Experience

Mistakes in the real world can lead to some very tangible repercussions. As a result, failure often appears to be a scary prospect that is best avoided. The students in Bryant Montessori's Minecraft Education club, however, have embraced it wholeheartedly.

In Minecraft, starting over represents a new opportunity rather than a regrettable ordeal. In such cases, students in the Minecraft Education club either exploded existing structures in order to create a clean slate for building, or opted to fix their creations. Still more decided to make continuous incremental changes, tweaking their environment over time.

Discussing failure is also far from taboo. "I accidentally opened up water and it filled up my house, so I built a wall that stopped the water," one club member explained.

Remaining calm and focusing on solving a problem is a skill that will undoubtedly serve these students well throughout their academic and professional careers.

School Name:

Renton Prep Christian School

Grades:

K-5 (Elementary)
6-8 (Middle School)
9-10 (High School)

Website:

Rentonprep.org

Location:

Renton, Washington

Photo(s) courtesy of Renton Prep Christian School

Students in an all-school dance practice perform alongside a large video simulation of a cathedral as it is being constructed. In an era in which STEM education is emphasized—and often intersects with the arts—this scene may not seem unusual.

At Renton Prep, it's just one of many learning experiences in which Minecraft helps students take center stage.

The Microsoft Showcase school, which educates students from Kindergarten through tenth grade, incorporates the game into teaching for a variety of grade levels and subjects. In a math class, fifth graders build a museum in a lesson on surface area and volume. The students plan projects, assigning roles, negotiating and problem solving both face-to-face and virtually through their Minecraft personas.

In another room, high schoolers are teaching third graders how the human heart works by showing their own Minecraft project.

A Culture of Collaboration and Student Agency

Without prompts from teachers, students provide feedback and overcome challenges as teams. They interact freely during lessons, answering questions and sharing out loud when they are struggling with a concept. They show support outwardly by applauding one another's efforts.

Their freedom of choice regarding when to use Minecraft, as high school teacher Jessica Pilsner explained, highlights Renton Prep's unique learning environment, where emotional development and student agency are both widely supported and encouraged.

"Minecraft has created a common ground for our students," Pilsner said. "No matter their background, communication style, etc., they are able to find ways to communicate in Minecraft."

Students gain project-management skills while learning to better communicate and overcome obstacles. "They're able to learn and show what they know in multiple formats," Pilsner said. "Having them create a portfolio where they screenshot pieces of their project and write about what they learned has been a great way to showcase learning."

Eliciting Powerful SEL Outcomes Across Grade Levels

Pilsner was excited about the prospect of using the game as a vehicle for social-emotional learning. What surprised her, however, was how it improved her relationship with all of her students—even though she didn't consider herself to be a Minecraft expert. (She advises other educators that there's no need to have such an expectation.)

With most students playing Minecraft outside of school, their level of familiarity actually made it easier for Pilsner to stay focused on outcomes and how her students would showcase what they had learned.

Meanwhile, students' fluency in the game enabled them to think critically about tasks and accomplishing shared goals within it. Since Minecraft appeals to teens as well as younger students, it has equipped Renton Prep's high schoolers with stronger communication, empathy and problem-solving skills in mentoring younger students.

When asked what they love about the game, students' responses ranged from "showing my culture," "making mistakes and being able to fix them" and "expressing my creativity."

After all, as one fifth grader aptly noted, "this is way better than sitting around looking at a math textbook."

Photo(s) courtesy of Renton Prep Christian School