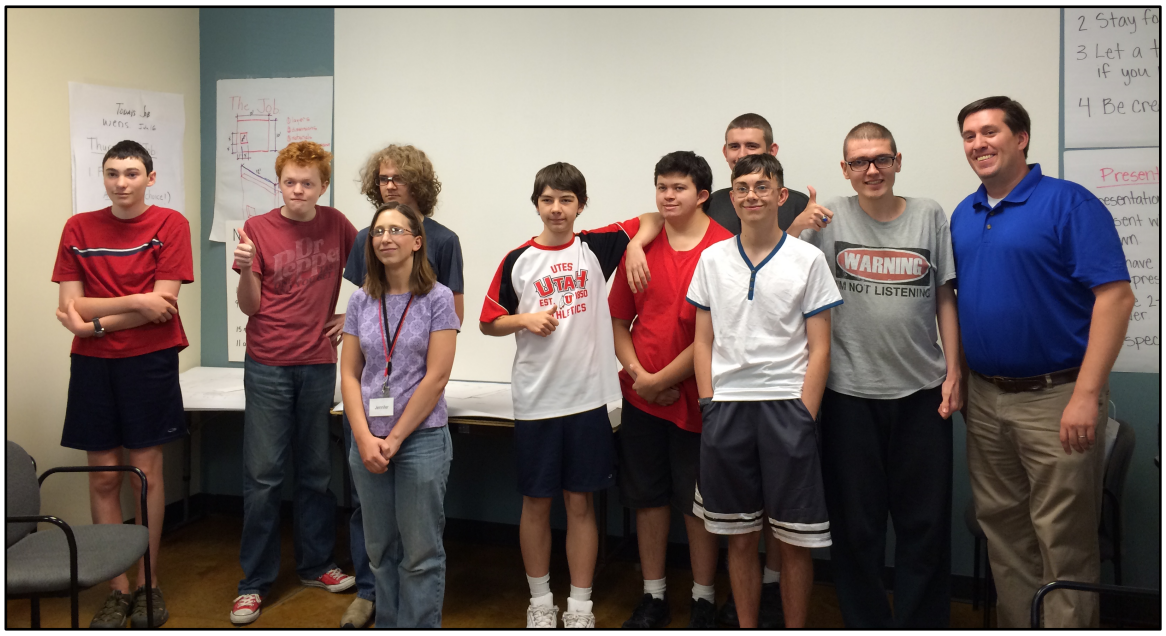


Students from the NeuroVersity workshop in Salt Lake City – Summer 2014

NeuroVersity Workshop 2014

NeuroVersity (NV) offered a 2-week summer workshop for students (15-18 years of age) on the autism spectrum. The workshops were designed to enhance personal, social, and vocational skills. Students were taught the 3-D design software SketchUp and were allowed to create designs of their choice in Week 1. Then, during Week 2, students applied those skills to a "real job" and replicated a building design from an actual construction firm. The long-range goal of the NV program is the development of ***employable skills*** since individuals with autism have some of the highest unemployment rates of all disability groups.

Location

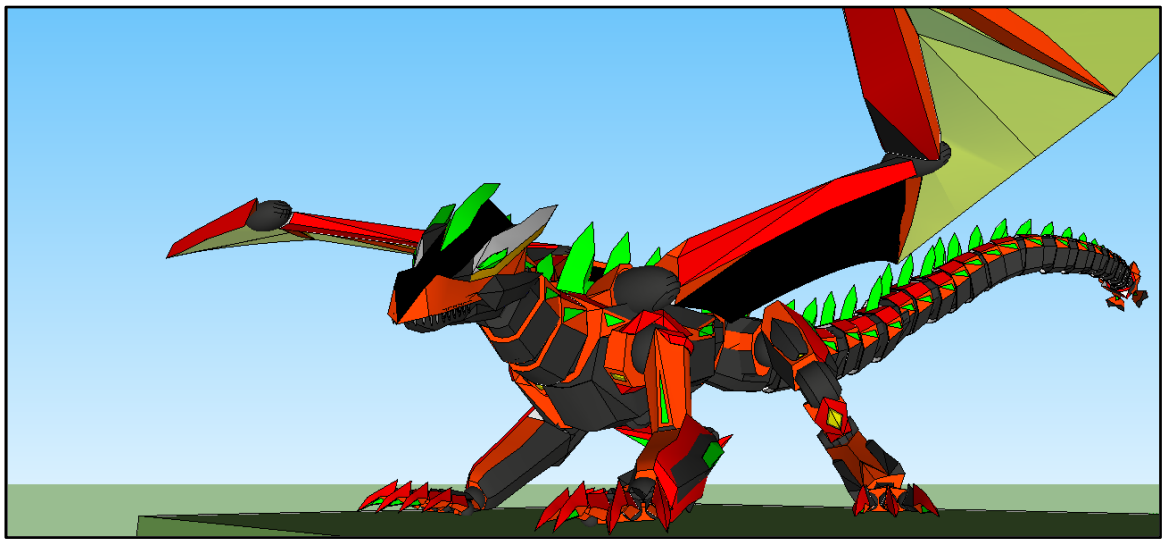
Columbus Community Center (CCC), whose mission is to find employment for individuals with disabilities, was the community partner. CCC is part of the Salt Lake City School District (SLCSD), who supplied the NV program with physical space, computer equipment, IT assistance, and a staff person to work with the NV team.

Recruitment and Selection

SLCSD special educators recruited families for the NV program. The selected students were on the high end of the autism spectrum that had come to the attention of school personnel because of their visual-spatial and technology skills. They came from a wide range of educational environments (on-line high school, regular high school, technology and science charter, arts charter, and an individualized high school curriculum program).

Participants

The participants were 10 males (ages 15-18) with a diagnosis of autism and other related disorders. They were primarily in regular education, verbal, had visual-spatial skills and an interest in technology, and were able to work in a group setting. Family involvement was expected of participating families (parents, grandparents, and siblings were encouraged to attend daily presentations of the students' design projects).



Dragon World by NeuroVersity Student in Salt Lake City – Summer 2014

Schedule and SketchUp Instruction

Skills Taught

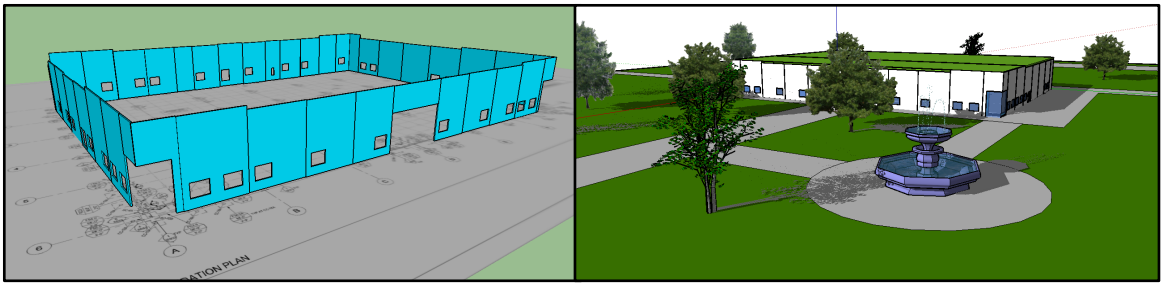
Trimble SketchUp Make was the technology program taught. SketchUp Make is a 3-D design program used by professionals in a wide variety of fields, including architecture, engineering, gaming, and urban planning. The NV primary SketchUp mentor's background is designing theme parks for Universal Creative.

Week 1: Creative Designs

The students spent the first week learning basic and some advanced SketchUp tools. They were given the creative freedom to design projects around their own interests. Example student projects included outer-space colonies, an elaborate neighborhood, a city plan, a house, and a dragon world. The original projects were a mix of fantasy and reality designs (most had a commination of both). The goal was to maximize learning skills of 3-D design with the added motivation of a creative learning environment that helped establish competency, confidence, and mastery in skill development. In addition, social engagement was facilitated between students, peer mentors, and adult instructors. As it becomes a foundational strength for employment success, social skill development is an important part of the matrix for vocational readiness and personal competency.

Presentations

Students presented their work daily, encouraging sharing and communication among the students. They were highly interested in each other's designs, leading to presentations often taking an hour of the workshop. Family members attended during presentation time to ask questions and provide positive support of theirs and other students' creative designs.



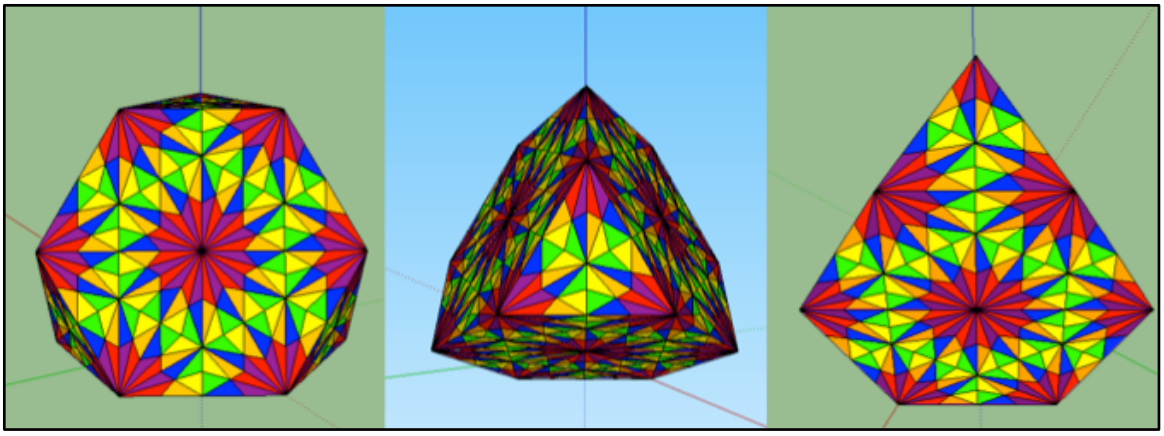
Concrete Tilt Building (left) was the building students were asked to replicate from 2-D plans provided by Big D during the second week of the NV program. *Building* (right) shows a student who added additional features to his building in order for it to look more realistic.

Week 2: Big D Project

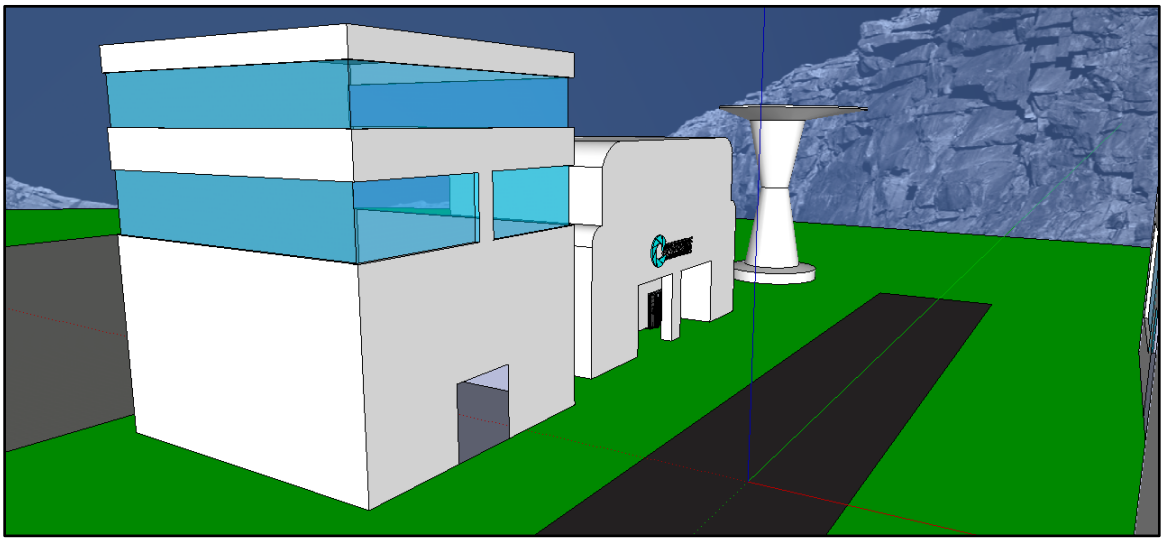
During the second week of the program, students were given a "real job" to undertake. The job involved using SketchUp to design concrete foundations and tilt panels with exact measurements from 2-D plans. Students were then asked to upload the design plan footprint, and then accurately place 42 tilt panels around the edge of the footprint.

The mornings started with daily job instructions from a Big D construction company employee. Once the job assignment was completed, students were allowed to work on their creative projects.

Students followed the job instructions with care and precision. All were successful in completing the job. They were highly motivated by a small compensation they received at the end of the second week.



Tetrahedron by NeuroVersity Student in Salt Lake City – Summer 2014



Space Colony by NeuroVersity Student in Salt Lake City – Summer 2014

Key Learning and Accomplishments

All of the students felt success in their many accomplishments during the 2-week program (in contrast to many prior failure experiences as reported by parents), based on videotaped evaluations and interviews with the students. Each student took pride in their technology skill development and their creative projects. In addition, they voiced success in completing a job that could prepare them for future employment. Students noted making friends and development of self-confidence as additional accomplishments.