BREAKING DOWN WALLS

The [Game+Development+Design_]

School at Burleson ISD

Burleson, Texas



GOOD THINGS COME IN UNASSUMING, GRAY PACKAGES.

The [G+D+D_]School is a district school of choice. It uses blended and self-paced instruction combined with electives in coding and specialty gaming programming to engage and inspire learners who aren't motivated by a traditional school environment.

The school began as a middle school CTE program that was proving so popular, the district decided to spin it off into a curriculum-specific school. They also began to consider expanding it to include high school. But, there was a problem. The current facility wouldn't accommodate the growth and couldn't support the newly hired principal's educational delivery vision. So, when a commercial property with a state-of-the-art event venue became available across the street, they requested a feasibility study.

Could the commercial space accommodate a 450-student middle school and a 150-student high school of choice?

The answer was yes, but it would take some creativity.

Then one day, the architect and principal were walking the old campus discussing the goals and objectives for the new school.

The school was SILENT.

The principal said it was probably one of the saddest things she'd experienced as a campus leader or educator. In that moment, she was determined to tear down the walls, literally and figuratively.

The result is a classroom-free educational environment unlike anything you've seen, in a school without precedence.



SCOPE OF WORK AND BUDGET

The scope of the project was to gut a 33,000 SF of a commercial building and create an educational environment to support a video game development and design school of choice.

The school needed to accommodate 600 students in a building the district anticipated would be used for 20 years.

It opened in phases, with most of the first floor available for instruction when school started and the remaining spaces available a few weeks later. There were some schedule-busting casualties due to the pandemic. For instance, students had to work on temporary desks provided by the vendor until the ordered furniture was installed; and the gaming stations, shipped by freighter, were delayed finding their way to Texas. Despite this, the project was finished, down to the last cable and light bulb, by the end of the spring semester. And, the district was able to stay within its construction budget of \$6.8M (\$227/SF) and an FF&E budget of \$560k. Facility Type: Renovation Grade Level: 6-12 SF: 33,000 Renovated 48,000 Total Student Capacity: 600 Construction Cost: \$6,320,849 Delivery Method: CMAR



In elementary school, I was always the quiet kid. No one really talked to me. I was just sort of there.

Dylan - 8th grade

Students like Dylan are in every school across the country. Bright, intelligent kids who don't fit the mold of industrial-age education.

The [G+D+D_]School uses blended and self-paced instruction combined with electives in coding and specialty gaming programming to engage and inspire learners who aren't motivated by a traditional school environment. Like Dylan, many students at the G+D+D School felt a lack of engagement before changing schools.

The Principal drove the vision for the school with a passion for finding ways to engage students who can easily fall through the cracks.

The typical G+D+D student falls into one of two categories. They are there for the

curriculum—the coding that includes game design and game development—or they want self-paced learning. A few are there for both.

ABOUT THE KIDS

A lot of these kids fall through the cracks at other schools for any number of reasons.

Autism Spectrum Disorder

» Coding is an individual pursuit, ideal for logical, sequential thinkers and rule followers.

ADD/ADHD

» Self-paced learning caters to short attention spans.

Free Spirits

- » Creatives
- » Design aspect
- » Fast-paced

Don't Hold Me Back

» Academic savants who traditional schools can't keep engaged.



ABOUT THE ADULTS

The district, the administrators, and the teachers are risk-takers in their own ways the district for funding a school with such a unique educational delivery method, the administrators for developing programming to reach an under-served population, and the teachers for taking the thread of an idea and running with it.

When the principal was hired in 2020 to develop the programming and run the school, there was no data. She knew there was a target somewhere; she just didn't know what it was or how to hit it. She searched for anything that would give her a baseline, but there was no precedence for this school. Not in Texas. Not anywhere.

So she sat down with her assistant principal and the counselor and developed a graduation plan using their own curriculum. They have a business and Industry endorsement in Arts, Audio/Video Technology, and Communications (Design and Multimedia Arts).

The school offers CTE courses, and the students can earn certifications in Adobe Photoshop and Python Programming.

AVAILABLE CTE COURSES

MIDDLE SCHOOL

- » Coding,
- » Fundamentals Of Computer Science,
- » Principals Of Arts & A/V,
- » Multimedia Design

HIGH SCHOOL

- » Video Game Design,
- » Video Game Programming,
- » Advanced Video Gaming,
- » 3D Models & Animation,
- » Digital Animation,
- » Engineering Design,
- » Graphic Design W/ Lab,
- » Entrepreneurship

The principal knew she needed to hire out-of-the-box thinkers and jokes that her teachers are so far out of the box, they didn't even know there was a box. The faculty adapted quickly to the educational delivery method, adapted quickly to the building, and continue to find new and innovative ways to teach and take advantage of what the building has to offer.

CHALLENGES

The district found a church/office/event commercial building across the street from the middle school's existing location. After analysis, they bought the building in October 2020.

Designing a school concept without precedence, within the confines of an existing shell that was undersized for the need, and on a compacted schedule meant the architects had to throw out every rule they thought they knew about educational architecture and re-imagine what educational delivery could look like to optimize the educational space.



Physical education and **dining** posed two challenges. There was no room for either activity in the 33,000 SF shell. Through creative programming and district participation and cooperation, solutions were found for both challenges.

Another challenge was going to be **how** to keep middle school and high school **separate in a single building?** That solution became apparent when considering the process for attending the school. The middle school uses a lottery system, bu the high school includes an interview process for acceptance. Therefore, the middle school will always be larger than the high school; so, it made sense to put the high school upstairs and the middle school down. A school without walls also meant **sound attenuation** would be a challenge. So, the designers looked to industry, the kinds of spaces where these students may eventually work, and found accommodations that would address that concern.

Design began in November 2020 with a phased occupancy planned for August 2021. The **compact timeline** meant long-lead items needed to be ordered quickly. And, **post-COVID, almost everything became long-lead**.

THE DESIGN PROCESS

How does one plan for the unknown for programming in its infancy with no precedent?

In the same way one shapes students for their future.

You take the best of what is current, and with imagination, speculation, and creativity—you build for potential.

You ask a lot of questions and get input from anyone who will give it including the students who will be attending. What do they want to see? What does engagement look like to them? The architects also turned to industry to see what kind of environments these future tech workers might find themselves.

JURE BEALM Vibrant but not too colorful - Simple but futuristic - Upboat Nextoperation prighter but not blinding - Coming Soundtracks Games Amoughert - feels like your walked into an e-sports venue - (nteractive Map w/ schedule Ganving Characters Config choices to git & where - hection (80's arcade) Lederberg Showcase student work - 3D printing Malengrace

- Newsroom (media studio)
- Video Gaming HQ.
- Dessignated group & induiduelized Work areas
- Stexible Space / Flaxible Furnishing
- Adjustable lightung
- Wii Sports VK Sost Dance interactive projection games



ARE THEY SEEING SUCCESS?

The first full year of this new school program was 2021. Using that year as a benchmark, in 2022 the school tested growth in 34 of TEA's 39 subject areas.

A specific number? An abysmal 43% of students were passing 8th grade math last year. 100% of those students passed Algebra 1 EOC in 2022

EDUCATIONAL ENVIRONMENT DESIGN

EDUCATIONAL VISION AND GOALS:

THE ENVIRONMENT:	THE INTERIOR:	THE PROJECT:	THE IMPROVEMENTS:
 » supports STUDENTS OWNING THEIR LEARNING and being responsible for managing their schedule. » provides students choice for where they will work based on INDIVIDUAL LEARNING STYLES. » allows students to feel at ease working and interacting within a SECURE ENVIRONMENT. » offers students immediate ACCESS TO TEACHERS in every learning space 	 » places LEARNING ON DISPLAY. » models the PROFESSIONAL ENVIRONMENT where their education will likely lead. » provides CHOICE in furnishings for working alone or with groups of any size. » is DYNAMIC and promotes flexibility in use and purpose. » ENGAGES the senses. » RAISES THE SPIRIT. » INSPIRES the mind. 	 will ACCOMMODATE 450 middle schooler and 150 high school students. can be PHASED to meet the immediate needs of 400 students yet grow to serve 600 in the future. will provide various MEDIA to develop and showcase student work. can be realized with a CONSERVATIVE COST APPROACH. will be constructed with cost effective MATERIALS THAT WILL LAST the life of the program. 	 will be constructed to support its intended purpose for the next TWENTY YEARS. will accommodate the defined PROJECT SCHEDULE. will provide food service to all students within TWO 50-60 MINUTE LUNCH PERIODS.

The design team knew that the new G+D+D School school couldn't look like anything seen before. They turned to industry and the e-sports world for inspiration.

The interior design team knew the school needed to be edgy and support G+D+D's educational model. So, they went with high ceilings, perforated metal, and exposed cabling to create an industrial feel.

Open concept, glass, steel, ambient lighting, and alternative seating—everything designed to bring a high-tech feel to the learning setting.

But the principal takes umbrage to the term open concept.

"Open concept really doesn't do it justice," she said. "To me, open concept is like, 'there's space for collaboration, but there are classrooms over there.' That is not us. So, we started calling it our 'classroom-free' environment."

WHAT LEARNING LOOKS LIKE HERE



HOW DOES A CLASSROOM-FREE ENVIRONMENT WORK?

They started by griding out the floor and assigning each teacher a part of the grid. Students know where to find their teacher, and the teachers have freedom to administer their portion of the grid. Some have assigned seating; some don't. Some shift around their part of the grid based on grades and the mastery of the learning; others don't. The delivery method is as individual to the teachers as the education method is to the students.

The open floor plan has glass breakout spaces with retractable walls that allow

each breakout area to accommodate groups of four to 40. And, the movable furnishings can morph to accommodate individual, small and large group learning. Teacher workspaces are incorporated throughout the central core so faculty can see and be seen.

PHYSICAL ENVIRONMENT DESIGN

MIDDLE SCHOOL LEVEL

- A. Breakout areas
- B. Core learning area
- C. Makerspace
- D. Café
- E. One of two coding labs

F. The core space serves multiple purposes: this picture is lunch, study, and socializing.

G. District Film Winners

















FIRST FLOOR

HIGH SCHOOL LEVEL

- A. Can you find all four classes being taught?
- B. High School Coding Lab
- C. District IT Help Desk
- D. Here there are only three classes. Go!
- E. Surely you can find all three here!
- F. District Film Festival Awards















A driving consideration of the new site was its attached event venue—which exponentially increases opportunity for including the community on campus.

The top image is the district gaming competition held in the venue.

The lower image is a Christmas light show visitors can experience by parking in front of the venue and tune in their radio to enjoy the synchronized carols and lights.





The top image shows the solution for PE —a 1250 SF space that accommodates current indoor PE activities. Oculus headsets have been ordered to supplement PE next year.

The lower image shows the solution for sound attenuation. Soft furnishing, ceiling baffles, raised metal acoustical panels and special proprietary flooring. Does it work? The principal said during standardized testing, "250-plus students in a single open space? You could hear a pin drop."





For a school that focuses on screens, the principal said, "There is more human interaction at this school than I have ever experienced."

Students own their education which includes life skills like prioritizing, and the natural consequences of misusing time. Coders and programmers live on deadlines and these students learn that if they get nothing done on Monday, that work must still be finished by Friday.













ACHIEVING GOALS

Pushing these students to their potential is a community endeavor. Inviting society in is as important as pushing the students out into...

Leadership has found creative ways to do both while shaping an internal community that builds good citizenship, compassion, and responsibility.

In middle school, they begin teach digital citizenship and appropriate coding technology. They also teach kindness, compassion, how to be responsible, and the value of operating in an ethical way.

The students in this small community have learned that they don't have to like

everyone, but they can learn how to get along. Learning social skills and building relationships is a skill that benefit many students, in any school.

By their junior year, many of these students are already double-certified in Adobe Photoshop and Python. Part of their junior curriculum is developing a resume and cover letter that they can send to potential employers in the community for their internship their senior year.

Some students are being pursued as recruits before graduation. One student is being recruited as a junior and the company will work around his senior year schedule. The success of this school and curriculum can be measured in many ways.

Let's start with the one on the tip of your tongue. How are these students performing academically. How are they being prepared for standardized testing.

The principal glows when she talks about the progress of her students. What thrills her most is that they are being taught how to think—how to problem solve.

WHAT ABOUT THOSE TEST SCORES?

- » 39 subject areas with growth in 34.
- » Coming out of Covid, from 2021 to 2022 numbers jumped.
 - 7th Grade Math: 58% passing to 84% .
 - 7th Grade Reading: 67% passing to 90%.
 - 8th Grade Social Studies: 63% passing to 85%.
 - Algebra 1 EOC: 84% to 91% passing and 29% to 46% masters.
 - Biology EOC: 89% to 100% passing and 16% to 36% masters.
- » 4-10% of students might have hit mastery last year—36% to 40% of the campus is hitting mastery this year.
- » 22/23 students at the junior level have earned one or more industry-based certifications in Adobe Photoshop and/ or Python.

WHAT THEY'VE LEARNED.

» In the past year, these students have exponentially increased their critical thinking skills. WHAT NEEDS IMPROVEMENT?

» 3 of 5 areas without growth are sixth grade math. They already have a plan to get next year's sixth grade class where they need to be.

Beyond test scores, these students are being recognized for their achievements. They have competed regionally and statewide as 9th and 10th graders against seniors at established programs, and winning.

MIDDLE SCHOOL CODING 1st Place - Hudson B, Azerii DIGITAL PHOTOGRAPHY 3rd Place - Graycie C 5th Place - Paelvn E VIDEO GAME DESIGN 1st Place - Hudson B, Layla S 2nd Place - Matthew Q, Landon W PHOTOGRAPHY - STILL LIFE COLOR 1st Place – Graycie C 2nd Place - Bridget P PHOTOGRAPHY - STILL LIFE B/W 2nd Place – Graycie C PHOTOGRAPHY LANDSCAPE COLOR 1st Place – Josette J 2nd Place - Bridget P 4th Place – Graycie C PHOTOGRAPHY SPECIAL EFFECTS 1st Place – Graycie C HIGH SCHOOL CODING 1st Place – Julan G 2nd Place – Caleb K VIDEO GAME DESIGN 1st Place – Julan G PHOTOGRAPHIC TECHNOLOGY 3rd Place - Sydney E 4th Place - Hayden R PROMOTIONAL DESIGN 1st Place – Katrina F 2nd Place - Alex B 3rd Place – Alex S COMPUTER GENERATED GRAPHIC ART 1ST Place – Alex S 3D SCI-FI 1st Place - Nathan N COMPUTER GENERATED DRAWING 1st Place – Katrina F DIGITAL IMAGE 1st Place – Alex B 2nd Place – Alex S VIDEO GAME 3D 1st Place – Alex S GRAPHIC DESIGN 1ST Place - Alex S 2nd Place – Katrina F 3rd Place – Alex B

HIGH SCHOOL CODING 1st Place – Julan G 2nd Place – Caleb K VIDEO GAME DESIGN 1st Place – Julan G PHOTOGRAPHIC TECHNOLOGY 3rd Place – Sydney E 4th Place - Hayden R PROMOTIONAL DESIGN 1st Place – Katrina F 2nd Place - Alex B 3rd Place - Alex S COMPUTER GENERATED GRAPHIC ART 1ST Place – Alex S 3D SCI-FI 1st Place – Nathan N COMPUTER GENERATED DRAWING 1st Place – Katrina F DIGITAL IMAGE 1st Place - Alex B 2nd Place - Alex S VIDEO GAME 3D 1st Place – Alex S GRAPHIC DESIGN 1ST Place - Alex S 2nd Place – Katrina F

3rd Place - Alex B





received honorable mention. We love that they have a place to showcase their talent and that they are getting recognized.



SUSTAINABILITY AND WELLNESS

System choices help define spaces, support human wellbeing, and conserve energy.

The image at right shows the RGB lighting programmed to start out blue in the morning and gets warmer throughout the day as energy wanes.

The lower right construction photo shot before the baffles were installed shows LED lighting choices that help define each learning space. Lighting is on sensors to avoid illuminating empty areas.

New HVAC equipment serves two purposes. Small rooftop units were more cost-effective and put less weight on the roof, while inter-floor air handling units efficiently keep the zones beneath the high school cool. Each RTU and AHU cool an independent zone and are programmed to the hot side and cool side of the school. This efficient use of equipment and energy saves money and serves the occupants better than one or two large units that can't adapt when spaces are or are not in use.





