PASADENA INDEPENDENT SCHOOL DISTRICT

DR. KIRK LEWIS CAREER & TECHNICAL HIGH SCHOOL

REINVENTING OPPORTUNITY

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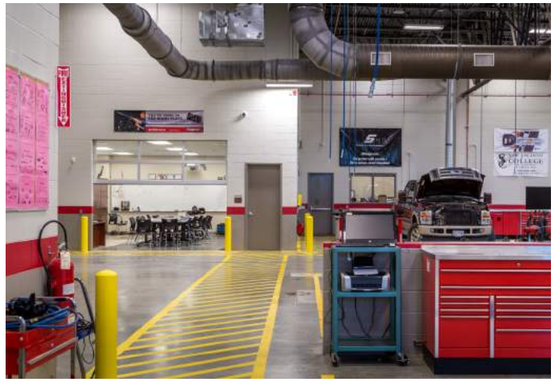
EXECUTIVE SUMMARY

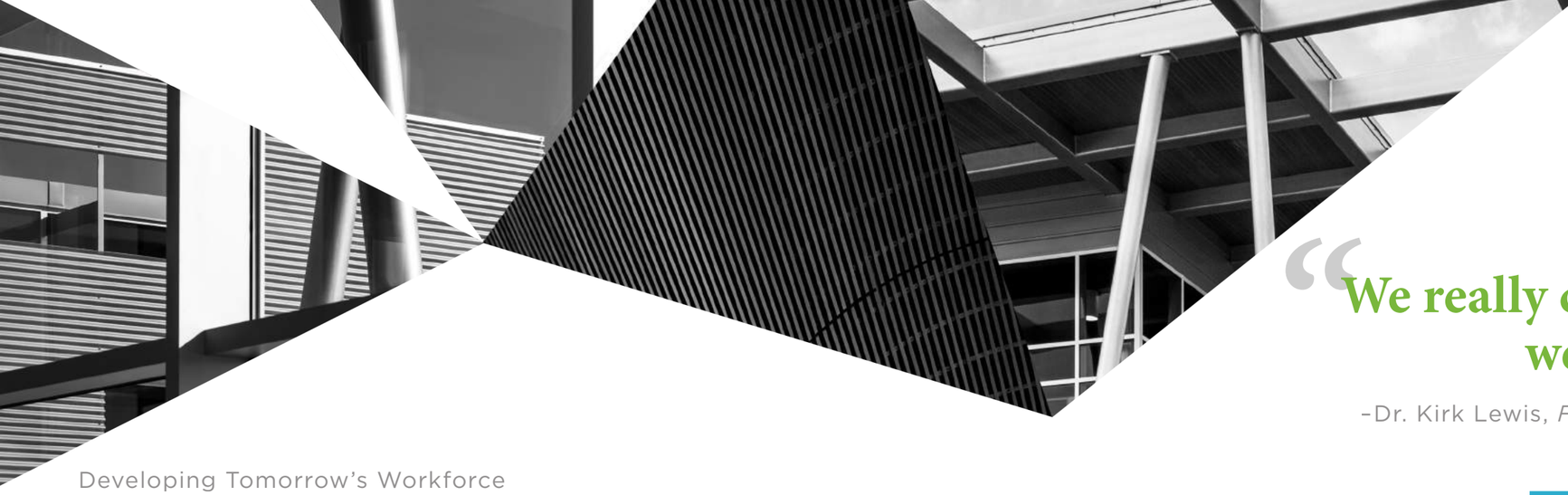
Linking Learning to Life

Education is approaching a tipping point. Students are now weighing their options on attending higher educational programs because local K-12 school districts are pushing the envelope to provide career opportunities for high school students.

In a small town on the southeast side of Houston, Texas, sits Pasadena Independent School District (I.S.D.). Pasadena I.S.D. is a large school district with over 55,000 students; 950 of those students are career technical students, and 78% participate in the free-reduced lunch program. Situated in the heart of the ship channel, east of the top medical center in Texas, and just north of NASA, the school district began to experience major economic, and educational changes beginning in 2010. Noting these changes was a visionary superintendent who knew what was happening in his community, and recognized that the current graduation rate being 75% was just unacceptable for his school district. With state-wide priorities shifting in 2011, and the legislature changing funding formulas to support more career, technical and workforce programs, Pasadena knew the timing for change was imminent. The school board fervently supported the vision of its' educators, and multiple groups of business partners wanting to help energize their local workforce for the better by creating a new facility that could truly train "next generation" students for next generation careers.

The design team was given an incredible opportunity to leave behind the old learning model of the past, and create something new for the students in Pasadena, Texas.





> “We really created what we *dreamed.*”
>
> –Dr. Kirk Lewis, *Former Superintendent*

BUDGET

$37.15m

SQUARE FOOTAGE

253,100

STUDENT CAPACITY

1700

Developing Tomorrow’s Workforce

The power of educational, ideological constructs has continued to drive our views of educational facilities for quite some time. All too often, designers and educators stick to labeling learning spaces with similar titles that we have each grown up with throughout our own educational journeys. A “classroom” or “vocational education” evokes a certain memory or predisposed notion of space, place and meaning for each of us. The design team wanted to change the conversation in order to deep dive into a world of “what if,” and change how we speak about specific terms, and concepts, in education. By switching our semantics to say “primary learning spaces” and “career technical education,” community stakeholders were able to shift their own perspectives of what next generation learning truly should be for students today. And, with a piece of paper and pen in hand, we all begin to dream together. Focusing on six academies (Agriculture, Health Services, Manufacturing/ Construction, Technology/Engineering, Transportation and Business/Human Services), the new high school was designed for student-centered learning in a sustainable environment. Every student is a worker, and every teacher is a facilitator. By giving spaces that facilitate collaboration and flexibility, this new facility has allowed students to use theoretical knowledge to solve real world problems on a day to day basis.

First Floor Plan

Second Floor Plan

“*Empower* students to *successfully* transition to the global community through *unique educational experiences.*”

–Student Mission Statement,
Dr. Kirk Lewis Career & Technical High School

COMMUNITY ENGAGEMENT

Tight Deadlines Require Creativity

We had all the ingredients of a good story; a visionary superintendent, a supportive community, and a design team eagerly awaiting to impact change. There was a catch, however. This project needed to be designed, programmed and planned within four months. Within tight parameters, the design team needed to produce a new type of school in a district that had never before had a next generation learning environment. Furthermore, the team needed to engage business partners, the community and students in order to build a facility that truly prepared learners to solve real life problems upon graduation.

Common ground needed to be established with students, parents, community leaders, local community colleges, businesses and industry leaders. Through a series of “town hall” meetings, and group workshops, including student collaboration groups, all stakeholders were given a voice within the design of this new environment. From those meetings, one message was abundantly clear from every perspective. The community’s family culture valued hardwork, but a college-level education seemed to be impossible financially.

Students choosing design concepts for their new environment.

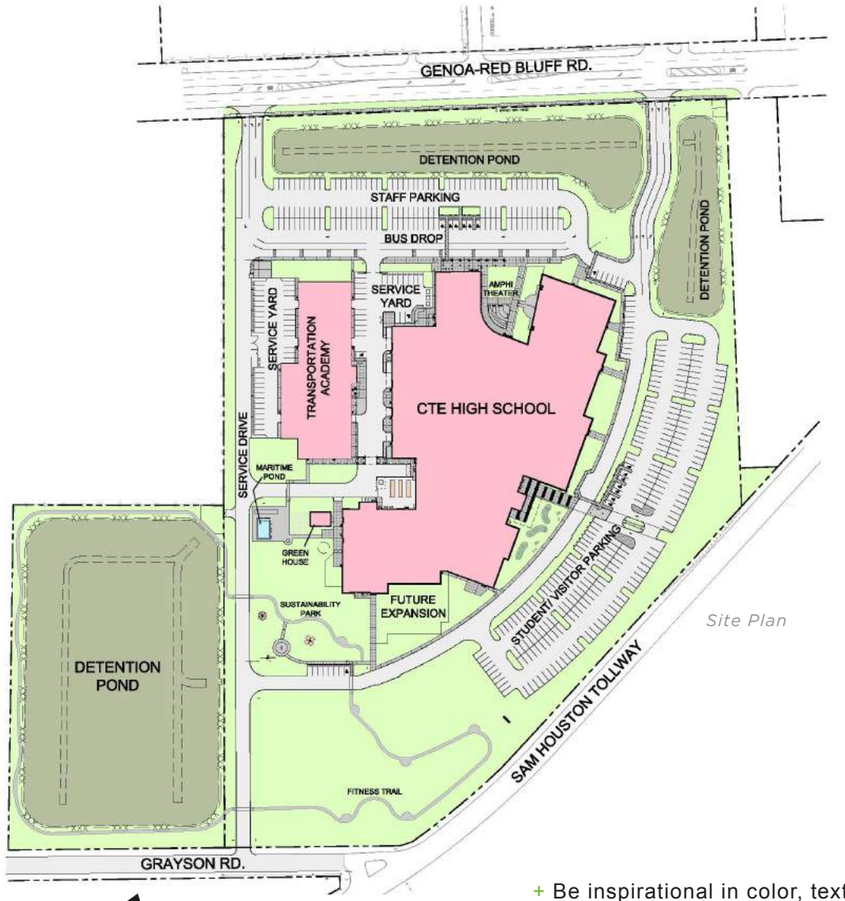
Early sketches based on concept design with students and administrators.

Therefore,acquiring skilled, technical, and/or workforce education was highly valuable. The District already offered a limited variety of these programs, but much expansion of the courses was required and a serious effort needed to relate these programs with real world knowledge, skills, up to date equipment, industrial mentorship assistance, and expanded support from industry and business.

Together, the community and the District had clearly come to a position to understand and respond to the following challenges with the new design of a career and technical education facility:

+ The pressures of future student enrollment growth needed to be addressed.
+ The community’s desire for more relevant Career, Technical, and Workforce education opportunities.
+ The petro-chemical industry, commercial construction and business sector each had an absolute need for serious improvement in qualified,educated employees prepared to contribute to the world of work.
+ The parallel changes required in the educational paradigm needed for a project-based, interdisciplinary, learning environment.
+ The Vision implied these Concepts and Goals, which, in turn, asked “How do we design a Career and Technical High School that will engage, excite, and energize the next generation student?”
+ The Educational Environment had to relate to students. That is, it had to be a “Student- Centered” not a “Teacher-Centered” design concept.

By responding to these challenges, the community and the design team began to lay the framework for the design principles of the new Career and Technical High School. Throughout the course of two years, the design committee would be responsible for rising to the challenges the community needed to address within the Pasadena Independent School District. In doing so, the committee formulated guiding principles of design:



Site Plan

- Be inspirational in color, texture, natural light, finishes, and celebrate student achievement.
- Support and express community values, culture and history.
- Create a learning environment to engage students and promote creativity and critical thinking.
- Design for safety and security.
- Encourage exploration and curiosity throughout the campus.
- Make the high school a part of the community's vitality and energy.
- Intentionally design for flexibility and change.
- Plan for the future.
- Design a school that teaches how to think sustainable stewardship in our world.

Real life experiences

EDUCATIONAL ENVIRONMENT

Student-Centered Learning

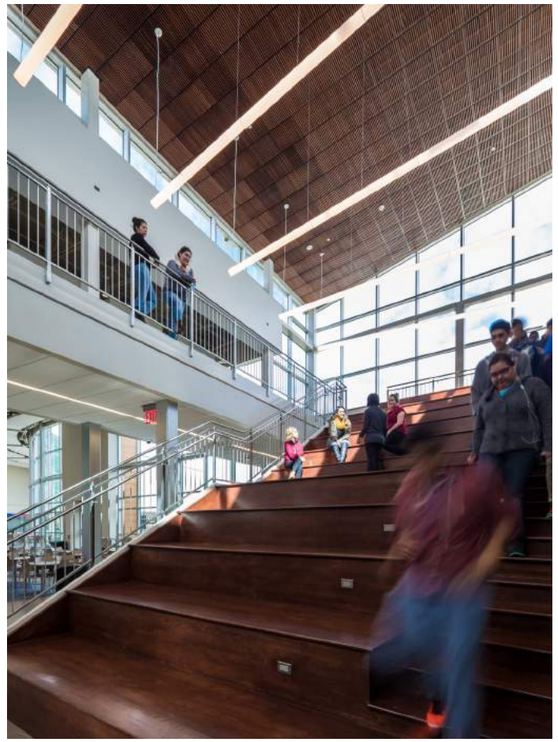
In 2010, Texas State Legislature changed its funding formulas to give significantly more funding to support career, technical, and workforce programs throughout the state. This shift towards career and technical education is not central to just the Texas market. Next generation learners are very different from their millenial predecessors. Craving real world experiences, internships and opportunities to help their local communities, the “Generation Z” students of today would rather work and help their families than incur debt. This is largely due to watching their millenial predecessors and the issues that they have had in being lifelong students throughout a recession. Therefore, it was incumbant on the design team to create an environment that not only fostered multiple methods of teaching and learning, but an environment that allowed students to leave high school and enter the workforce seamlessly.

During the design process it became apparent that the one reoccurring theme was change. The building had to provide flexible spaces to meet the ever-changing needs of the Academy Programs. Also, to meet the realistic parameters of the budget, non-essential areas needed to be reduced. Interior areas were designed with relevance to adjacent areas, connectivity, and flexibility in mind so they promote a continual flow of inspiration between the disciplines. By creating a variety of spaces throughout the school, the entire building allows for both passive and active learning as you pass through the space.

Flexible spaces are incorporated in many areas of the building, whether it is several cosmetology classrooms that can be transformed into a fashion runway, aerobics rooms that can open to double in size, or circulation areas that function as collaborative spaces for small intimate groups or larger classes to study outside of class. The collaborative areas further provide nontraditional teaching spaces adjacent to the classrooms that can be utilized by teachers and students. The reference center expands the notion of Library. It is a space that goes beyond housing traditional resources. While there continues to be published reference and reading materials, most resources can be accessed electronically through a student’s device (computer, phone, tablet, etc.). Conference and collaborative areas with full marker walls provide flexible platforms. The coffee bar, run by the Culinary arts program, is not only a collaborative extension of programspace, but promotes the research center as a destination. Classrooms were constructed to advance the ideas of flexibility. With a short throw projector display on a full wall markersurface with magnetic primer, the traditionalteaching wall becomes an interactive and multi-media surface.

...bringing *life and dignity* to a community.

Beyond the building’s flexibility and adaptability is an underlying sense of pride. By promoting multiple spaces such as campfires, watering holes and caves, students can learn virtually anywhere throughout the space. And, by paying special attention to providing up-to-date equipment in the workforce training areas, the *“dignity of work”* is an idea that is instilled within each student who gets to operate in a state-of-the-art facility. Whether it is one to one learning, peer sharing, or individual reflection and meditation, each student has a sense of balance, autonomy and identity throughout the space.



The learning stair serves as a central community point for students to interact in peer to peer learning. Throughout the course of a day, classes are also held in this space in order to inspire students. Learning can happen anywhere throughout the building.

Utilizing state of the art equipment that current employers use in their businesses affords students opportunities they will see when they graduate and enter the workforce.

AVERAGE STUDENT ATTENDANCE

CTHS: 97.21%

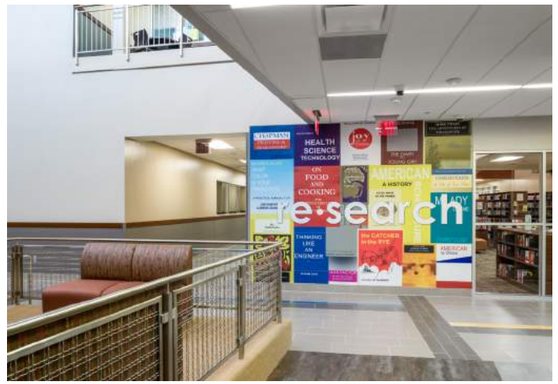
9th 5 PISD High Schools: 94.38%

CTHS: 96.83%

10th 5 PISD High Schools: 94.35%

CTHS: 96.76%

11th 5 PISD High Schools: 93.74%



PHYSICAL ENVIRONMENT

For Them, By Them

The students had a first-hand experience designing their own facility. The 253,100 square foot facility sits on a 27 acre site located adjacent to a well-traveled toll way. Establishing the school as a prominent landmark for the local area, massing and materials create an aesthetic that does not mimic a traditional learning environment, butone of a professional atmosphere. Constructed of curtain wall glazing,concrete tilt up panels, metal siding, and exposed angled steel columns, it pays homage to the local professions and industries in the Pasadena area. The monumental entry immediately lets one know that this is much more than a school.

The facility reinforces the principles of design through the concept of ‘Building as Teacher”. Multiple large scale graphics, developed with the design committee, clearly brand the major program spaces and academies. These graphics are reinforced with various accent colors that identify the areas. The graphics assist in quickly referencing areas of interest, way finding, or providing inspiration through the two story lobby graphic with the schools motto.

Being a career and technical school, it was important for systems to be displayed so the learners could see and visualize how the building operates. While the sustainability farm introduces the concept, it is an important component of the interior design. All of the MDF and IDF rooms were constructed with storefront glazing. This visually celebrates the technology systems that are used in lieu of the traditional approach of hiding these areas. Other elements include visibility into the air handling rooms, a glass enclosed elevator, and the use of partially exposed ceilings to display HVAC, plumbing, electrical, structural, and technologies that further explain the operating systems of the building. Students who participate in the manufacturing and construction, and technology and engineering programs have visible, real world examples to reference the components and function of their trade.

Since integration of the school and the community was paramount to the success of the programs, the traditional relationship between school and the public had to be redefined. Instead of isolating the school from external influences, the facility needed to be intimately integrated and connected with the local area. Fostering a safe and secure environment was essential, but the environment still needed to remain transparent and welcome connection to the community. These goals at first appear contradictory, but were realized through multiple physical and technical systems that provided a secure but non-intrusive environment.

By the time we graduate, *we will all have our license*– seventeen and eighteen year olds getting ready to *start our careers.*

-Keila Fuentes, *Junior Cosmetology Student*

“Our goal, early on, was to *open doors for our students.*”

-Sarah Wrobleski,
Executive Director, Career & Technical Education

RESULTS OF THE PROJECT AND PROCESS

A Community Hub for Everyone

Graduation rates have increased dramatically, and attendance is higher than any other school facility throughout the district. While the concept for this facility had its foundation implemented over 20 years ago when educators realized that instruction had to change to meet the needs of both students and industry, the real vision of this facility came together in a short amount of time with the help and vision of the Pasadena community.

Change required students to gain skills and abilities to think critically, solve complex problems, develop better communication, and collaboratively work with others to drive advancements in our workforce. This concept has continued to be developed by the Pasadena Independent School District and has proven to be a successful student-centered learning program that addresses the needs of the learner and the local community. It was with the focus being centrally on the learner, that the committee created a flexible, collaborative, and interactive learning environment that provides industry certifications for students. These certifications are required for careers in the local community as defined by business partners and labor market statistics. While at the same time, this facility and the curriculum also provides a platform to pursue higher educational goals for students. The programs offered in harmony with the “building as a teacher” continues to inspire students to successfully engage and pursue their chosen career while following their passion. Through research, best practice tours, and current industry trends the district administration, design committee, local business partners, community volunteers, stakeholders, students, and the design consultants participated in a collaborative visioning and programming effort.

Every person in the community used their voice in order to impact learning for their students. And, through this collaboration, students are continuing to open doors for their future.

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