

WAUKEE INNOVATION & LEARNING CENTER



2018 Award Submission – James D. MacConnell

EXECUTIVE SUMMARY

While entrepreneurial education is on the rise, it has primarily been found within higher education curriculums and facilities. In some parts of the United States, however, a trickle-down effect is occurring, with entrepreneurial learning taking root within PK-12 institutions.

To help address national changes in employment opportunities and rising costs of post-secondary education, the Waukee Community School District created a program that introduced students to the knowledge, skills and motivational tactics needed to prepare them for collegiate and/or workforce opportunities. The Aspiring Professional Experience (APEX) program brings a collaboration of education, business and community to its students to help create the next generation of innovators and leaders.

To be successful, the program required a facility that brought real-world application to the high school experience. Enter the Waukee Innovation & Learning Center (WILC): a comprehensive educational experience for students that joins educational curriculum with business acumen all under one roof.

WILC is the result of a multi-phased, highly interactive design and engagement process. This process included hosting an Insights Week, consisting of interviews and workshops with students, faculty and community members, as well as industry tours with local businesses. Where other PK-12 facilities follow a more standard, defined model, WILC was designed to address changing needs for students in both their current education curriculums, as well as for their future opportunities. The resulting facility connects all key stakeholders through a shared destination, while preparing the next generation for professional opportunities.

**“I consider it a model for the school of the future.
But the great thing is, it’s happening today.”**

Tim Cook, CEO, Apple, in The Des Moines Register

SCOPE OF WORK

- Type of Facility: Innovation and learning center
- Type of Construction: 66,600 sf new construction
- Target Audience: Serves the APEX program under the Waukee Community School District; 564 students enrolled for 2018-2019

BUDGET

- Total Project Budget: Estimated at \$20,000,000 (some information, such as furnishings and technology, not disclosed by the school district)
- Construction Cost: \$13,159,455
- Cost per sf: \$200
- Space per student: 132 sf

SCHOOL & COMMUNITY ENGAGEMENT

The City of Waukee is in America's heartland, located near Des Moines, IA. While many consider the Midwest, specifically Iowa, a land of agriculture, Waukee is breaking down assumptions by quickly becoming one of the nation's fastest growing economies. In 2016, the state of Iowa was one of 36 states to receive grant funding to increase access to Registered Apprenticeships.

The Waukee Community School District serves as a professional learning community, and is committed to fulfilling its mission statement: "Dedicated to optimizing individual learning and potential for success in a global community."

The District is the fastest growing school district in the state, currently serving over 8,000 students from Waukee, Clive, Urbandale and West Des Moines. It has a high school graduation rate of 98.65 percent.

WILC serves the students in the APEX program of the Waukee Community School District, and engages surrounding business owners that work or have the ability to take on the students. WILC is also utilized by the public for town halls, community events and seminars.



"We are awakening again to innovation."

Waukee Community Member

The Waukee Community School District and the design team faced three primary challenges when considering the development of WILC:

- **Challenge #1:** Create a facility that caters to the needs of the APEX program and fosters entrepreneurial education, despite limited previous examples or precedents.
- **Challenge #2:** Build an environment that provides opportunities for passion-based learning, for authentic projects, and experiences for students, while adding value to business partners exploring career possibilities identified by economic trends.
- **Challenge #3:** Simultaneously address curricular needs with regional and state initiatives.

Both Waukee and the design team also challenged themselves to create something new, knowing if they were going to have the opportunity to develop this facility, it needed to be something that would catapult students into the future. This meant breaking with traditional layouts, and leaving the idea of a standard school behind.

The engagement process with the community was the first step in validating the goal of the program and project. During the development process, the design team strove to ensure WILC matched the

APEX curriculum, entrepreneurial requirements and community needs. To do this, they conducted a multi-phased approach consisting of:

- Interviewing community members; observing and touring Waukee High School; and speaking with local businesses for an understanding of potential student partnerships
- Testing trends discovered with stakeholders through workshops, and engaging in spatial mapping activities
- Developing a single concept design routed in strategy

To help develop and guide the curriculum, the district developed a relationship with the Blue Valley CAPS program in Kansas. After researching the CAPS program, the district walked students, administrators, board members, community members and lawmakers through the process of creating a similar, but customized program, which was re-named APEX.

The program focuses on five core strands: Business and Finance, Engineering, Technology, Health Services, Biosciences and Added Value Agriculture. Catering these strands, in addition to the support and insights provided by administration, the community and local business owners, all contributed to guiding design ideas for WILC.

Discovery Insight Week

May 6th–8th, 2014



Activation

June 9th–10th, 2014



Strategy Presentation

July 9th, 2014



Discovery Insight Week: Understanding WILC's Climate and Culture

The design team held interviews with the Waukee School District and community surrounding The Center for Advanced Professional Studies, also known as CAPS. CAPS would help guide and create the current APEX program. These interviews were crucial to understanding the curriculum and design needs of the new facility.

Industry Tours: Team members also toured and spoke with Waukee-based industry partners to better understand their climates, cultures and overall operations. These tours helped develop the APEX program, and inspire elements of the facility design.

Waukee APEX Advisory Committee: The team met with and collected insights from the Waukee APEX Advisory Board, which guides the development of the APEX program. The Board consists of business leaders in the community, and meets quarterly to support strategic planning, recommend new courses, and prioritize the economic sectors critical to the community and future workforce needs. Advisory board members also provide introductions to business partners, help identify APEX student projects when needed and assist staff in addressing issues that affect the operations of the APEX program.

5

Student Tours



50+ Informal Interactions

Students	● ● ● ● ● ● ● ● ● ●
Teachers	● ● ● ● ● ● ● ● ● ● ● ●
Administrators	● ● ● ● ● ● ● ● ● ● ● ●
Community	● ● ● ● ● ● ● ● ● ● ● ●
School Board	● ● ● ● ● ●

3

Group Meetings

6

Discovery Interviews



Tours with Industry Partners



WWW.FLYINGHIPPO.COM





"The design process was comprehensive, involving our full school community, and requiring participants to stretch their thinking. Everyone was engaged in thinking outside the box to create new and unique learning spaces that represent what our students will experience in the private sector and beyond! I was extremely pleased with the process and end result and am confident our students and communities will benefit for years to come."

David J. Wilkerson, Ph.D., Former Superintendent of the Waukee Community School District

EDUCATIONAL ENVIRONMENT

WILC serves the new APEX program, which focuses on passion-based learning, and creating authentic projects and experiences so students add value to business partners while exploring career possibilities identified by economic trends. The facility hosts areas that support the five APEX program tracks.

WILC allows students to take ownership of their learning paths and project development, utilizing entrepreneurial learning to prepare them for opportunities post-graduation. Its student-focused design allows students to research, think and create.










"If we design a school, we've failed."

David J. Wilkerson, Ph.D., Former Superintendent of the Waukee Community School District

By pulling data from the in-depth engagement process, the design team was able to see which spaces were most desired for the new facility. Enclaves can be used as pitch rooms or meeting spaces; workshops for product development; studios for specific program activities; labs for research; a conference room for presentations; and open learning space for collaboration.

WILC Work Spaces				
INFORMAL	FORMAL			
 <p>Co-Working Learning Hub Informal space that supports learning in a social construct</p>	 <p>Enclaves Small group meetings, focusing, check-in getting feedback and different perspectives on progress</p>	 <p>Studios Discovery, remix and make spaces – A range of spaces that support a variety of dimensions and activities of learners</p>	 <p>Workshop Generalized maker space for all students and strands</p>	 <p>Conference Rooms Professional presentation to peers, mentors and the world</p>

WILC Floor Plan

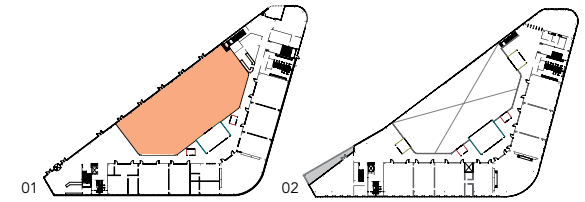
Twenty-first century learning models are no longer teaching all students in the same way, thus, not all schools and learning environments should be designed in the same way. The facility design incorporates environments that range from smaller enclaves, to labs, to an open learning space. These can be adjusted or repurposed for the users' needs. Students can utilize the spaces to work on projects, faculty can use various rooms for evaluations or meetings, local business can reserve workstations or hold conferences and events, and the community can utilize rooms for presentations or town halls.

- 1 Lobby
- 2 Co-Working
- 3 Café
- 4 Studio
- 5 Workshop
- 6 Enclave
- 7 Conference
- 8 Lab
- 9 Decompression
- 10 Accelerator
- 11 Wellness
- 12 Balcony
- 13 Support
- 14 Bathrooms



Co-Working Learning Hub

The co-working zone is the heart of WILC and crucial for the APEX program. It joins professionals with students in an inviting, central gathering space focusing on the relationship of social, academic and professional interaction. The co-working space has a range of learning/working modalities including hoteling, working productively alongside business partners, business partner touchdown zones, showcase zones to exhibit projects and pitch zones for students to practice communicating their ideas.



A modern café for refueling snacks and beverages



Comfortable collaboration spaces



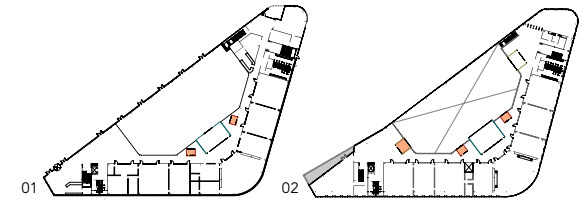
Windows to encourage transparency and invite visitors into the space



Individual cubbies

Enclaves

The enclaves can be used for individual focus work or small group meetings. They break up larger environments, and offer a more private space. There are a total of five enclaves – two on the main floor and three on the second floor.



Windows overlooking the Co-Working Learning Hub



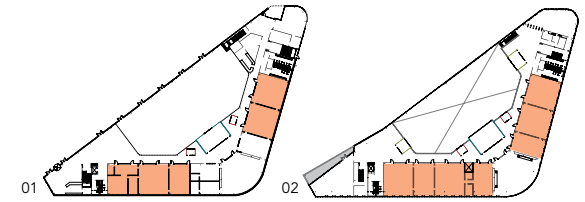
Glass doors reduce noise and create privacy while still encouraging transparency



Whiteboard walls for note-taking

Studios

There are a total of 12 studios, five on the main floor and seven on the second floor. Each studio is dedicated to one of the APEX core strands: Business and Finance, Engineering, Technology, Health Services, Biosciences and Added Value Agriculture. Each studio space is customized to fit each strand's needs.



Overhead doors allow views of projects in process and encourage collaboration



Pin-up space for projects



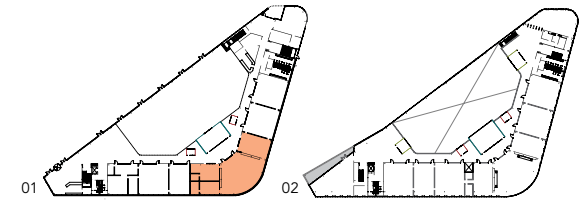
Large whiteboard walls for note-taking



Moveable desks/chairs to accommodate any group size

Workshops

There are three workshops open to all students for fabrication and testing, full of movable storage and specialized equipment for building and tinkering.



Overhead doors allow views of projects in-process, and encourage collaboration



Open windows connect to community



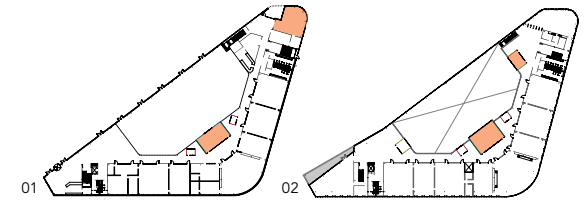
Open table space for larger projects



Specialized equipment

Conference Rooms

There are a total of four conference rooms – two on the main floor and two on the second floor. Each conference room ranges in size to accomodate different group sizes as necessary.



Windows overlooking the Co-Working Learning Hub and rural landscape



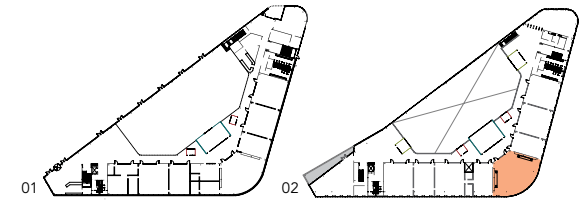
Double-sided whiteboards for note-taking



Projector and display screen for formal presentations

Lab

There is one lab full of specialized equipment for strand-specific research.



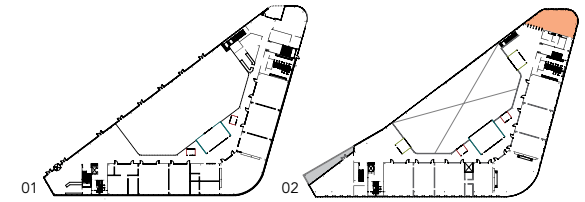
Individual desks with wheels
for flexibility



Open table space for research

Accelerator

The accelerator is a dedicated start-up environment for development with business partners. It has an entrepreneurial spirit and is meant to be a space to help ignite ideas.



Group work space
encouraging collaboration



Pin-up space for projects



Monitors for presentations



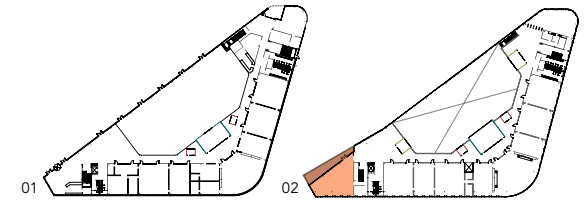
Whiteboard walls for note-taking



Cubicle spaces for individual work

Decompression Zone

Decompression areas allow students to stay on campus and engaged, while taking a moment to escape and recharge.



Floor-to-ceiling windows connect students to the outside environment



Balcony seating for outdoor work



Games and activities with casual seating

Like the APEX program, WILC is a flexible and adaptive learning environment that changes to suit student, faculty, professional and community needs. Building shell and systems allow walls to move when room functions change. Electrical, columns and other system components adapt to various use-cases. And key building systems focus on the “what if” instead of the “what is.”

The building’s interconnected design and shape creates fluid, winding and continuous paths throughout studio spaces while remaining adjacent to large, open community collaboration spaces. Pivoting wall panels allow students and faculty to open rooms and change spaces with ease. Glass walls promote interaction and attract interest in projects from students and professionals in other areas of work. The entire facility puts student work and building resources on display.



PHYSICAL ENVIRONMENT

WILC's offerings include large, light-filled public workspaces with an informal ambiance that encourage collaboration. Meeting and conference zones, individual spaces (such as labs and enclaves), and a learning hub cater to professional, educational and community use. Bright colors line the walls, and moveable furniture fills the floors. The facility also features components found in the modern workplace: a café, collaborative spaces, meeting rooms, accelerators, decompression zones and industry-specific studios. A flexible and resilient learning environment focuses on developing soft and hard skills, critical thinking and problem solving.

The glass on first floor of WILC showcases the connection between the community and the school district. Student projects are on display, and local businesspeople and the community are invited to view work in progress. Exterior learning spaces also cater to environmental and outdoor projects that further connect students with the facility's physical surrounding environment.



Exterior Design

The exterior uses site-responsive, innovative design that is respectful of the adjacent rural landscape. It's panelized systems allow for economy of installation and fabrication.



Corrugated aluminum penthouse



Geometric windows



Metal panels



Second floor balcony



Outdoor workspace

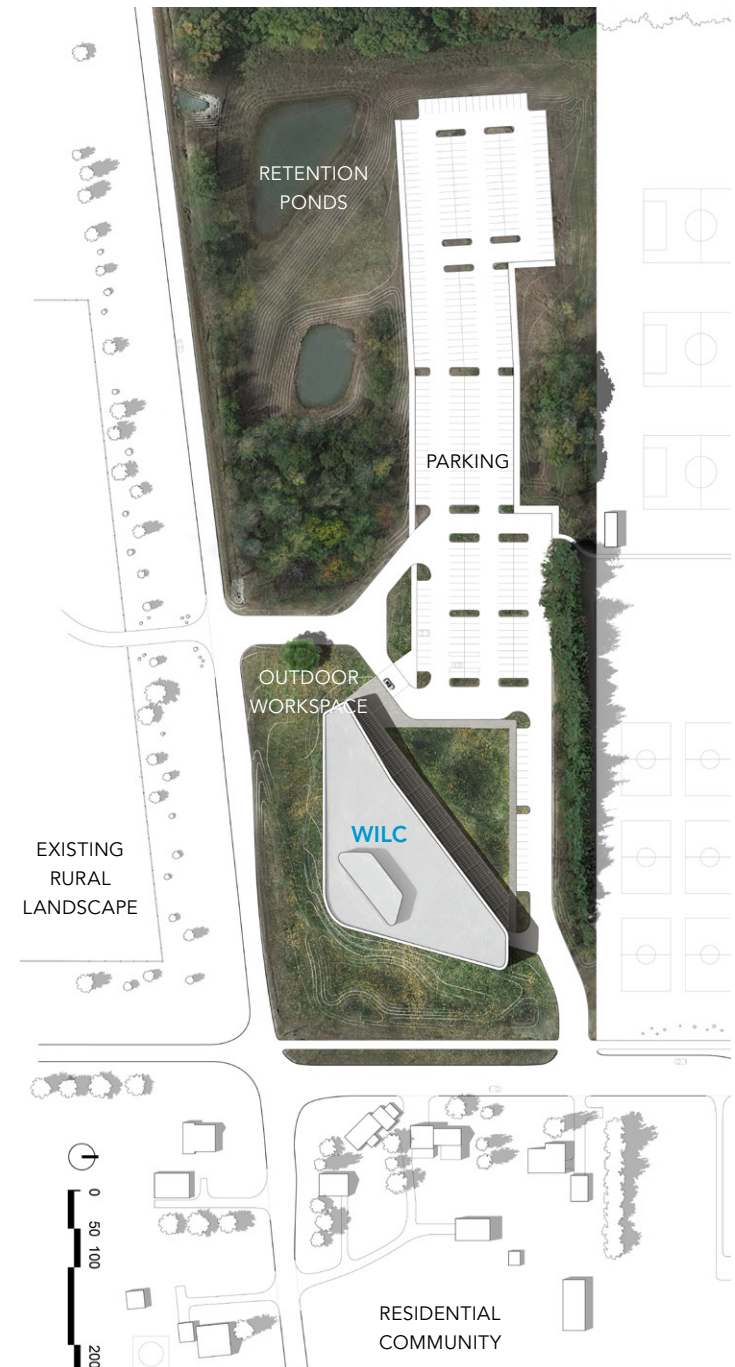


Concrete architectural finish

WILC Site Plan

In regards to the facility as a whole, WILC is part of the school district's strategy for sustainable growth – it hosts a value-add from a curricula standpoint that also helps develop resources for the community at large. WILC can help manage the growth of the program, district and community in a space that can adapt and change depending on its need.

WILC is also a model for sustainability, something of paramount importance to the Waukee community. Designed under LEED certification guidelines, the facility is adaptable and flexible to program needs. Material selections also followed LEED requirements, and the team left the original site in tact as much as possible. The design team also took a sustainable approach to water retention through the construction of an onsite retention pond, which is used as a learning activity for APEX students. The team worked with the school district so the facility would receive energy rebates back – as a result, the school will receive \$29,100 back for the implementation of energy conservation measures, including its HVAC 1 system.





Second floor balcony working space overlooking parking and community soccer fields

RESULTS OF THE PROCESS & PROJECT

Students and teachers praise WILC for its inclusive design, as well as its ability to help introduce students to real experiences, find areas they are passionate about, and develop skills they will need outside of the classroom.

"It's not a building; it's a culture."

Waukee Community Member



The following statistics represent the success WILC and the APEX program have achieved thus far. The engagement from students and community partners continues to grow year over year, as do opportunities for students to return to Waukee for future employment.

1049

Projects Completed from
Fall 2014-Spring 2018

545

Current Active
Business Partners



1500

Individual
Contacts

50/50

Female to Male
Participation





Business partners have already found value in working with the APEX students:



“Through APEX we have been able to pilot projects that have allowed us to explore what solutions are possible, technical feasibility, and potential cost of a solution. I particularly enjoy working with the advisory team to bring a challenging and rewarding curriculum to the classroom. It never fails to amaze me what high school students are capable of, and I like to push their bounds to see what awesome things they can come up with!”

Andrew Colosky, John Deere

“Working with student groups such as APEX encourages our institution to work across department boundaries to address the interests of these eager learners. It is exciting when our community partnerships with many organizations that can also turn into opportunities for APEX students to volunteer with the community and get real world experience as health care ambassadors.”

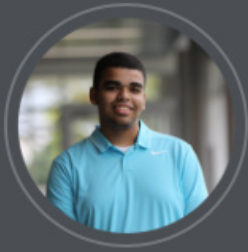
Brianne Sanchez, Des Moines University

“Our experience working with students from the Waukee APEX class was extremely beneficial. Because of them, we were able to complete a project which had been lingering for quite some time. The students were bright and hardworking. When do we get our next group?”

Joana Gaines, Magnolia Homes

WILC helps enhance student engagement and stake in their own education. The facility and APEX program help them get beyond common challenges such as social anxiety, public speaking, etc., by providing the tools and spaces they need to succeed.

Students praise the facility and program for creating such a positive impact on their educational experience:



"I walked through the doors of the WILC in August of 2017, and to be honest, I was pretty nervous to begin the semester. I knew that my internal monologue needed to shift if I was going to be successful. My first semester of APEX I was in DCS class. I designed a banner for the APEX program that will be used at professional conferences and fairs. I also did photography for the City of Waukee and collaborated on lots of other projects. Academically, I surpassed where I was supposed to be, and I also started making friends. Additionally, I discovered that I had a strong interest in technology, but I also began to realize that I liked the design aspect of marketing as well. It was this realization that led me to enroll in my second APEX class Developing Web-Based Technologies with Scott Palmer. I thought that taking Mr. Palmer's class would help me clarify if I preferred working with technology for coding or design purposes. One of the things that I really appreciate about the APEX program is the push to define career paths... Being a part of APEX has changed my outlook both personally and professionally."

Kane Kesterson, APEX Student
Economic Sector: Business, Technology, & Communication

Click [here](#) to read more APEX student blogs.

EDUCATIONAL SPECIFICATIONS

The Waukee Community School District stated in its Request for Proposals (RFP) the following project goals:

- 1 To provide excellent learning environments for staff and students
- 2 To provide value to the patrons of the Waukee Community School District
- 3 To design a unique profession-based environment similar to Blue Valley CAPS

The intended building is not a traditional school structure. The design is driven by business and industry standards.

WILC satisfies all of these specifications, from the layout of the facility to the amenities it offers. It is a student-focused, professional space that students, teachers, business professionals and community members alike can use to help advance themselves and the city of Waukee, IA.

