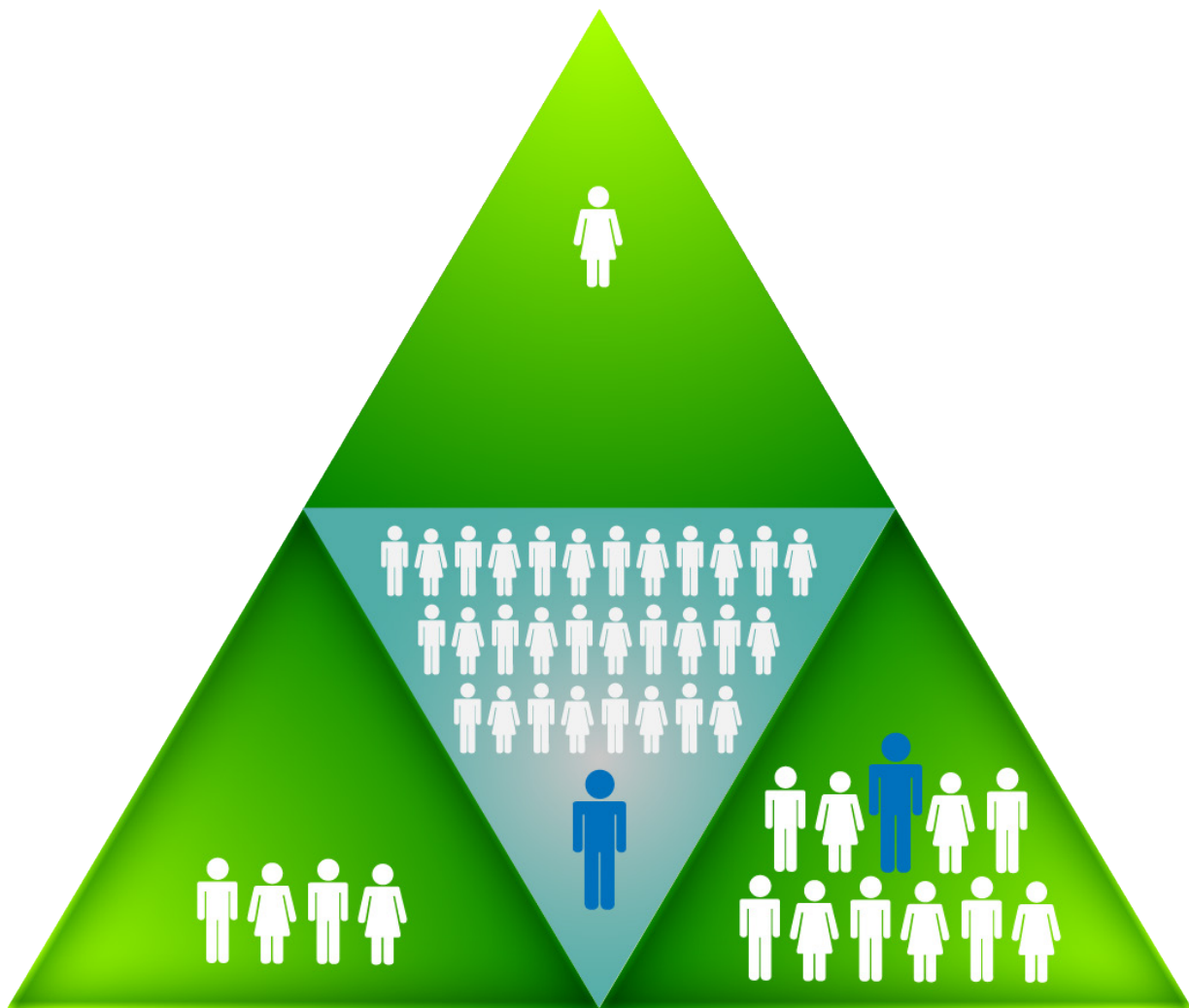


Intrinsic School

James D. MacConnell Award Submission





Intrinsic surrounds a typical acoustically isolated classroom with small group, personally adapted, and peer-to-peer learning.

“What should my son’s education look like? What should my son’s school look like? Technology has transformed the world. Why shouldn’t it transform the classroom?”

- Lucy Weatherly, Intrinsic Parent

Designing for a New Curriculum

School buildings rarely are designed to support nontraditional teaching models. Intrinsic’s bold and unprecedented vision required a campus worthy of its mission. The result—the **first campus in the country designed to truly support a Blended Learning curriculum**—is a school without a single traditional classroom. Instead, large customizable learning environments are populated by a variety of distinct zones, each of which is tailored to a specific style of learning.

Empowered by the accessibility of technology and robust online educational platforms, schools around the world are experimenting with individualized

educational models. Launched in 2014, Intrinsic is a new network of public charter schools in Chicago that blends adaptive, individualized, and peer to peer learning with traditional, teacher-led instruction—a model known as Blended Learning.

The school’s mission is to provide a revolutionary new model of urban education in order to ensure postsecondary success. The school’s leadership is simultaneously committed to reinventing the classroom for 21st-century needs and establishing best practices that can be shared with other schools.

**“Our school is unique.
Our campus was
designed from the
ground up with the
Blended Learning
philosophy in mind.”**

- Intrinsic Parent



An Active Environment

The lack of a precedent, and the fact that this was the charter network’s first school, created a distinct set of challenges that only amplified the importance of a thorough and collaborative planning process.

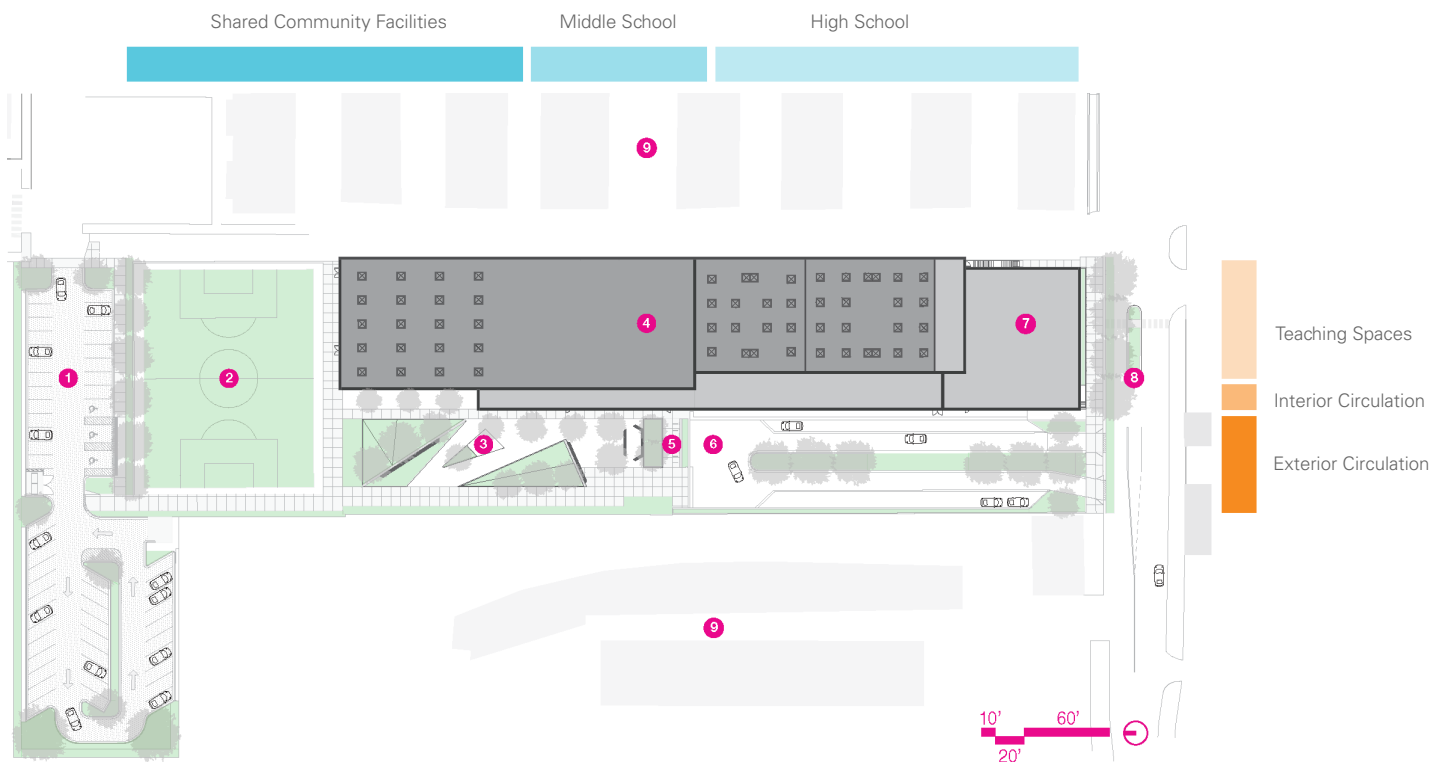
In order to create a learning environment that was an active participant in the Blended Learning curriculum, the design team participated in mock school days, led charrettes, and designed a temporary facility for an incubation year that became instrumental to both the architects and educators in understanding the needs of the students.

Unlike in rural or suburban settings, which often are served by a single unified school district, urban centers like Chicago feature a distinct educational landscape. Students are allowed to enroll in any one of the city’s 522 district schools or 130 public charters.

This dynamic significantly alters the relationship of a school to its surrounding community and raises questions about how best to engage, or even define, a school’s community. Further complicating these questions, the Intrinsic campus sits at the convergence of four neighborhoods that have seen historic disinvestment and are currently in flux.

Project Data

Site Area:	2.6 Acres
Building Area:	58,000 sf
Capacity:	925 students
Grades Served:	7-12
Floors:	2
Date Occupied:	August 22, 2014
Construction Cost:	\$14,727,509



- 1 Staff and Guest Parking
- 2 Turf Practice Field
- 3 Entry Plaza
- 4 Renovated Existing Building
- 5 Bicycle Parking
- 6 Vehicular Drop-Off Area
- 7 New Construction
- 8 Pedestrian Refuge Island
- 9 Neighboring Buildings

Project Scope

The scope of the design work exceeded the physical campus. How Intrinsic planned to implement Blended Learning was under development throughout the design process, and the scheduling complexity created by the curriculum had substantial impacts on the school's physical space. As a result, the design team played an active role in helping the educators explore possible scheduling scenarios.

These early discussions also drove the site-selection process. The design team incorporated early feedback into the design of a temporary facility for an incubation year with the school's

inaugural class, and drew on subsequent data and observations for the final design. The educators looked to the design team's experience with urban educational facilities to identify key questions throughout the planning process.

The school's campus, the first of five, is a two-story, 58,000-square-foot adaptive reuse of a former lumberyard on Chicago's northwest side. The narrow, 2.6-acre site is located along an east-west arterial street lined with residential and light commercial buildings and accessible from the north and south. The school building serves up to 925 students in grades 7-12.

START HERE, GO ANYWHERE



Intrinsic's mission focuses on student success beyond college.

"We created Intrinsic to do two things. One is to provide life-changing opportunities and postsecondary success. Two, to create the roadmap for all the other educators about how you do this in a sustainable and replicable way."

- Melissa Zaikos, Founder,
Intrinsic Schools

The Founding of Intrinsic

The education system in Chicago continues to fail a huge number of students. According to the most recent study, less than half of Chicago Public Schools (CPS) students are "college-ready," while some organizations put the number closer to 25%. Such appalling numbers served as the backdrop for the founding of Intrinsic Schools.

Intrinsic's founder, Melissa Zaikos, drew on her experience in CPS where she oversaw 100 district schools and implemented data-driven learning strategies, many of which are now used district-wide. In her time at CPS, Zaikos

tested Blended Learning on a small scale, and the results were compelling.

The school's goal is to use the 21st-century curriculum to cultivate independent, intellectually curious learners and provide for more intimate, effective interactions between students and teachers.

Students each have a six-year individualized learning plan and use real-time tools to monitor their own progress.

Planning & Visioning



Only 14% of youth entering Chicago Public Schools will earn a 4 year degree by the time they're 25.

That is not the future we choose.



A Hands-On Planning Process

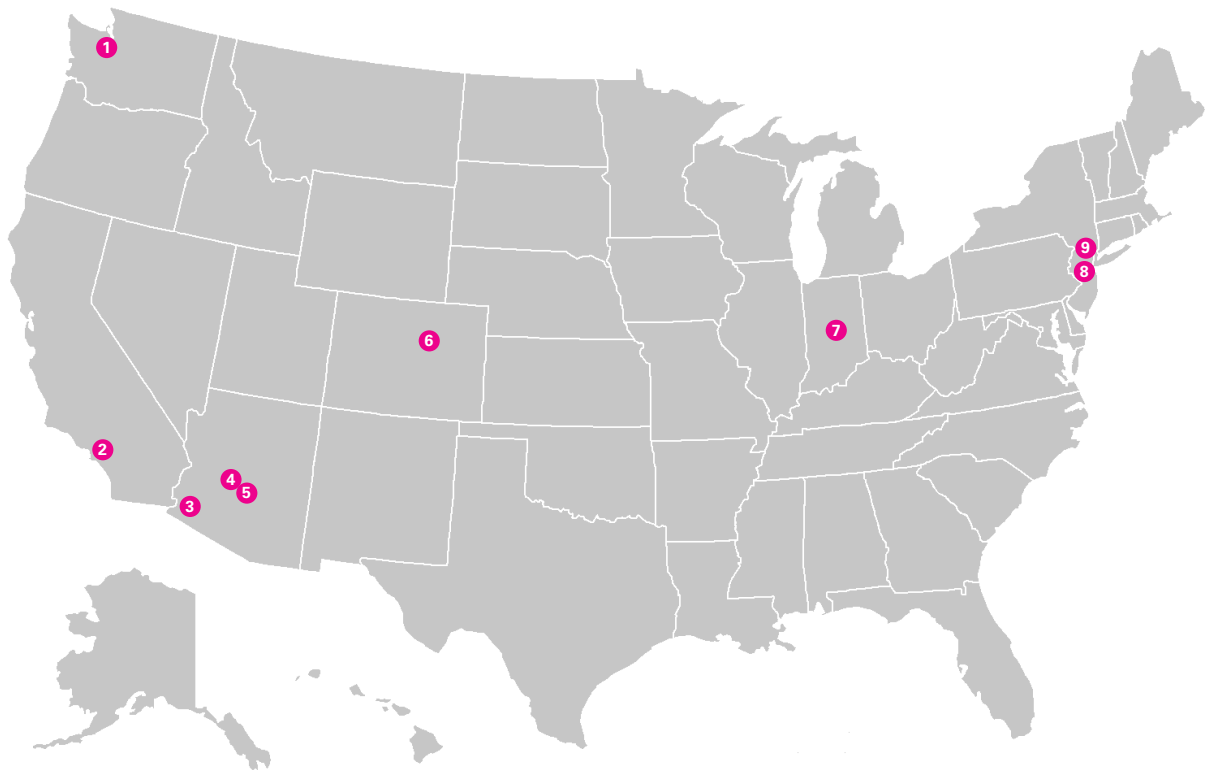
Early on, Zaikos formed a leadership team consisting of veteran teachers and other education experts, which met weekly with the design team. Because of the school's revolutionary nature, all parties were committed to a thorough, hands-on planning process and exhibited a willingness to ask questions, test hypotheses, and engage with the real-world challenges of designing a Blended Learning school.

Over the course of the project, the team visited Blended Learning schools around the United States, and conducted a series of pilot programs to test a variety of questions, technologies, and learning strategies. They also participated in design charrettes, in which the primary learning environment was conceptualized, met with community members and key stakeholders, and designed an incubation year that allowed the team to fine-tune the design of the permanent campus.

Together, these activities became the foundation for the design of a learning environment capable of serving the needs of today's students.



Above, Assistant Principal Tim Ligue presents his journey line – visual representation of personal and professional path – as part of a team-building exercise. Below, team photo at Intrinsic Schools full staff retreat in August.



- 1 Summit Public Schools
- 2 KIPP LA
- 3 Carpe Diem Yuma
- 4 Basis Schools
- 5 Great Hearts
- 6 Denver School of Science and Technology (DSST)
- 7 Carpe Diem Indianapolis
- 8 KIPP New Jersey
- 9 North Star, Alliance for Public Schools

School Visits

Intrinsic's leadership traveled to 10 different schools across the country, including Blended Learning networks such as Summit and Carpe Diem, and observed the curriculum in action. Often, the design of the facilities did not support the next-generation teaching happening inside.

At one school in Indianapolis, Indiana, the learning environment resembled a call center: huge rooms filled with cubicle-like workstations, students confined to their desktop computers and isolated from one another.

Zaikos and the team envisioned a more inspiring, more flexible environment that more closely resembled the autonomy students were given in their lessons.

Following the school visits, the design team assisted the educators with two pilots. These mock school days, conducted between October and December 2012, tested various aspects of the curriculum, including technologies, spatial layouts, and transitions between subjects and modalities.

Because Intrinsic had not yet welcomed its inaugural class, the school recruited students and parents from Cesar Chavez Multicultural Academy on Chicago's South Side. The design team leveraged existing industry relationships to acquire donated classroom furniture and technologies such as ThinkPads.

How will teachers and students move throughout the room if it has such little structure? How long can students work autonomously and on what types of activities? What is the noise level like?



Pilot Programs

At the end of the first pilot, teachers and students filled out surveys and participated in focus groups. Data also was collected by on-site observers. This information was recorded and used to design the second pilot, which explored additional questions and iterations while maintaining the same feedback processes.

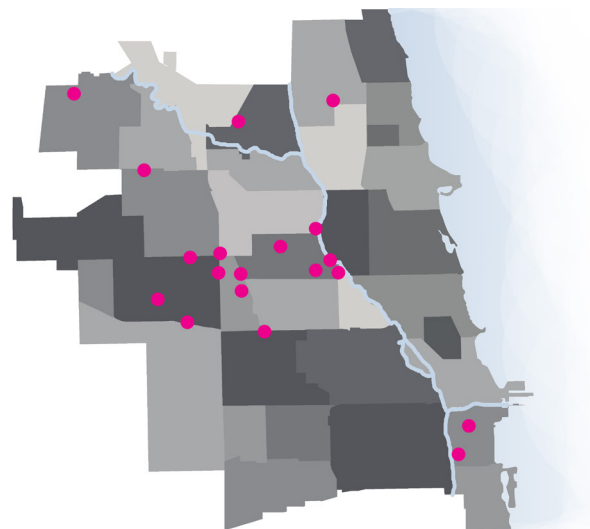
A series of charrettes followed the pilots. These focused on refining the students' schedule and exploring the spatial impacts of that schedule. The design team focused on the large, open classroom, exploring a variety of scenarios and animating them at hourly intervals in order to show where student groups would be located throughout the day.

Key decisions came out of these discussions. For instance, in response to the rigidity witnessed at other Blended Learning schools, Zaikos and her team sought to maximize student autonomy. Classrooms originally were envisioned as highly libertarian environments with near total self-direction. The pilots proved, however, that too much freedom could lead to a chaotic learning environment, and the team was tasked with identifying ways to add structure to the classroom without inhibiting freedom of movement.



Above, students are shown participating in the second pilot, which was held in December 2012 at Cesar Chavez Elementary School. Below, Ami Ghandi, Director of Personalized Learning, assists a student

The site is at the convergence of four neighborhoods, all of which continue to transition from industrial centers to residential communities due to the decline of industry and the subsequent low cost of housing.



18 sites studied over 12 neighborhoods

Site Priorities

Uncertainty characterized the early stages of the planning process. A site had not yet been identified when the design team was brought on, and over the course of eight months, 18 different sites across the city came under consideration. Only once a site was selected would the team have an understanding of the school's community context. Chicago, like many urban centers, is politically divided on the topic of charter schools. The school's leadership examined voting records to identify aldermen who were supportive of charter schools.

A set of priorities established by the school guided the search for a site:

- Target underserved neighborhoods with high poverty rate
- Prioritize existing buildings to limit building materials and reduce the project's carbon footprint
- The need for large-span structures to accommodate the large, open classrooms
- Accommodation for the primary school building, on-site parking and drop-off, outdoor learning space, and an athletic practice field
- Avoid Environmental hazards and high costs demanded by remediation



Figure Ground Site Plan: Intrinsic is located at the intersection of Portage Park, Irving Park, Hermosa, and Belmont Cragin neighborhoods. A majority of the area's families are Latino, and a majority of Intrinsic's students live within a mile and a half of the campus. As many as 86% come from low-income households, and more than 6% are considered homeless.



Before: Street View facing north



Before: Back of site facing South



1938



1951



1972

Timeline showing the evolution of the site, which began as a lumberyard in 1911. Intrinsic School's aim was to convert a deserted industrial site in an area of high-need for next-generation learning, repurposing as many of the existing buildings as possible.

1962



2002



2005



Historical Context & Adaptive Reuse

The 2.6-acre parcel on Chicago's northwest side quickly became the frontrunner due to its size, location, and the presence of existing long-span structures that lent themselves to the programmatic needs of the school.

The property, previously occupied by a 75 year old lumberyard, fell within Chicago's 30th ward and under the jurisdiction of alderman Ariel Reboyras, who was supportive of Intrinsic's mission to expand and enhance access to high-quality education in the city.

Nearly all of the site's existing buildings were salvaged, including a barrel-roofed shed constructed in 1955 that was large enough to house a multipurpose room. In addition to the positive budget and environmental implications, preserving a part of the neighborhood's historical building stock illustrated the school's deference and commitment to the existing community. The educators also felt that it was valuable in correcting the misconception that Intrinsic is focused solely on technology. Blending new and old was seen as symbolic of the Blended Learning curriculum.



Community Engagement

Although Intrinsic's urban location alters its relationship to the surrounding community, it was important to the team that community members have a voice in the planning process. Intrinsic's leadership engaged local K-8 schools to organize in-person Q&A sessions with neighborhood families and conduct school-wide educational assemblies. In addition, a number of community meetings were held in the neighborhood, all of which were open to the public.

One of the most common refrains was the residents' desire for community space

within the building. Multiple families expressed enthusiasm for publicly accessible amenities such as athletic facilities and event space. This ultimately led the design team to divide the school into academic and nonacademic space, each accessible without entering the other.

Several concerns were raised by community members. Chief among them was an increase in foot and vehicular traffic, voiced by residents of the adjacent Kilbourn Court townhomes. School leadership and the design team listened attentively and worked to identify a

solution: the school would help fund the addition of a code-activated gate to the entrance of the townhomes, which restricts student access to the residences' private drive.

It was encouraging to both the school and the design team that residents played an active role in the planning process, despite the unique nature of an urban school that does not require, or even incentivize, such involvement. As a result, the design of the school responds to the needs of the community, regardless of their formal affiliation with the school.

“I think to understand how kids will use things, you really have to test them with kids.”

- Melissa Zaikos,
Founder & Principal, Intrinsic
Schools



During its incubation year, Intrinsic received approximately 650 applications for 186 seats despite being located at a temporary downtown campus. When recruiting for their current campus, Intrinsic received 850 applications for 186 ninth-grade seats and 130 applications for 90 seventh-grade seats.

Incubation Year

Armed with data and observations from the early pilots and design charrettes, the architects worked with the school to design a temporary facility in Chicago's Loop to serve Intrinsic's inaugural class. This provided a unique opportunity for both teaching staff and the design team to observe firsthand which environments were working and which ones would need to be tweaked, as well as address additional needs that became apparent throughout the year.

These observations, combined with continued feedback from the teachers, played a crucial role in the design of the classroom, or Pod, as it became known. Conceptualized around the school's research and feedback from teachers, parents, and students, the Pod is a large, open space that can be arranged into various zones, providing flexibility as

well as structure. To help parents and visitors visualize this, the architects used a 3D printer to create a scale model of the Pod and placed it in the lobby during the incubation year.

The limitations of the temporary space taught the design team a valuable lesson. The location could accommodate only one Pod in a singular space; the other Pod was divided into two rooms and separated by a corridor. The larger of the two spaces became used primarily for math, which required the most instruction of any subject, while science and social science were taught in the smaller of the two spaces.

The incubation year resulted in other major changes to the Pod. Originally, 80% of the Pod's seating consisted of Node chairs, a mobile seat and desk that

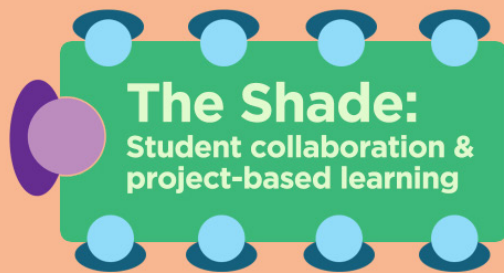
can be quickly reconfigured for a variety of uses. Though this adaptability was crucial to the Blended Learning model, during meetings with the design team, educators reported a “bumper car effect.” They identified a need for more anchored seating, as well as a way to better control the moveable seating.

The design team was faced with the challenge of constraining movement without completely inhibiting it. The solution, employed in the final design, was two-fold. First, the designers created several areas within the Pod where the seating is more fixed. Second, using distinct colored carpet tiles, the design team created zones for the Node chairs, giving instructors the ability to constrain movement to appropriate sections of the Pod and giving students subtle visual boundaries.

Educational Environment



The Coastline: Independent work



Are you looking for a unique learning environment that is more personalized and active?

“We all learn differently. Some need to hear it. Some need to see it. At Intrinsic, students are empowered to own their own education via blended, personalized learning.” - Parent, Intrinsic Schools

Evolving the Blended Learning Environment

The school and the design team both believe that learning environments are not neutral. Early on, they agreed that Intrinsic's primary learning environments should do more than accommodate programmatic needs. The environments at many Blended Learning schools tend to be rigid and isolating. Intrinsic's educators sought a more flexible and inclusive environment.

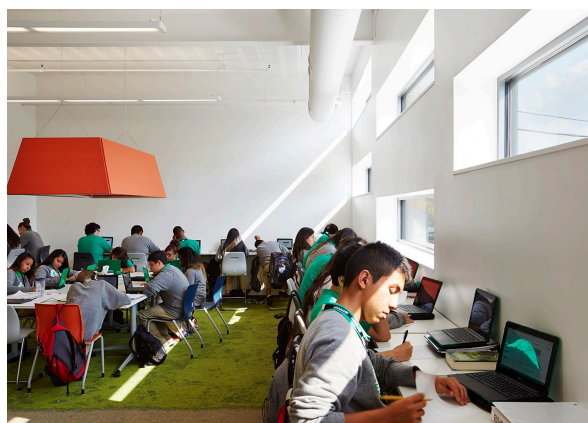
Together a goal was established to create a learning environment that actively supports and enhances the school's Blended Learning curriculum through a

series of tailored environments within the large, open space of the Pod. This unique setup would encourage different modes of learning without separating students unnecessarily, reinforcing the school's dual goals of student autonomy and community.

Not all Blended Learning schools use the same strategies. Intrinsic uses a “rotational” schedule in which students cycle through several modalities within one class period, completing independent lessons in one environment and moving to another for activities like group discussions. This diversity of learning

experiences benefits students by granting them autonomy in setting goals and measuring performance. It also benefits teachers by enabling them to focus on specific students or concepts without disrupting the rest of the students.

From a planning perspective, rotational Blended Learning requires the physical classroom be not just large but flexible and multifaceted. While some students are working independently, others may be in small groups or tested for comprehension. Such rotation occurs regardless of academic subject.



Each grade level is located in a pair of interconnected pods. Within the pods, areas for different types of learning are defined by the architecture, furniture, and finishes. The incubation year was instrumental in improving the design of the environment.

Meeting Curricular Needs

Understanding the needs of a rotational Blended Learning model informed the ultimate design of the school's primary learning environment---the Pod. The Pod prioritizes flexibility while also tailoring environments to particular modalities. In this way, the Pod is equipped to serve all functions simultaneously and provides students with opportunities for critical thinking, collaboration, creativity, and independence.

Students spend approximately 30 percent of the school day working independently, so the design team

provided individual workspaces designed to limit distractions. Counter-style desks and chairs line the perimeter of the Pod, facing the wall. This orientation was not intuitive. During the incubation year, workstations faced one another, but teachers reported that students struggled to focus on their lessons. In response, the wall-facing workspace was created, removing these distractions without isolating the learner from the larger environment.

The design team also found it was able to place zones intended for group activities

next to areas designed for independent learning because online lessons often feature an audio component and students regularly wear headphones, eliminating the potential for noise interference.

The area devoted to direct instruction is located within a volume that is created by the Pod's two auxiliary spaces in order to limit noise interference without separating it from the rest of the Pod.

“I think of technology as a tool. The important thing is that we’re changing the way teachers do their jobs and how teachers interact with students.”

- Melissa Zaikos, Founder,
Intrinsic Schools



Meeting Teachers' Needs

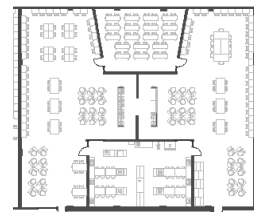
Efforts were made to balance the need for teachers to be in control of a classroom with the need for students to feel autonomous. For every class---up to 180 students---there are eight instructors, four of which are master teachers. While the Pod is designed around the needs of the student and the specificities of the Blended Learning curriculum, early iterations provided little physical support to teachers. This, interestingly, was at the request of the educators themselves, who opposed traditional teacher's desks and maintained that dedicated instructor workspace was unnecessary.

The design team, however, observed on more than one occasion teachers created improvised workstations using the Pod's moveable furniture. After communicating with instructors about these observations, workstations were added to the center of the Pod, providing a space for student-teacher conferencing and for teacher planning.

Since teachers get real-time data on student achievement, students struggling with the same concept can be recruited for small group lessons tailored for them. Similarly, teachers can group students who just successfully navigated new material to reinforce critical concepts.



Patterns in the sustainable carpet tile flooring in the pods are used to designate different learning areas. The oversized light fixture shades, fabricated from a felt-like material made from recycled milk jugs, designate the area for peer-to-peer learning.



A New Nomenclature

Language, both actual and architectural, played an important role in the design of the Pod. The design team worked to give each individual environment a unique identity. In this way, a setting takes on a certain character or persona, which helps solidify its place in the hierarchy of the room and helps students intuit its intended use.

An environment's identity is formed through its furnishings and creative naming. The study lounge, made up of soft seating in several shades of blue that loosely represent waves, becomes

the Ocean. The perimeter individual workspace, featuring desks of varying heights, becomes the Coastline. Direct instruction, because it can happen at any point with varying numbers of students, becomes Pop-Up Class. The teachers homebase and place students go for help becomes, with a hat-tip to Apple, the Genius Bar. The tables designed for peer-to-peer learning becomes the Exchange, or the Shade, a nickname derived from the large orange shade that hangs above it.

While these identities serve an immediate purpose at Intrinsic's Chicago campus, they also can be seen as investment in Blended Learning more generally. New and existing schools that choose to implement a Blended Learning curriculum are provided a series of designed settings that can be employed modularly, building on lessons learned at Intrinsic.

Our students are on a computer about 50% of the day, but if a bunch of students are working independently, then teachers can work with much smaller groups of students on things that they need directly from the teacher.” - Melissa Zaikos, Founder, Intrinsic Schools



Instead of diminishing the teacher's role with technology, Intrinsic enables a more effective use of their time and talent.

The Digital Environment

Acknowledging the central role that computers and other 21st-century technologies will play in students' lives after they graduate, Intrinsic's educators believe that it is critical to teach technological proficiency while leveraging those technologies to enhance students' education. Personal Chromebooks provide students autonomy and allow educators to monitor progress in real time while Chromecast helps facilitate discussion by enabling screen-sharing.

The use of technology makes the school's digital environment a crucial component

of the learning experience. The daily use of multiple wirelessly connected devices requires Internet bandwidth beyond what is typically necessary for a school of Intrinsic's size, specifically in spaces in which testing occurs, such as the multipurpose room.

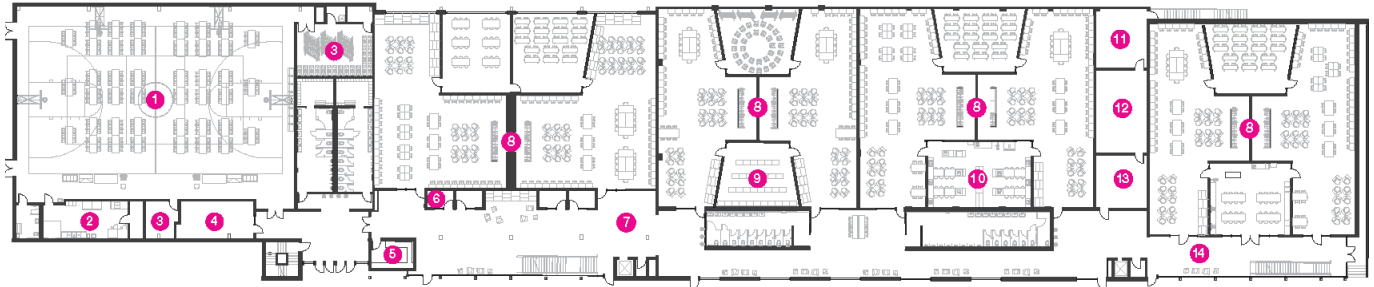
The design team worked with the school to test multiple software and hardware solutions. Throughout the process, multiple software and hardware systems failed or exhibited substantial drawbacks. Chromebook "lockers" intended for storage and charging were

poorly designed and ultimately proved ineffectual. Instead, power is provided throughout the Pod in the form of electrical outlets in the floor, allowing for ease of access.

Perhaps the most important lesson was that student competency varied significantly. Following the pilots, educators recognized that not all students enter high school with equal knowledge and comfort with computer technologies. In response, the school developed a curriculum around the use of technology itself.

Physical Environment





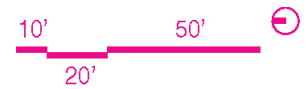
First Floor Plan

- | | | |
|---------------------|--------------------|--------------------|
| 1 Multipurpose Room | 6 Huddle Room | 11 Mechanical Room |
| 2 Warming Kitchen | 7 North Atrium | 12 Electrical Room |
| 3 Storage | 8 Grade Level Pods | 13 Staff Room |
| 4 Learning Lab | 9 Digital Lab | 14 South Atrium |
| 5 Reception | 10 Chemistry Lab | |



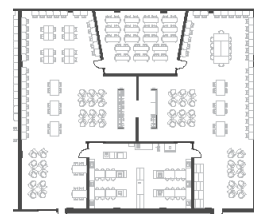
Second Floor Plan

- | | |
|-----------------------------|--------------------|
| 1 Multipurpose Room (Below) | 6 Grade Level Pods |
| 2 Administration | 7 Storage Room |
| 3 Conference Room | 8 Storage Room |
| 4 Learning Lab | 9 Mechanical Room |
| 5 North Atrium | 10 South Atrium |





With its student-centered environment and curriculum, Intrinsic seeks to increase student resilience and prepare them for success in post secondary education and beyond.



“I love the pod because it allows me to do small group instruction or one-on-one tutoring the majority of each day.”

- Ashley Haywood, 9th Grade English Teacher

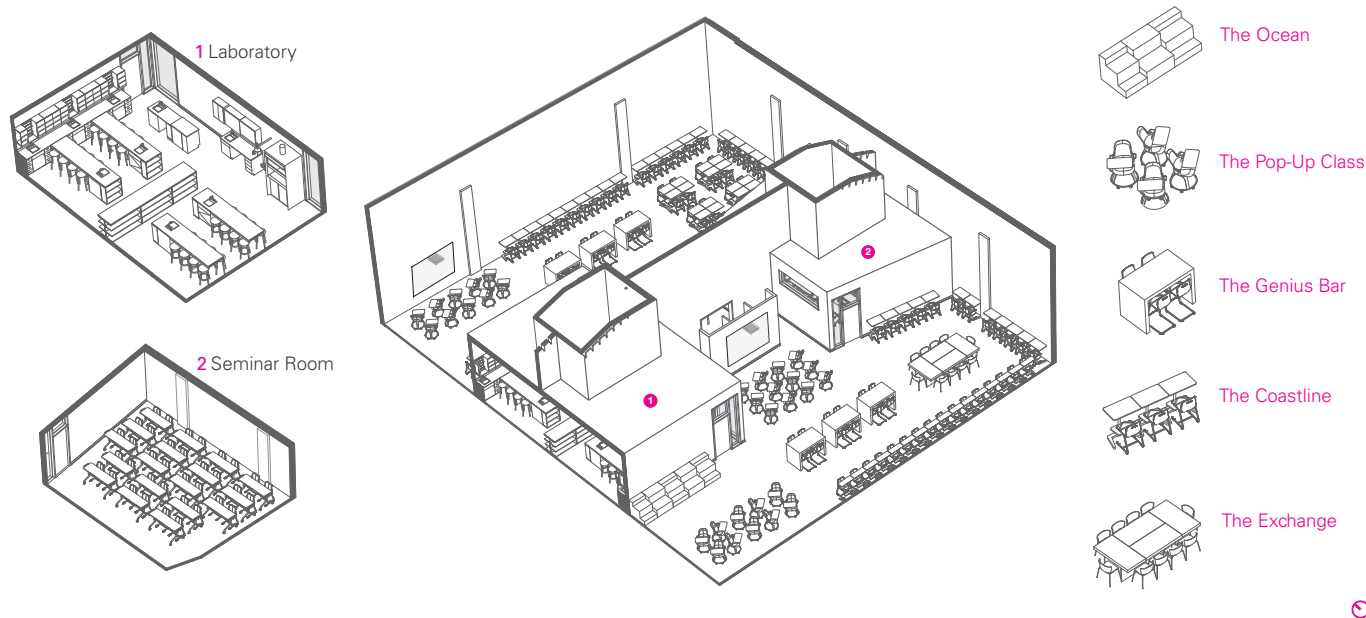
Adaptive Design: The DNA of Intrinsic

Adaptability is embedded in the DNA of Intrinsic. Learning spaces, building systems, and the curriculum itself are highly responsive to the needs of the students and teachers. Adaptive software responds to a student's preferences. The architecture responds to the school's context. And the building responds to the needs of the community.

With highly flexible learning environments, the school is able to respond to the needs of students as

technology and Blended Learning continue to evolve.

The Pod is defined by adaptability. It is the culmination of years of study, observation, discussion, and student and teacher engagement. Each Pod responds to the spatial and temporal requirements of Blended Learning's diverse modalities and is divided into five zones: The Exchange, The Genius Bar, The Coastline, The Pop-Up Class and The Ocean.



Typical Pod Configuration

- **The Exchange, or Shade**, is an area of grouped desks or tables, where students work collaboratively and/or independently. The oversized orange lamp shade that hangs above the tables is hand-built from a material made from recycled milk jugs and serves as an acoustic damper and a landmark within the Pod.
- **The Genius Bar** is a standing-height work area where students receive one-on-one assistance from instructors. Located at the center of the Pod, this setting serves as an anchor within the large, open space and provides teachers with a central, accessible workspace from which to survey the Pod.

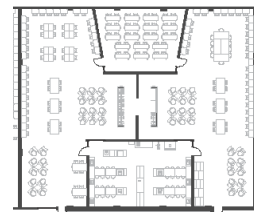
- **The Coastline** is the most introspective space within the Pod and is tailored to individual learning such as reading or completing independent lessons online. The desks range in height, accommodating sitting, standing, and students in wheelchairs, and line the perimeter of the Pod.

- **The Pop-Up Class** is the most similar to a typical classroom. Also known as the Big Board, so named for the oversized smart board at its front, this setting is designed for traditional teacher-led instruction. Nearby, a setting known as the Little Board provides a targeted area for small group instruction and/or collaborative group work.

- **The Ocean** is a study lounge formed by soft, tiered seating, encouraging physical freedom. Students can lounge, lie down, or perch while reading or participating in group discussion. A priority for the educators, this setting becomes an informal gathering place that reinforces students' independence.



Since the tandem pods for each grade level are all different, a student's experience changes from year to year.

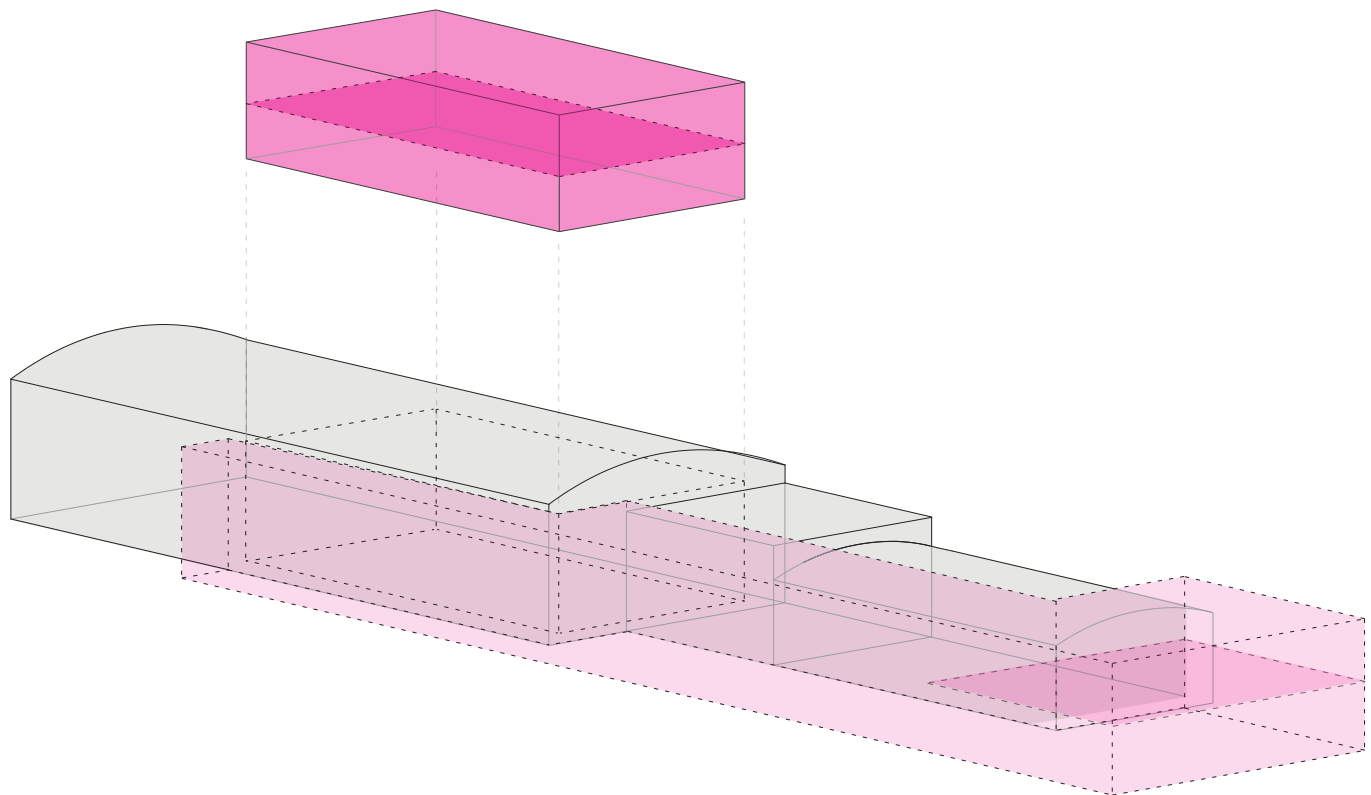


Adaptive Students: Creating Resiliency

Intrinsic's leadership felt strongly that learning environments should be owned by students, not teachers. Unlike at traditional schools, students are non-itinerant, and each grade level is grouped together in order to encourage encounters between students, providing additional opportunities for positive social interaction. Pods, which average 2,000 square feet in size, accommodate up to 60 students and provide space for coats, bags, and personal items, eliminating the need for hallway lockers.

Each Pod is conjoined with a second Pod that mirrors the first. One Pod is devoted to STEM subjects, the other to humanities. This creates a connected, barbell-shaped learning space the design team calls Tandem Pods. The Tandem Pods and their auxiliary spaces serve as home base for all 180 students in a class. A passageway between the two Pods is hidden by a large whiteboard, which creates the storage for personal belongings. The Socratic seminar room and science lab flank the Pods and can be accessed from either side.

The Pod is designed to teach students to become more adaptable themselves. The school and the design team felt they had an opportunity to create a physical environment that approximates what students will find in postsecondary education and the workplace. By teaching students to adapt their learning to a variety of settings, Intrinsic's approach to education increases student resilience and prepares them for success in postsecondary education and beyond.



- Saved 75% of Existing Lumberyard Buildings
- New Paneled Facade, Double-Height Entry Vestibule, and Single Loaded Corridor
- "Ship in a Bottle" - Two-story steel-framed building inside the existing building

Adaptive Reuse: Preserving History

Adaptive reuse was prioritized in order to save on costs and reduce the project's carbon footprint. Following the selection of the site and the design team's proposal, the educators became highly energized by the idea of adaptive reuse, which would provide immediate and long-lasting social, economic, and environmental benefits.

In addition, preserving a part of the neighborhood's history, they felt, would be symbolic of the school's emphasis on both traditional and nontraditional education. By blending new and old, the

building helps dispel the misconception that Intrinsic is focused solely on technology and "screen time."

The design team repurposed as much of the former lumberyard as possible to minimize the use of building materials and the embodied energy of demolition and rebuilding the structure. Original wood beams and bowstring trusses, built between 1911 and 1954, were restored and left exposed, a counterpoint to the Pod's contemporary furnishings and wireless connectivity.

In the school's double-height lobby, geometric light fixtures and colorful seating contrast elegantly with the original Douglas fir beams, highlighting this juxtaposition. The preservation and exposure of these elements offers building inhabitants a connection to the site's industrial history while the new high-performance skin on the building's exterior hints at the revolutionary education happening inside. Overall, 75% of the historic structures were preserved and restored.



With its combination of an original wood structure and a new glassy enclosure, the entry lobby is a tangible example of blending old technologies with new ones.

You won't find hallway lockers in Intrinsic School's corridors. In fact, you won't find the ubiquitous double-loaded school corridor anywhere. Instead, you will find hallways lined with windows and views.



Adaptive Strategies: Light & Transparency

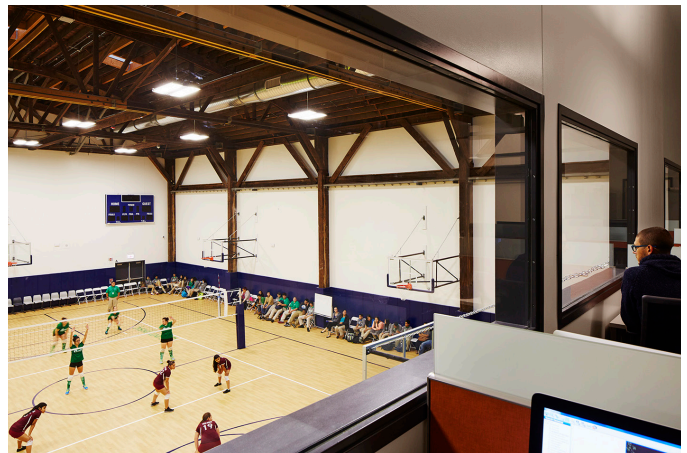
Natural light has been proven to improve academic performance and occupant health, and the design team maximized natural light in a number of creative ways. The double-height entry is flooded with natural light via a high-performance storefront and a clerestory patchwork of glazing.

The light from the lobby is then brought into the classrooms through a single-loaded corridor and glazed partitions. Windows along the east wall were not permitted by city code because of its proximity to the property line, but though

this could have been seen as a constraint, it was treated as an opportunity. The design team added enormous, nanogel-filled skylights to the pods science labs and seminar rooms, funneling natural light into the enclosed spaces and creating a window to the sky in what would otherwise be an environment without views. Where artificial lighting is required in the school, the design team selected highly efficient, systems that can be controlled remotely and dimmed to accommodate a variety of activities.

The strategic use of exterior glazing on the south and west facades not only brings light in but helps visually connect the campus to its surrounding community. The main lobby is visible to those approaching the main entrance by car or on foot, and plentiful windows integrated into the paneled facade provide views from 100% of circulation spaces. In this way, the school becomes a transparent and visually engaging addition to the neighborhood and provides an open and welcoming atmosphere for students, parents, and visitors.

Purposefully blending new and old is a metaphor for Intrinsic's educational mission.



Adaptive Strategies: A Sustainable Model

Because the Intrinsic team's mission is to make the charter network a model for Blended Learning schools, sustainability became a top priority early on, both environmentally and operationally. Intrinsic, compared to district schools and even other charters, is extremely lean in its operations, with little excess staff and few non-learning spaces. This is one way the school hopes to ensure financial sustainability and enable the growth the school envisions in coming years.

Environmentally conscious design dovetails with this mission, aligning

with the school's long-term goals and maximizing the building budget to save on long-term operating costs. The biggest piece of the sustainability puzzle was the adaptive reuse of the existing structures. Studies show preservation is by far the most effective solution in the effort to green urban areas and reduce their carbon footprints.

New building technologies, combined with a variety of sustainable site strategies, helped achieve the project's sustainability goals. Like the education it offers, the Intrinsic campus makes use

of Web-enabled building systems that respond to building inhabitants in real time.

CO2 sensors estimate the number of individuals in a space and adjust temperatures accordingly. The metal-panel facade system creates a continuously insulated envelope, and closed-cell polyiso spray-foam provides a lightweight material that serves as insulation and roofing in one. This technology was especially effective because it could be applied over the existing roof, obviating its removal.



Adaptive Strategies: A Sustainable Landscape

The preservation of the existing structures on an already narrow site resulted in the school building largely occupying the footprint of the original lumberyard. Its location on Belmont Avenue, however, required a separate student drop-off area to ensure student safety. This pushed the main entrance toward the interior of the site.

To give the school a presence along Belmont and provide a pedestrian-friendly point of entry, the building was extended south to the sidewalk. Wayfinding is

provided via clean, easy-to-read signage that becomes illuminated at night.

The rest of the site is composed of a new landscaped plaza, staff and visitor parking, and an artificial-turf athletic field. Using low-impact development strategies, including permeable paving, the design team converted more than 80 percent of a previously impermeable site into a porous, water-collecting landscape that brings new green space to a formerly industrial neighborhood.

The plaza's pathways feature permeable pavers and a series of angled berms planted with turf, native plants, and trees.

These artificial berms invite sitting, creating inhabitable outdoor space for both students and teachers. Two large water-collection basins are located beneath the athletic field and the drop-off, storing 126,645 gallons of stormwater and alleviating urban flooding.

Results of the Process and Project





Educational Results

Intrinsic Schools' new campus offers students an unprecedented learning environment born of a hands-on, collaborative planning process. It achieves the school's educational goals by reimagining the physical classroom as a flexible and adaptive space designed for the unique requirements of a Blended Learning curriculum.

Composed of individual settings tailored to a specific learning modality, this environment is the first of its kind and serves as a model for future campuses, including four planned Intrinsic campuses as well as other charter and Chicago Public Schools campuses that implement Blended Learning. To facilitate this process, intentional efforts were made by the design team to give each setting a

distinct identity, including a name, which can be used in the future by designers and educators.

The flexibility of the learning environment also succeeds in granting students an autonomy similar to that created by Blended Learning's personalized approach to education---a major priority for Intrinsic's leadership. This physical liberation mimics the curriculum's emphasis on student-led education and provides a more fluid and productive school day in which students move to new spaces according to the task at hand, rather than according to subject. Importantly, this variability teaches students to adapt and thrive in a variety of settings, equipping them with transferable skills for both college and career.

Neither the school nor the design team view these successes as proof that the chosen path is the only way forward. It is important to reiterate that this building is the charter network's first school and has only inhabited the campus for one year. The educators and design team continue to meet regularly, observing students and teachers and tweaking both the curriculum and the environment.

Recently, the school has begun exploring the option of grouping students by subject rather than grade, and while the Pod's inherent flexibility allows for such changes, the team will continue to examine the spatial and architectural implications of such changes on the functionality of the learning environment.

“We’re creating a new school model to change the way we teach.”

- Melissa Zaikos, Founder,
Intrinsic Schools



On weekends, the Multipurpose room hosts community activities. Below a weekly Zumba class includes neighbors of all ages.

Community Results

Charter schools help alleviate overcrowding in urban schools and represent opportunities for greater innovation and experimentation in educational models. Intrinsic’s campus increases access to quality education in an underserved neighborhood in Chicago even as it pioneers a curriculum that most likely will be integrated into more schools in the future. By successfully completing the project on time and on budget, and by maximizing the budget to include as many sustainable systems as possible, which reduce life-cycle costs, the project achieves the client’s goal of serving as a

holistic model for future Blended Learning schools.

The building brings new life to a disused site even as it preserves and celebrates its industrial history. Based on feedback from community members, the school provides new public amenities such as an athletic field, and multipurpose room to neighborhood residents. Accessibility to these spaces was considered from the outset, resulting in the separation of the learning spaces and the community areas. The former are located south of the main entrance, the latter to the north. In

doing so, security concerns are alleviated, and a digital fob system can grant access to just one portion of the building.

Despite the challenges faced by an urban school, whose stakeholders can span the physical geography of the city, the planning process used at Intrinsic helped establish relationships with local residents, elected officials, and families attending area schools. And by engaging the public, concerns regarding an influx of foot and vehicular traffic were alleviated.



With a single-loaded corridor, expansive views, and lack of lockers, Intrinsic feels liberated from the traditional school model.

Responses & Further Questions

Some have been critical of Intrinsic's approach to education, taking issue primarily with the notion that students spend a significant amount of time "on a device." Because of Blended Learning's nascency, the educators and designers believe feedback to be vital, even when it comes in the form of criticism.

It is equally important to educate the public and engage in the larger discussion around urban education. A tenet of Intrinsic's approach is the belief that in the same way technology has revolutionized business, health care, even the political process, technology can and should revolutionize education.

Intrinsic's vision is not, however, constant connectivity. Online learning accounts for only a portion of the students' education. Intrinsic students read physical books, participate in sports and extracurricular activities, and perform science experiments in a physical lab, as well as complete lessons in a more traditional manner.

The school also invests in powerful and proven platforms used by colleges and universities. As much intentionality has gone into the development of the school's digital learning environment as the physical one.

This project is not static. The process is ongoing. In addition to evaluating and measuring student performance at the Belmont campus, the school has selected the design team to design the school's second campus.

As the school continues its mission, questions will continue to be raised---questions about the relationship between technology and learning, and about the nature of urban education as our cities grow and change. The design team is equally committed to continuing to engage these questions and creating environments that empower students to become lifelong learners.