Changing the Outcomes: School Design Principles for the Next Generation of Chicago's Learners

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contents

CHICAGO ARCHITECTURE FOUNDATION

ABOUT CAF

The Chicago Architecture Foundation (CAF) is a nonprofit organization dedicated to inspiring people to discover why design matters. As an education leader in architecture and design, CAF offers tours, programs, exhibitions, field trips, curricula and online tools that are part of a dynamic learning journey for all ages. Proceeds from CAF's tours and gift shop support this educational mission.

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CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

1

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executive summary

Given limited resources and shifting urban demographics, policymakers are asking how school buildings can best be designed to foster personalized, intellectually-challenging interactions among teachers and students that equip young people to be 21st century citizens.

In November 2014, the Chicago Architecture Foundation and the American Architectural Foundation hosted a daylong forum at the request of Chicago Public Schools to develop a set of design principles to inform Chicago's future schools. The forum, Changing the Outcomes: Designing Smart for the Next Generation of Chicago's Learners, brought together more than thirty leaders in education, design, architecture, community development and public policy to consider the following questions: How can Chicago create a new urban learning environment that ensures the development of 21st Century skills? What design principles could help transform urban dilemmas into new opportunities and provide a framework for policy makers to think about schools in new ways?

In order to develop recommendations, forum participants considered the changing demographics of Chicago, the public school curriculum context, the out of school time landscape and, most critically, the future lives of five actual public high school students.

As the day came to a close participants moved away from a school-centered focus and feeling constrained by the limitations of the public school district capacity. They reframed the conversation towards a student-centered approach coupled with systems thinking about the larger contexts in which schools are located: networks of formal and informal learning, neighborhoods and communities. Public transit surfaced as an important asset in linking schools to these larger environments. By the end of the forum stakeholders expressed grounded optimism that momentum can be developed to open the literal and metaphorical spaces needed to expand opportunities for youth to achieve their own goals.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

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2

From this rich, multifaceted conversation what might be design principles for future schools in Chicago? Recommendations include:

- personalized curricula that enable students to develop skills through interest-driven projects and learn at their own pace

- smaller learning communities in which students can be "known"

- integration of "out of school" experiences with academic expectations

- engagement in meaningful work alongside—and under the mentorship of—professionals

- use of the surrounding neighborhood as an extension of the school campus

- collaborative, flexible, transparent spaces

- free and easy access to public transportation from home, to school and beyond.

The need for next-generation learning centers, which enable young people to become stewards of the 22nd century, is a national imperative. Although shared physical spaces remain essential to the basic function of school multiple currents in education—public policy, technology, architecture and curriculum design—are converging toward a central idea: we can no longer simply equate school with "a building."

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

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3

introduction

Design is increasingly understood to be a catalyst in education reform. Skills such as critical thinking, problem solving, collaboration, global awareness, and self-direction are no longer simply desirable they are necessary competencies. Furthermore out-of-school experiences which take place at cultural institutions, community organizations, extra curricular programs, with families and in neighborhoods are appreciated as fundamental components of comprehensive learning "ecosystems."

Given these dynamics what might a truly "modern" school look like in an urban context?

On November 10, 2014 the Chicago Architecture Foundation and the American Architectural Foundation, at the request of Chicago Public Schools,[3] convened a cross-sector group of stakeholders to consider deeply the lives of five young people and the context for the public schools they attend in order to distill out a set of principles that could inform a new model for school design for new and existing buildings. The conversation was not about space or facilities specifically but about the ideas that inform space: What is a 21st Century urban citizen? How do we design for the citizen we need?

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[2] **Chicago Architecture Foundation (CAF)** is the leading organization devoted to celebrating and promoting Chicago as a center of architectural innovation. As Chicago's forum for the exchange of ideas on urban design, CAF inspires people to participate in the building of vibrant communities and to demand the highest standard in urban design. CAF awakens young people to achieve their potential through award-winning K-12 curricula, workshops and programs that teach design thinking and the built environment.

American Architectural Foundation (AAF) The American Architectural Foundation educates the public about the power of architecture and design to improve lives and transform communities. AAF is dedicated to the vibrant social, economic, and environmental future of cities. In the past decade alone, AAF has worked directly with local leaders through more than 500 city engagements.

Chicago Public Schools (CPS) is the third largest school district in the United States with more than 600 schools providing education to approximately 400,000 children. Its vision is that every student in every neighborhood will be engaged in a rigorous, well-rounded instructional program and will graduate prepared for success in college, career and life.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015
architecture.org/schooldesign

4

The forum agenda was set and faciliated by Trung Le, founder of Wonder by Design, John Syvertsen, from the American Architectural Foundation and Gabrielle Lyon, Vice President of Education and Experience at the Chicago Architecture Foundation. Participants represented diverse stakeholder organizations including After School Matters, The Brinson Foundation, Cannon Design, Chicago Children's Museum, Chicago Public Schools, Chicago Public Library, DePaul University, Global Leadership Academy, Greater Good Studios, LEAP Innovations, National Louis College of Education, The Office of Mayor Rahm Emanuel, Perspectives Charter Schools, Smart Chicago Collaborative and The New Teacher Center.

This report describes the convening as it unfolded and offers a perspective on the themes and recommendations that emerged that day.[3]

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[3] See appendix for links to the forum agenda and presentations.

**CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS**
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5

mayor's call to action

Chicago Mayor Rahm Emanuel visited the convening to provide
a compelling mandate.

> *Our schools are beautiful and stunning, but architecture is going through
> a redesign, and school architecture should mirror that design to match
> the needs of our 21st century thinkers, innovators and leaders.*
>
> *I have a simple message: I want you to think through cost, learning
> environment and space, and then think through what we our teachers
> and the students will be doing and what tools they should have access
> to. Put the hopes and dreams of our next generation into your models.
> Everywhere in the private sector, they're rethinking space—efficiency,
> work, and how people work today, which is more collaborative. We want
> our kids to be doing things during the school day in a collaborative
> environment—just as they will in the workforce.*
>
> *You have the liberty and the freedom to tackle this challenge, and your
> work will not go for naught. This won't be a report that sits on a shelf.*

In a comment that became a subtheme for the day, Mayor Emanuel noted some
big steps do not always have to fall into a six-figure category.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

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6

grounding
the conversation

The forum was grounded in a series of presentations intended to paint a snapshot of public education in Chicago, the city's changing demographics, and several examples of cutting-edge educational models.

John Syvertsen welcomed the group and set the tone and expectations for the day.

VOTE WITH YOUR BODY

Following introductory comments, Trung Le led the group in a "Vote With Your Body" exercise. Participants were shown a screen with a prompt "For the 21st Century Citizen" and then series of word choices: Creativity/Innovation; Thinking/ Doing; Morals/Ethics; Compassion/Empathy; and Truth/Beauty. As each slide appeared participants had to choose one of the words and "vote" by moving to one side of the room or the other. In the process an intense conversation unfolded about what is most worthwhile for young people to experience.

- *Creativity/Innovation:* ""I think creativity is something that everyone innately has, but it is lost in the educational process," one participant said. "If we connect 21st century learner to their creativity, that will lead to innovation."

- *Thinking/Doing:* One participant, to the applause of others, stated: "The difference between a fashion designer and a person who wants to be a fashion designer is a dress… between a novelist and someone who wants to be a novelist is a book… between a citizen and someone who wants to be a citizen is actual participation in society."

- *Morals/Ethics:* "Morals are about a code of conduct, while ethics is much broader, more inclusive… has to do with one's existence in the world."

- *Compassion/Empathy:* "Compassion is more innate—for example you have compassion for your child," said one participant. "But empathy is widening your circle, and you have to teach that."

- *Truth/Beauty:* "Our society is preoccupied with beauty, misaligns us from what truth is," one participant stated.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

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7

CHICAGO PUBLIC SCHOOLS

Chicago's public school system, the third largest in the country, has over 400,000 students, with approximately 112,000 students in high schools, Mary DeRuntz, Deputy Chief Facility Officer for Chicago Public Schools, told the convening. "The system is majority minority: approximately 45 percent Latino and 40 percent African American. Currently 85 percent of the student body receives free or reduced lunch, and more than 16 percent are English language learners."

The Chicago Public Schools Action Plan, approved in 2013, is based on five pillars for learning: high standards, systems of support for students, engaging families, effective teaching and sound fiscal operations. The pillars support an overarching vision: "Every Chicago Public Schools student in every neighborhood will be engaged in a rigorous, well-rounded instructional program and will graduate prepared for success in college, career, and life." According to DeRuntz, there has been steady progress in the high school graduation rate, which has risen from 47 percent in 1999 to more than 65 percent in 2013.

Following DeRuntz, Mario Rossero, Chief of Core Curriculum at Chicago Public Schools, outlined the academic priorities and shifts in multiple standards applied in today's school system. "We're charged with serving every kid at every grade in every building, and that's what we're trying to figure out," he told the group. Shifting to national Common Core standards is a "heavy lift for teachers and administrators," but the district is committed to "serving every kid in every building," said Rossero. "CPS needs buildings that can accommodate rapid changes in technology and instructional practices."

TWENTY YEARS AHEAD: SHIFTING DEMOGRAPHICS

Demographer Rob Paral painted a picture of the ways in which Chicago's demographics would shift in the next 20 years and outlined some of the implications for public schools. "The city has lost 200,000 African Americans since the last census," he said. "There also has been a decline in the white working class population, with a slight increase in the 'elite.' "

The implications for Chicago Public Schools are significant: in terms of racial demographics the proportions of African-American and Latino students are likely to shift, with African-Americans declining and Latinos rising to become the majority population. Most significantly Chicago's continuing population decline will produce a dramatic drop in the city's high school student population over the next decade.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

8

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Using graphs and maps Paral described a steep decline in the number of school-age students. "The number of 5-9 years olds is down 60,000 citywide since the last census. That shortfall will lead to a dramatic drop-off in the high school population over the coming 5-10 years. Imagine a high school population that is 25 percent smaller," Paral advised. "It's not that remote a possibility. Longer term," he said, "all cohorts related to public education are in numerical decline." That overall baseline drop in the city's population will likely shrink the available resource base for schools. At the same time, the proportion of students living in poverty in Chicago is likely to grow, suggesting schools will need greater supports and resources to help them succeed.

A LEARNING ECOSYSTEM

How to respond to these challenges? By connecting schools to the larger learning ecosystems that support their students, suggested Nichole Pinkard, Associate Professor in the College of Computing and Digital Media at DePaul University in Chicago. "School is just one of many organizations that are part of learning. If you place all of that responsibility on the school, you are asking them to do way too much," she said. In the summer of 2014, 66 informal learning organizations awarded 112,000 digital "badges"—digital recognition that allows the viewer to see exactly what a badge holder did to earn the distinction.

The next step is to deepen the connections these "out of school" organizations have with schools and with each other. Pinkard invited the group to imagine the possibilities: "If we could weave all these learning opportunities together, what would it look like?"

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015
architecture.org/schooldesign

9

five lives
and five futures

Developing a set of design principles required a deep understanding of Chicago Public School students as actual people. To represent the complexity of Chicago's learners, Gabrielle Lyon presented five snapshots of real students, who spoke candidly about their life circumstances, school experiences and future goals. (Their names were changed to protect their privacy, and the photographs associated with their pseudonyms are not their images.) The students were selected to represent significant demographics present in the Chicago Public Schools student population overall.

"Our work today is not a thought exercise in abstraction," explained Lyon. "We need to envision the "critical experiences that will 'emerge' a 21st century citizen. There is a real student, and her name is Edna. And there are thousands of students who wrestle with the kinds of issues Edna is telling us about," Lyon continued. "We have a real role, a real responsibility and our work is urgent."

Forum participants were divided into groups, assigned a student and given a charge: spend several hours thinking about the student's lived experience, aspirations and challenges and develop a headline and success story that would be on a cover of a major newspaper or magazine. Each media story needed to articulate "core beliefs" about what enabled the student's successes. Each group captured their story on oversized paper and reported out to the forum.

The resulting stories envisioned ways today's Chicago high schools could transform life trajectories and serve as launch pads for the leaders of the 21st— and 22nd—century.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

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10

EDNA

I am a female student at Curie. I like the school because I have a diverse group of friends—more diverse than in my neighborhood, Pilsen. At Curie I guess I am like any other kid. I hate homework but know it is in my best interest to do it. I struggle with competition. It is hard to accept that there are other people who are better students than I am. I study hard every night but I just don't do well on tests. I don't want to disappoint anyone.

I live with my mom, my three sisters and two dogs. We all share a 2-bedroom apartment. I walked to elementary school, but now I have to get up at 6:00 in the morning to take public transportation to get to school by 8:00.

I see myself being an artist or art teacher. I would love to go to college for art but I don't have my papers. We came here when I was a baby. My sisters were born here, but I was born in Mexico. I have no idea how I could go to college.

NEXT CITY

MOMA's New Director of Education Partners with Chicago to Celebrate Neighborhood Arts Programs

After high school, Edna was at first unsure of her next steps. Believing that college was not open to her due to her immigration status, she sought out alternative opportunities to develop as an artist. And became deeply engaged in neighborhood art projects. By the time a mentor informed her of possible college opportunities and scholarships open to her regardless of her immigration status, she had already proven herself as an artist, teacher and community arts leader.

Her interest in exploring new cultures and communities led her to New York. There, after some years of exposure as an artist and neighborhood arts educator, she was tapped to lead MOMA's education department.

Core beliefs about what enabled success:

- Tests are not the only measure of success
- Today's learners seek out diversity
- Every Chicago student should have access to free, safe, clean, networked public transit
- Schools must provide individualized, interest-driven learning
- Edna needs a path to become a U.S. citizen
- Every city must offer tools and opportunities to support life-long, life-wide learning for all

Report out

The group saw Edna as an extremely talented and driven young woman. Like other students she seeks out diversity; Chicago's segregation is a big challenge to this generation. Also, the group decided that access to clean, safe, networked public transportation is critical to a generation that savors diversity and is going to seek out opportunity beyond neighborhood walls.

"How do we pair students with the curriculum that is appropriate?" they asked. "Instead of saying that every curriculum has to be everything to everybody, and how to balance that in a system with 170 plus schools" is an issue they tangled with.

The issue of transit surfaced as a critical one. "Can't do the school thing without doing the transit thing," they decided.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

architecture.org/schooldesign

11

DE'ANDRE

I am a Hyde Park High School student. I am a little different than my classmates. I went to grade school in Mississippi. My first high school was Manley Career Academy in the East Garfield Park area on the west side of the city. I now go to Hyde Park in the Woodlawn neighborhood on the south side of the city. I decided to go to Hyde Park because a lot of my friends in the neighborhood were going there. I like high school because I have a little more freedom as a young adult.

High school is fun when I have at least one teacher's class per year that I like going to. But I dislike high school because of the students' lack of respect for the teachers, school property and other students. Going to school and being in school is hard because daily I have to avoid altercations and bad situations both in and out of school. I also struggle with high school because it is like a 9-to-5 job that you don't like, but you need to keep doing it because you have to pay the bills. You just have to kind of tough it out.

I plan on going to college and studying chemical engineering. One of my teachers has said I am good at math.

Chicago Tribune

Cracking the Asian Carp Code

The 15-year journey to solving Illinois' Asian carp problem began when 11-year-old De'Andre toured a Shedd Aquarium exhibit about Lake Michigan. When De'Andre returned to school, he told his teacher about his interest in Asian carp, and his teacher suggested he make it the subject of his "capstone project." She connected him with scientists and engineers throughout Chicago to advise him on the project. One of these professionals became his mentor and helped him build a pathway to a career in engineering. At the same time, his teachers spotted him struggling with reading and had the time and flexibility to develop an individualized plan to help him improve his reading skills.

Years later, as a National Guard member, the lessons De'Andre completed in school led him to an epiphany involving the use of electric current to keep Asian carp out of Lake Michigan. "I want to use the skills I learned in school and through the National Guard to make the world a better place," he said.

Core beliefs about what enabled success:

- Relationships with caring adults are essential for student learning
- Student interests and passions drive learning and perseverance
- Learning must be individualized and connected to real-world applications

Report Out:

The group decided that as an 11-year old, De Andre visited the Shedd Aquarium, and in an exhibit there became fixated on a problem that would occupy him for years to come: the Asian Carp. His teacher connected him to professionals working on the issue, and later while working for the National Guard he had an epiphany and realized that his work understanding electrical currents in water could solve multiple problems.

What mattered in De Andre's case was his discovering a passion, and then his teacher connecting him to adults who have expertise in that area. And finally, to build on the area of interest and the relationships to find a personal pathway, a relationship to real world application. If the teacher spends less time delivering content, and more time getting to know the student and connecting him or her to resources, this is possible.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

architecture.org/schooldesign

12

NOEMI

I live with my mom in Logan Square. I started grade school at Avondale Elementary. I finished at Chicago International Charter School (CICS) Bucktown. I love art and music. I am a DJ for my friends' parties. I chose to go to Chicago High School for the Arts, ChiArts because I wanted to study arts and music. ChiArts has a great, diverse student population. ChiArts does not have a strong academic program. The courses weren't challenging. In junior year I transferred to Westinghouse High School to focus on academics. I did this to help improve my chances of getting into college. I thought this move would help me achieve a higher ACT score. I went back to ChiArts in my senior year because Westinghouse lacked diversity. I also wanted to go back to studying in my chosen field. I am planning on joining the National Guard and becoming a graphic designer after college.

FAST COMPANY

Designer Transforms Music Industry

After high school, Noemi joined the National Guard to achieve her dream of travel. During her Guard experience she invented new code translation technology. Though she moved in and out of college, her love of art and music never wavered. With a few friends, she co-founded a crowd-funded tech/art practice that weaves sound and visual data together to express the unique, rich cultural experiences of a wide variety of urban contexts, including her home community of Pilsen.

When Apple offered to buy her company, Noemi responded, "No, thanks!" She prefers to retain her freedom to develop a diverse team of thinks and doers who seek both beauty and truth.

Core beliefs about what enabled success:

- Choices empower learners
- Learners need diverse learning experiences, in and out of school
- Cultural diversity matters
- Chosen challenges foster grit and creativity

Report Out:

The group decided that by age 24 Noemi had discovered a way to make music displayed graphically and literally transformed the music industry. The group saw a lot of determination in her, and decided that she would fund her app with a Kickstarter campaign and that when Apple offered to buy her invention she would turn them down. She'd rather head it out of 1871, the Chicago tech incubator. The group toyed with how Noemi's experience would benefit from architecture. It discussed the open creator space at schools like the Academy for Global Citizenship, with its easily accessible art supplies, and clay and science experiments. "It's the architecture of the curriculum as well as the architecture of the building," they concluded. It's all about recognizing the silos, and how you go about breaking down the silos. "What I see," said Mario Rossero, "is someone who is driven, and is pulling together these opportunities and maximizing them and pulling them together. Is there space for connectivity, or is there a wall separating that? Tear down that wall."

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

13

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JULIO

I grew up in Chicago with my mom and two younger siblings. We have moved around a lot. I have lived in Austin, North Lawndale and Marquette Park. I went to Nash on the far west side for pre-K through 5. I went to Corkery in the Lawndale area for 6th through 8th.

I attend the Little Village Lawndale High School of Social Justice. I picked this school because it embodies my belief that we must help each other to achieve a better life. I like that my teachers have a connection to high school students and that they are young and easy to relate with. The school is different. We do not have long periods for lunch so it is hard to socialize at lunch like kids do at other schools. I struggle with focusing on schoolwork and sometimes I just don't see the point of the work they give us. I procrastinate a lot. I like hanging out with good people.

I don't plan on going to college; I'm going to have my own business when I'm an adult.

CRAIN'S
CHICAGO BUSINESS

Social Entrepreneur Joins Chicago's 40 Under 40

Although Julio had long had a vision for social justice and a passion for entrepreneurship, his chosen high school gave him the tools to make his dreams reality. His school shares space with Chicago's newest tech incubator. It was designed with time and space for collaborative projects among peers, teachers and other adult mentors. The curriculum includes career-related courses and real-world opportunities to put that curriculum to work.

The secret to Julio's success: "I got to hang out with good people!"

Core beliefs about what enabled success:

- Learners can find meaning in curriculum when they connect with peers and adults
- Schools must offer learning opportunities that align with learners' life goals

Report Out

The group focused on Julio decided he would become, at 20, the youngest winner of a $100,000 social innovations prize. This happened in part because of the tech innovator housed at his school, which provided compelling relevancy to the school's curriculum. "We were constrained by what is in the school, so we put an incubator in the school."

The fundamental catalyst was the opportunity to connect. The 'importance of connecting students to better teachers, and to peers, is something that has real weight and strength behind it.'

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

14

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JUSTIN

I live in North Lawndale with my dad. My dad is my role model. He works hard and it pays off. I got to Phoenix Military Academy. I didn't have a choice in which high school I could go to. My dad drops me off at school.

The best part of the school is that the teachers care. Plus, I get military credit. But I wish the school didn't have so much discipline. I play football after school.

Being in high school is sometimes boring. It is hard to find things to do in my spare time. I mostly build things and hand out with my friends. One of my dreams is to be a professional football player. I also want to join the National Guard and study engineering in college.

The New York Times

Water Engineer Solves Desalinization Challenge

As a sophomore, Justin was looking for a reason to stay at Hyde Park High School, when Hyde Park underwent a radical transformation. While walking down the hallway, Justin found a brick wall had been replaced by floor-to-ceiling glass—the window of the school's brand-new collaborative laboratory. Just by looking through that window, Justin discovered Hyde Park' science club, which connected students to a community of scientists beyond the school walls.

By joining the club, Justin met university scientists and won a spot on a team investigating new desalinization methods as part of a worldwide challenge. The team won thanks to an idea sparked by discussions among Justin's fellow club members at Hyde Park.

Core beliefs about what enabled success:

- School doesn't end at the outside wall
- Every student deserves the opportunity to find their spark and build a home within their school

Report Out:

The group decided that one day at school, Justin was walking down the hallway and discovered a brand new collaborative lab workshop. Where there had been a brick wall, there was now floor to ceiling glass, revealing the lab and the science club located there. He joined the club, became connected to science leaders, and by senior year was co-chair of the club.

The group felt that the school in this case didn't have to end at the outside wall of the school perimeter. Also that each student deserved their spark, and to find a home—a group of people they can connect to—in the school.

"At CPS it's all there,' one participant said. "But it's hard to find them, to interface with them, and not every kid finds a way to connect with them, so if the school can be designed in such a way to become easy to find your place within it, that will help kids."

Someone blurted out an alternative headline for Justin's story: "Joins club, world better."

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

15

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commonalities, considerations and recommendations

Numerous tensions arose throughout the day. In a cash-strapped system, where will funding come from to transition to new modes of thinking around design, learning and technology? Given citywide demographic, technological, pedagogical upheaval—how do you invest in bricks and mortar? If flexibility is given how do you ground a community? What are the appropriate roles and modes for public schools in communities?

Common themes emerged across the agenda:

PERSONALIZED EDUCATION

Student-centered education came up repeatedly. "How do we pair students with the curriculum that is appropriate; instead of saying that every curriculum has to be everything to everybody, and how to balance that in a system with 170-plus high schools?"

EXTERNAL FACTORS

Non-school based issues directly influence education. One topic was the increasing poverty of students' families; another was the need for access to high quality transit. A third was the number of undocumented students: CPS students worry about their immigration status and these students have an added stress to live with. "We believe that Edna should be a U.S. citizen," her group stated bluntly.

CREATIVE SPACES

Students need places to be creative and work with their hands. "Speaking from the library perspective," one participant said, "we're playing with the idea of maker space. Have one at Harold Washington and are now moving them around. Not just building the space and leaving it alone, but also building a context of learning, and interaction. And in this case we can't just think about space but whether or not there is staff capacity to enable the activity."

CONNECTIVITY

There are many compelling opportunities in out of school time but each experience is often isolated from schools as well as from other opportunities. Schools could align with out of school opportunities to close the net and foster connections.

DIVERSITY

Students value diversity, yet live in an entrenched, segregated city. Discussions about segregation led directly to the critical role of public transit in allowing students to be mobile and to interact with people of other backgrounds.

DEMOGRAPHICS

Rob Paral's presentation left a deep impression on participants. Forum members rallied around the idea that the community needed to look forward at how the city's demographics will be shifting to know how to design.

STAFFING

Adults occupy diverse roles in peoples' lives, including as parents, after-school educators, staff at community groups, informal mentors, visiting professionals, and others. "Emerging 21st Century citizens" requires engaging the full compliment of adults available.

TECHNOLOGY

Teachers are constantly learning new things and adapting their techniques in order to support students and help drive the changes. Technology is a rapidly evolving tool in the educator's toolkit.

BIG INTERVENTIONS, SMALL INTERVENTIONS

Solutions to design challenges may result from applying six-digit allocations in more strategic, relevant ways—but in many cases a tweak may be the "bold" answer, such as opening a library to the community or installing a glass wall that makes the school's innovations lab visible from the hallway.

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

16

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As the day came to a close participants described significant shifts in their thinking as a result of the process through a facilitated activity in which they reflected on the prompt "I used to think… but now I think." As a collective experience participants moved away from a school-centered focus and feeling constrained by limitations of the public school district capacity. They reframed towards a student-centered approach coupled with systems thinking about the larger contexts in which schools are located: networks of formal and informal learning, neighborhoods and communities. Public transit surfaced as an important asset in linking schools to these larger environments. At the end of the day stakeholders expressed grounded optimism that momentum can be developed to open the literal and metaphorical spaces needed to expand opportunities for youth to achieve their own goals.

From this rich, multifaceted conversation what might be design principles for future schools in Chicago?

Recommendations include:

- personalized curricula that enable students to develop skills through interest-driven projects and learn at their own pace
- smaller learning communities in which students can be "known"
- integration of "out of school" experiences with academic expectations
- engagement in meaningful work alongside—and under the mentorship of—professionals
- use of the surrounding neighborhood as an extension of the school campus
- collaborative, flexible, transparent spaces
- free and easy access to public transportation from home, to school and beyond.

The need for next-generation learning centers, which enable young people to become stewards of the 22nd century, is a national imperative. Although shared physical spaces remain essential to the basic function of school multiple currents in education—public policy, technology, architecture and curriculum design—are converging toward a central idea: we can no longer simply equate school with "a building."

CHANGING THE OUTCOMES: SCHOOL DESIGN PRINCIPLES
FOR THE NEXT GENERATION OF CHICAGO'S LEARNERS
GABRIELLE H. LYON • JULY 2015

17

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appendix

AGENDA

www.architecture.org/resources/school-design-forum-agenda
On November 10, 2014 Chicago Public Schools, the American Architectural
Foundation and the Chicago Architecture Foundation convened 30+ people
for a unique conversation entitled, "Changing the Outcomes: Designing Smart
for the Next Generation of Chicago's Learners."

PRESENTATIONS

"Building for the Chicago Public School Student"
www.architecture.org/resources/building-for-a-cps-school
Mary DeRuntz, Deputy Chief Facilities Officer and Mario Rossero, Chief of Core
Curriculum from Chicago Public Schools, gave a top-level tour of the kinds of
things people working on behalf of the Chicago Public School system have to
think about—and wrestle with. How does the Chicago Public School system
think about its goals? What does the "system" need to design for

"Key Demographic Change Among the School-Age Population in Chicago"
www.architecture.org/resources/demographic-change-school-age-population
Rob Paral from Rob Paral and Associates sketched out how demographics are
going to change over the next few years—and why these things are happening.
How will the school age population change in the next decade? What kinds of
shifts can we anticipate—and possibly design for?

"Chicago City of Learning: Creating a 24/7 Learning Ecosystem"
www.architecture.org/resources/creating-a-learning-ecosystem
Nichole Pinkard, Associate Professor at DePaul University and founder of the
Digital Youth Network, sketched a picture that inspired us to think about 24 hour
learning for 21st Century students. How do we connect in—and OUT—of school
experiences? What do we know about the connections between in—and out—
of school learning? What kinds of things should we think about when we think
about designing for 24-hour learning for 21st century citizens?