Schoolyards to Skylines: A Case Study
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How can architecture become a catalyst for teaching children to be curious, informed, connected, and empowered to have a positive impact on the built environments around them? The Chicago Architecture Foundation is addressing this question by working with children and their teachers to develop a collection of engaging programs that help youth audiences use the local built environment as a dynamic learning tool.

Some background
The Chicago Architecture Foundation (CAF) is a non-profit, cultural institution located in the heart of downtown Chicago. CAF enjoys a membership base of over 8300 individuals & families. 2006 marks CAF’s 40th year of offering programming on the built environment to Chicagoans and visitors to Chicago. CAF is not a collections-based institution. In fact, CAF’s tagline is “the City is Our Museum.”

CAF offers a range of public programs designed to meet audiences at their level of interest—from novice to expert—and bring them to new levels of understanding. Programs include exhibitions on local and global built environment issues; weekly free lunchtime lectures spanning an eclectic mix of topics; special evening lectures with world class architects such as Cesar Pelli, Thom Mayne, and Wil Alsop; adult education courses on historical and contemporary topics; and a rigorous 11-week training course to become a CAF docent.

CAF is best known, though, for an extensive offering of architecture tours of Chicago. CAF’s team of 450 volunteer docents leads 86 different tours of the city with 7800 departures year-round. The menu of tours includes walking tours of downtown business districts, cultural icons, and residential neighborhoods; tours on Segways, busses, and bikes; lunch hour and ‘happy hour’ tours; and special behind-the-scenes tours for members. The most popular tour with Chicagoans and their out-of-town guests is CAF’s renowned Architecture River Cruise.

Youth Audiences
The Chicago Architecture Foundation began working with youth audiences in 1980. CAF’s primary youth audience is Chicago Public School students. The Chicago Public Schools is the 3rd largest school system in the US with over 400,000 students in the system. Over 85% of students in the Chicago Public Schools come from low income families.

In 1999, CAF made two significant decisions regarding youth programming. One decision was to continue offering field trips—opportunities for place-based experiences where students learn through direct interaction with the built environment. The second decision was to develop a resource designed to help teachers incorporate the built environment into their lessons.

Field Trips at CAF
Feedback from teachers and students is that they love CAF’s field trips. They love that field trips are interactive, well-planned, and designed around the mandated Illinois State Learning Standards. They also love the format. CAF schedules one docent for every 10 children on field trips. Some of the program elements that stakeholders love about the current field trip programs are the very elements that limit CAF’s ability to serve greater numbers of students and teachers. CAF needed to create new field trip models that increase capacity without sacrificing quality.

One new model turns to parent chaperones to take on more of the on-site content delivery using CAF-produced materials. Several classes tried out writing and sketching activities at Millennium Park, Chicago’s newest spectacular attraction. A variation of that model combines a
more focused walking tour with sketching and writing activities that help students compare and contrast three significant downtown buildings. A third model incorporates a docent who joins the school group on their yellow school bus. With this model, one docent can work with 40-60 children, rather than the usual 4-6 docents for the same sized group. These models need more testing, but the basic concepts appear to be sound.

The Need for a Teacher Resource
CAF started with an analysis of available resources to support youth programming. First, existing programs were reviewed. The Youth Education Department had inherited a program that wasn’t working to help teachers embrace the built environment as a teaching tool. The program did not speak the language of teachers. Next, available space was considered. CAF is headquartered in rented space in a downtown 1904 office building with limited, shared classroom and exhibition spaces, therefore, acquiring additional space was cost prohibitive. Finally, staff resources were reviewed. Three full-time staff and a cadre of docents trained to work with children made up the available human resources. It was evident that to increase impact among youth audiences in Chicago, CAF would need to figure out a way to move beyond conducting only direct service programs to student groups.

After careful consideration, CAF youth audience stakeholders decided to develop a curriculum resource tool for teachers. Front-end evaluation began. Every time staff met a teacher, they asked them about architecture. Conversations with teachers revealed that they often defined architecture very narrowly. For many teachers, architecture was only skyscrapers, or buildings downtown, or famous buildings by famous architects. If that’s how many teachers defined architecture, how could grocery stores, gas stations, and ranch-style houses fit into this definition? Conversations also revealed that teachers understood that Chicago’s architecture is significant, but they were stymied as to how to make the links between architecture and classroom lessons for young children. Teachers often had a personal interest in the subject and wanted to share their interest with their students. The biggest challenge teachers face, though, is that their school day is already full --how can they possibly add a new subject into their filled-to-capacity days?

Integrating Architecture into Classrooms
If architecture did make it into grade schools, it was often considered the art teacher’s domain. Architecture might also show up in math classes where students designed floor plans for their “Dream Houses.” Some teachers offer Architecture Week, a time when classroom activities focus on famous buildings and culminate in students writing reports on assigned buildings, like the Sears Tower. There were additional challenges. In the United States, teachers must adhere to the mandated State Learning Standards. Architecture is not usually included in these standards. Additionally, architecture is not an expected subject for 6-14 year olds.

Architecture needed to become mainstream if it had any real chance getting integrated in Chicago classrooms. CAF decided to create a program that would challenge the way teachers thought about architecture, integrate architecture into the core academic subjects, and be easy to implement.

Schoolyards to Skylines Resource Book
CAF developed *Schoolyards to Skylines: Teaching with Chicago’s Amazing Architecture*, and published it in November 2002. This 500-page, 47-unit resource book is designed to help teachers of kindergarten through 8th grade students (6-14 year olds) use architecture as a tool for teaching the core academic subjects of math, science, language arts, social science, and fine arts.

*Schoolyards to Skylines (STS)* grew from the question—what will help teachers do their jobs? The resource had to speak the language of teachers, help them accomplish what is required of them, and most importantly, be easy to implement in the range of classrooms found in the Chicago area.
A teacher advisory team, convened at the start, helped shape the project at every turn. Teachers from large and small public, private, and parochial schools in rural, urban, and suburban areas, as well as teachers who represented financially struggling and affluent schools, participated in the development of *Schoolyards to Skylines*. These teachers tested lessons with their students, helped design lessons, and gave critical feedback.

The title for the book reflects CAF's general philosophy for programming. Like CAF's adult programs, STS meets students and teachers where they are---speaks their language---and moves them to new levels of understanding and interaction with the built environment. *Schoolyards to Skylines* uses real places, buildings, people, and events in Chicago in every lesson. The design process is used as a tool for exploring the local built environment. Local architecture becomes the catalyst for teaching children to be curious, informed, and empowered to impact their built environment. Lessons also help expand how children and their teachers define architecture.

To further support teachers incorporating architecture into their lessons, CAF developed a series of Professional Development workshops where expanded activities and a variety of teaching strategies are modeled for participating teachers. Workshops are offered five weekends a year. These workshops are fee-based, experiential, and make direct links between the subject and the state learning standards. Teachers can also earn special credits for advancement through the Chicago Public Schools and the State Board of Education.

**A Little Over Three Years Later**
Children throughout the Chicago area are learning about the power of place through *Schoolyards to Skylines* activities introduced by their teachers. Over 1000 copies of *Schoolyards to Skylines* are being used by educators throughout the Chicago area, in 27 states, and in 7 countries. STS has earned 4 awards including an American Institute of Architects national award for Collaborative Achievement (2005) and a National Trust for Historic Preservation Award (2004). Other groups both in the U.S. and abroad want to create versions of *Schoolyards to Skylines* for their local communities.

CAF is taking ideas from what we’re learning about working with school groups and applying them to new youth audiences. For example, launching a new Girl Scout Architecture badge program this fall and testing out activities for family audiences. In October of 2005, CAF, together with the American Architectural Foundation, launched a national network for design educators, called A+DEN --Architecture + Design Education Network. The purpose of A+DEN is to create ways for architecture and design educators to be able to communicate with each other as well as learn from each other more efficiently and use their collective expertise to further advance architecture and design education among youth. Steering Committee Members include the National Building Museum, Cooper Hewitt National Design Museum, Learning by Design in Boston, and the Architectural Foundation of San Francisco.

CAF’s experience with *Schoolyards to Skylines* is influencing how we work with High School students. CAF hosts the Newhouse Program & Architecture Competition for Chicago Public High School students. Begun 24 years about by Illinois State Senator Richard Newhouse, this program was designed to offer minority students in the Chicago Public Schools access to mentors in architecture and related fields. The program has grown tremendously. Students enter projects in the annual architecture competition where they can earn recognition for their work, trophies, and full-time paid summer internships at architecture firms in Chicago.

Deeper analysis of the program outcomes yielded mixed results. While students’ work was getting better each year, there was too much replication and not enough original thinking or original design. Students exhibited a real fascination with the technical aspects of CAD programming, but they’re challenged to be able to describe how what they were doing in CAD relates to real places. Additionally, the drafting curriculum materials were outdated and not keeping pace with current industry trends. The drafting manual was generic. It didn’t include building types that Chicago students would typically see in their neighborhoods. Teachers and students alike were looking at building parts--building floor plans, for example, in isolation-- not within any larger context.
CAF convened a meeting in August 2004 with decision makers from Chicago Public schools, principals from several major architecture firms, admissions counselors from the two local universities with undergraduate architecture programs, and posed the questions: How relevant are drafting skills today? Do our existing programs give CPS students any advantages when applying to colleges? If not, how do we need to be rethinking programming?

The organizing question became --What does an architecturally literate 17 year old look like? What are they curious about? What can they do? And the flipside of that question, what does a 17 year old need to know and understand in order to be considered architecturally literate?

The outcome from that meeting is that CAF is currently developing a new curriculum in partnership with the Chicago Public Schools, and with architects from 21 firms. This program shifts from a strictly skills-based drafting program for high school students to an architecture and drafting program that puts drafting and related skills into a larger context of the built environment and connects architecture to the core academic subjects. In addition to a teacher advisory team, there is a student advisory team. Students from several high schools attended weekly sessions during the school year to test out activities and offer critical feedback. The new high school architecture curriculum will be in Chicago classrooms in January of 2007.

**Our Role as Educators**

The following paragraph is used with the permission of the architect, James R. Aultman, and appears in a 6th grade language arts lesson in *Schoolyards to Skylines*. This is written by an adult reflecting back on an experience of his childhood:

> In the summer of my sixth year, I went to spend two weeks with my grandparents. They lived in a rambling ramshackle turn of the century farmhouse in rural Mississippi. It might as well have been King Arthur’s castle in the moors of England. It was totally foreign to my experience as a residence. For the first time in my life I was introduced to the reality of architectural spaces having a conscious impact on my feelings. That first night I lay awake in a room lit only by a sliver of moon. It was completely black above my head. I was used to having a ceiling above me that could be discerned even at night. But now, I could not see the ceiling. I had no idea how high above my head it must have been. For all I knew, darkened clouds were rolling past me, silent birds of prey were soaring above me, galaxies were being formed up there. I knew I had entered a place of magic.

As museum educators, we shape experiences that help our audiences explore the magic of place and understand their role in shaping places. After a field trip, CAF received a thank you note from a nine-year old boy—clear evidence he had truly entered a place of magic.
Dear Docents,

I liked the tour we had. The five things I liked best were the Ionic columns, trusses, cantilevers, posts, and beams, and the vaults. I also liked the Flamingo that was outside in from of a building. When I looked at the Sant Fe Building from outside it was huge and awesome.

Thank you for teaching and showing me all the neat skyscrapers in The Loop.

Sincerely,

Marcus White-Rowe