

IMANI DAY –

The Architecture of Education

If you think back to your k-12 experience, no matter who you are, it is possible to imagine the impact your schooling had on you as a developing member of society. Perhaps as a child, you did not perceive the power of the educational environment as a tool shaping you, but in hindsight, it is more apparent. Chances are your memories of elementary school have more to do with the building you were in than the curriculum being taught there. For decades, there have been debates about whether *where* and *how* you learn is as important as *what* you learn, but as educational policy has evolved, the conversation around the impact of the built environment on student achievement has taken a back-seat. In the meantime, the physical condition of many schools has descended beyond normal wear-and-tear into hazardous and prohibitive environments that challenge a student's ability to achieve academically. [1] Policy has proved inadequate in protecting the physical form of schools, and thus, it is up to architects, along with educators and administrators, to become activists in addressing this failure.

Conditions across Detroit public school buildings have been called “deplorable,” and they have been so for some time. [2] For too many years, too many students in Detroit have had to spend seven hours a day, five days a week, in buildings with visible mold, broken mechanical systems, leaky ceilings, freezing classrooms, and vermin. Passing through metal detectors has become a normal start and end to each day—an argument for security that operates in lieu of truly safe environments and that masks the underlying processes making these schools so unsafe and so inhospitable in the first place. Students deserve to be and feel secure, but as we are seeing in Detroit, far too many schools risk the health, safety, and welfare of the individuals in them. [3] In the recent coverage of the American Federation of Teachers' lawsuit against Detroit Public Schools, the plaintiffs wrote:

BUILDINGS WHERE PLAINTIFFS ARE, FOR ALL INTENTS AND PURPOSES, WAREHOUSED FOR SEVEN HOURS A DAY IMPOSE THEIR OWN GROTESQUE BARRIERS TO LEARNING AND TEACHING, INCLUDING CLASSROOM TEMPERATURES RANGING FROM FREEZING TO OVER 90 DEGREES, VERMIN, AND UNWORKABLE TOILETS. [4]

Citation: Imani Day, “The Architecture of Education,” in the *Avery Review* 33 (September 2018), <http://averyreview.com/issues/33/architecture-of-education>.

[1] O'Donnell Wicklund Pigozzi and Peterson, Architects Inc., *The Third Teacher: 79 Ways You Can Use Design to Transform Teaching and Learning* (New York: Abrams, 2010).

[2] American Federation of Teachers, “Terrible Conditions in Detroit Attract Much-Needed Attention,” AFT Voices: Our News, January 15, 2016, [link](#).

[3] At bare minimum, architects are licensed to protect those three values in the built environment. “2017 Code of Ethics and Professional Conduct,” American Institute of Architects, [link](#).

[4] Sarah Cwiek, “Settlement in Lawsuit over Detroit School Conditions; ‘right to Read’ Suit Moves Ahead,” *Michigan Radio*, January 13, 2017, [link](#).

This state of disrepair is representative of the larger debate over the significance of education in Michigan. In the most recent ruling related to the AFT’s lawsuit, Judge Stephen J. Murphy declared literacy not to be a human right, meaning that a quality education is a luxury rather than a necessary obligation of the state—a luxury that many cannot afford and are not guaranteed.

[5] The decision speaks to deep inequalities plaguing public education and how the uneven distribution of resources—architecture among them—exacerbates such conditions. Beyond the question of rights, the lawsuit reveals two distinct differences between the designer and the architect, and the obligations of both in practice. “Design,” for all of that word’s ubiquity and its claims to intervening in the nature of daily life, comes to be seen as a luxury in cases of chronically underfunded hardship like this, where moral responsibility to improve poor conditions is optional. By the definitions imposed by their licensure, however, architects are obligated to protect the safety and welfare of the community, and access to education is fundamental to that welfare. For the designer, social change as a component of design is voluntary; for the licensed architect, it is a legal responsibility.

In an effort to break a cycle of underperforming school systems, and the underperforming educational environments that contribute to them, architects in Detroit must reframe the conversation around educational design, both physically and systemically. The question is, how? In some cases, the solution has simply been to temporarily shut down failing schools; in others, renovations have been desperately carried out to solve structural issues. In all cases, responses often overlook both the systemic issues that span beyond the building itself and the role of design in reaching beyond those physical problems to create an environment for students to thrive. This essay will explore some of the historical challenges that face the Detroit Public Schools, which are not only specific to Detroit but reflect a range of widespread assumptions about, and attitudes toward, the architecture of education. Architects are well positioned to address many of the challenges public schools face, but without establishing clear intentions about systemic change within the fundamental structure of public education, the impact of design is often only skin-deep.

In early 2017, the Detroit School Board regained control of the public school district after approximately eight years of emergency state management. Massive depopulation, fiscal bankruptcy, and “school choice” made the decline of the educational system all but inevitable—each component functioning as a critical lever for state and federal funding. In Mayor Mike Duggan’s State of the City address, he offered some daunting statistics: “32,000 Detroit children today attend school outside of the city, 51,000 today go to DPSCD, 35,000 attend charters... And that says that what we’re doing is not working.”

[6] In their recent study on school performance and buildings in Detroit, real estate and education consultant IFF (formerly Illinois Facility Fund), shows that almost half of the space in active district school buildings was unutilized or underutilized in 2015–16. The district-owned schools analyzed for this study had a combined physical capacity to serve over eighty thousand students. To address underutilization, more than two hundred traditional district school buildings in Detroit were closed between 2000 and 2015. Even so, many of the district’s active academic facilities were still substantially underutilized. [7]

[5] Jacey Fortin, “‘Access to Literacy’ Is Not a Constitutional Right, Judge in Detroit Rules,” *the New York Times*, July 04, 2018, [link](#).

[6] “Mayor Mike Duggan’s 2018 State of the City Address,” *City of Detroit*, March 6, 2018, [link](#).

[7] IFF, *Reset, Rethink, Rebuild: A Shared Vision of Performing Schools in Quality Buildings for Every Child in Detroit*, 2017, [link](#).

With so many issues facing failing public schools today, can design be among the top priorities? Design can offer certain disposition to problem solving. And in the case of public schools—where problems of funding, policy, and disrepair are interconnected and communities and government organizations work to repair the broken system—identifying the potential locations for designers in this entanglement and the varying scales of opportunities for change are crucial. Of course, in Detroit, the downfall of the public school system can be attributed to the financial disaster and disinvestment in a shrinking and over-structured city, and also to the forces of institutional racism. These factors should not be overlooked. However, architectural and urban design has not been clearly implicated in this decline. In 2015, Detroit became the first US city to join the UNESCO Creative Cities Network as a City of Design, which identifies creative and cultural development as a strategic factor for sustainable urban growth. [8] This designation continues to raise the local design standards to include innovative technologies and progressive attitudes. Looking forward, designers can help plan for the continued adaptation and growth of education facilities by thinking beyond existing “benchmarks” and through thorough, attentive behavioral research and its strategic implementation. Instigative design (intended to provoke change) and physical repair can be powerful tools.

[8] “The Creative Cities Network,” UNESCO, [link](#).

Community Anchors

History has proved that when a school fails, the surrounding community quickly falls to disrepair. [9] A local civic data research company, Loveland Technologies, traces the histories and fluctuations these relationships:

[9] IFF, *Reset, Rethink, Rebuild: A Shared Vision of Performing Schools in Quality Buildings for Every Child in Detroit*.

FROM ITS FOUNDING OVER 150 YEARS AGO, DETROIT PUBLIC SCHOOLS HAD BEEN AT THE FOREFRONT OF ACADEMIC DEVELOPMENT, PIONEERING NEW WAYS OF TEACHING AND EDUCATING AS THE CITY EXPANDED RAPIDLY THROUGH THE 19TH AND 20TH CENTURIES. CRISIS IS NOT A NEW THING; THE DISTRICT HAS JUMPED FROM ONE CRISIS TO THE NEXT FOR MOST OF ITS EXISTENCE, FIRST STRUGGLING TO PROVIDE ENOUGH SCHOOLS FOR THE BOOMING POPULATION, TO THEN HAVING TOO MANY SCHOOLS BUT NOT ENOUGH STUDENTS. THROUGH ALL THESE YEARS, STUDENTS AND ADMINISTRATION HAVE DEALT WITH A CITY IN CONSTANT TRANSFORMATION, TWO WORLD WARS, RACIAL TURMOIL, ECONOMIC DEPRESSION, AND A CHANGING SOCIETY. [10]

[10] John Grover and Yvette van der Velde, *A School District in Crisis: Detroit Public School 1842–2015* (Detroit, MI: LOVELAND Technologies, 2016).

The question remains though: What steps can Detroit take to hold architects more accountable in these processes or, as Loveland asserts, these successive crises? Design has acted as a problem-solving tool in the development of the school system in Detroit. In the early 1920s, the city introduced a new design model for junior and intermediate schools. Because education was not required in the state of Michigan past fifth grade, most high schools were poorly refitted elementary schools that could not properly accommodate the needs of older children and broader communities. [11]

[11] “Hutchins Intermediate/Crosman Alternative School,” [Detroiturbex.com](#), [link](#).

Three schools, all opened in 1922, illustrate the impact the new design model had on the quality of public education: Southwestern High School in the neighborhood of Delray, Levi Barbour Intermediate on the city's west side, and Harry Hutchins Intermediate School in the Herman Kiefer neighborhood. They were among the first schools in Detroit to be conceived as places of learning and as spaces of community engagement. They had swimming pools, full gymnasiums, vocational training courses, and their auditoriums functioned as after-hours community meeting spaces. In fact, they were the first answer to the need for designated, in-house athletic support and community inclusion in the city.

Though the design of the schools was considered innovative in the early 1920s, by the '60s, two of the three were facing various issues. As the populations of the surrounding communities changed, both Southwestern and Hutchins struggled to adapt. Southwestern had outgrown its original purpose and was in need of a major reconfiguration: the classrooms could not accommodate the increasing number of students, and the gymnasium was converted to a library with more classroom spaces. By the late '60s, plans for a new addition were underway, which included a larger cafeteria, a new performing arts facility, and vocational classrooms to support a changing curriculum.

[12] Throughout the expansion of Southwestern, very little is reported on the architects responsible for the work or how the design might have fit into a larger strategy for district projections. By the 1980s, the nearby Cadillac plant had closed and laid off more than a thousand workers, significantly shaking the stability of the Delray neighborhood. Though the community and school district successfully secured funding for improvements to Southwestern multiple times, the continuous decline in enrollment and resources led to the eventual closing of the school in 2012. [13]

[12] "Southwestern High School," [Detroiturbex.com](#), [link](#).

[13] "Southwestern High School."

Hutchins suffered from a different set of issues, hitting its peak in the early 1960s at more than two thousand students—full capacity. Shortly after the 1967 riots in Detroit, which broke out only two blocks from the school, enrollment began to drop dramatically. Due to the challenging climate of the surrounding community, funding was reallocated elsewhere—resulting in the reassignment of several teachers to other schools and sparking a series of strikes and walkouts in protest of the loss of resources within the district. A particularly important strike was that of the district's building tradesman, whose refusal to work jeopardized the maintenance of the mechanical systems in Hutchins. In October of 1968, the main line for heat failed, causing more teachers and students to walk out until portable heaters were distributed. This pattern of failure, refusal, and compromise continued throughout the '70s and '80s, until 1994, when the school received more than \$5 million for building improvements through a bond proposal for the city's public schools. Unfortunately, except for the original design of Hutchins, which was reportedly done by the firm Malcomson and Higginbotham, it seems that architects have been absent in the life and fate of the building.

Despite the physical problems of the building itself and decreasing enrollment at the school, academic programs continued to improve in the early 2000s, with test scores increasing and students placing at national competitions. Despite these achievements, enrollment continued to decline and the district decided to move Hutchins students to a school farther away, leaving parents little choice but to switch schools. [14] Schools in Detroit today still

[14] "Hutchins Intermediate/Crosman Alternative School."

struggle with getting issues of building capacity and distribution, as well as provision of facilities, “right” even in new construction. Arguably, many of the current issues are infrastructural (mechanical, maintenance, etc.) and dependent on city resources, but one wonders how the initial community-minded architecture of Hutchins and Southwestern could be replicated or updated for students today.

Prototyping and Social Change

Educational design has seen many iterations of the “ideal settings” for learning. The criticism of the one-size-fits-all model has an extensive history—creating a deep bank of research on alternatives. The way society considers and imagines what school environments look like today is an antiquated reaction to the postwar, industrial model. Global design firm Gensler—where I work as an architectural designer—has conducted critical analysis through their Research Institute on the topic of education shifts. In their report, *A High-Performance Space for Learning*, Gensler states:

THE FOCUS REMAINS, TOO OFTEN, ON UNIVERSAL FURNITURE PROVISIONS AND SELF-CONTAINED CLASSROOMS DESIGNED ON A SQUARE-FOOT-PER-STUDENT ALLOCATION METRIC. THIS PROCESS DOES NOT REFLECT THE DIVERSE SPECTRUM OF ACTIVITIES AND BEHAVIORS OUR SCHOOLS NEED TO SUPPORT TODAY. THE MOST PROGRESSIVE SCHOOLS ARE MOVING BEYOND A ONE-SIZE-FITS-ALL LEARNING MODEL TO BECOME EXPERTS IN THE BUSINESS OF LEARNING PERSONALIZATION. THERE IS A SIGNIFICANT OPPORTUNITY FOR DESIGN TO HELP LEARNING ENVIRONMENTS KEEP PACE WITH THESE UNPRECEDENTED CHANGES IN EDUCATION. SPACES THAT ALLOW STUDENTS TO EASILY SHIFT BETWEEN DIFFERENT MODES OF LEARNING, AND THAT EMPLOY NEW STRATEGIES FOR ZONING AND ALLOCATING SPACE, ARE KEY. [15]

[15] Gensler Research Institute, *A High-Performance Place for Learning*, October 31, 2016. [link](#).

No approach offers an absolute solution, but progress, the Gensler Research Institute claims, is made through investigations into spaces of education and the unique learning styles of the individual.

Though research in education has shown that students have a diverse set of learning styles—and though the histories of pedagogy and architecture contain no shortage of other ideas about learning environments—contemporary school design still generally looks the same. Instead of supporting this diversity of educational models, i.e., putting chairs in clusters, exploratory learning, leaving the classroom entirely, we see fifty-minute instructor-led lectures (in which students are expected to absorb and regurgitate information) taking place in grids of front-facing desks. Design *can* reflect learning styles, and it can also affect behavior. Take, for example, self-directed learning, in which students within the same classroom are able to learn in a way that best suits them, with options to reconfigure furniture or zoning to match specific activities.

Unfortunately, even though these designs may have a major aesthetic effect on the mindset and experience of the students, the buildings they are

implemented in are often the problem. The postwar educational setting carried hazardous, toxic materials and methods into schools still being used today. In *No Easy Victories*, author John William Gardner explains how, as the baby boom caused a rapid increase in educational facilities, new schools were quickly mass-produced with low-cost materials, and standardized, mechanized systems. [16] In Detroit, these conditions were exacerbated as aging structures were increasingly neglected.

A poor learning environment can become a major factor in a child's psychological development, especially given that now schools often perform services for young students outside of the simply educational—they are places of socialization, caretaking, and the provision of basic needs. In many cases, schools become the safe haven away from problems students may face in their home lives, something design should take into account. Within the school setting, stress affecting the developing brain—from home life and educational environment—can have a significant impact on academic achievement. In Detroit, students and teachers have complained of the distractions of having to wear coats all day in freezing winter weather or having to address mice, rats, and lead in the water systems themselves. In addition to having to perform in poor conditions, teachers and counselors are sometimes tasked with cleaning and feeding their students to provide a comfortable and safe environment. However, most schools are not designed for this level of supportive privacy and need. Whereas a unisex restroom and shower coupled with a calming area specifically intended for these purposes would not typically be required in traditional school design, it has now become a necessary consideration in inclusive practices.

The expected narrative around public schooling in Detroit must change—and in this change, emphasize new holistic behavioral approaches to learning. In his first lecture on the school and society, educational reformer John Dewey, argues:

WE CANNOT OVERLOOK THE FACTORS OF DISCIPLINE AND OF CHARACTER-BUILDING INVOLVED IN THIS: TRAINING IN HABITS OF ORDER AND OF INDUSTRY, AND IN THE IDEA OF RESPONSIBILITY, OF OBLIGATION TO DO SOMETHING, TO PRODUCE SOMETHING, IN THE WORLD.... PERSONALITIES WHICH BECAME EFFECTIVE IN ACTION WERE BRED AND TESTED IN THE MEDIUM OF ACTION.... [T]HERE WAS CONTINUAL TRAINING OF OBSERVATION, OF INGENUITY, CONSTRUCTIVE IMAGINATION, OF LOGICAL THOUGHT, AND OF THE SENSE OF REALITY ACQUIRED THROUGH FIRST-HAND CONTACT WITH ACTUALITIES. [17]

In essence, Dewey explains that education is the fundamental method of social progress and reform, which still rings true and is desperately needed in Detroit's current public school system.

A better translation of this Deweyan philosophy into today's design world is Olathe West, a public high school in Kansas designed by the Kansas City-based firm of Hollis + Miller. By looking at Olathe West—in a different city, with a different set of problems (and possibilities)—we can see how school districts are pairing new models of teachings with new approaches to space to

[16] John W. Gardner, "No Easy Victories," the *American Statistician*, vol. 22, no. 1 (1968): 14–6, [link](#).

[17] John Dewey, *The School and Society: Big Three Lectures* (Chicago, IL: University of Chicago Press, 1899).

address the changing roles of the school. Olathe West embraces the concept of academic “neighborhoods” with clusters of four different types of learning environments shared by a group of instructors, all surrounding a central lecture stair for collaborative and social interactions. Within the clusters are maker labs, blended learning environments, and flexible spaces for optimal use to accommodate various learning styles. In Olathe, no single teacher or class owns any one classroom; spaces are selected within the academic neighborhood based on the ideal space for learning specific topics.

Hollis + Miller design their processes for educational projects in line with the broader vision of the local school district. A school, for them, necessarily encompasses the needs of the community outside of it. As they research how to provide ideal learning environments and flexibility within a school, paths to success for students extend beyond the building itself. The specific design of Olathe encourages collegiate-level behavior to give students a variety of spatial options and independence to decide how to learn. The goal is to create real-world, career-focused curricula, with one program for aspiring police officers and another for sustainable energy, all fitting into the broader demands of the Olathe school district. [18] Both utilize the building in different ways, occupying separate zones and designated classrooms for each group. Where the Public Safety Academy partners with local law enforcement and fire rescue professionals in their space to get more hands-on experience, the Green Tech Academy actively manages and maintains the schools rain gardens and green roof system.

[18] “Olathe West High School,” Hollis + Miller, [link](#).

Detroit is exercising a very closely aligned attitude, thinking about how high school education can prepare students for a range of paths after they graduate, and how changing schools can integrate into other changing urban dynamics. Mayor Duggan has engaged his Jobs and Economy team to combine forces with local companies and funding sources to reassess four specific vocational schools in the city. The first of four is the Randolph Career and Technical education center, focusing on developing the construction skill trades. This pedagogical emphasis roots the school in the specific circumstances of the city: Detroit hit a construction low in the '90s and 2000s due to depopulation and disinvestment in the city. Many architects, skilled contractors, and builders left the city (and the industry) in search of steady work, resulting in a massive gap between the supply and demand of skilled labor. Now, the activity within the construction industry has increased significantly in Detroit. In concerted efforts to replenish the supply of skilled workers to the construction unions and companies, Randolph students can play a key role in building in their own city.

Urban Design Effects

Until recently, flexibility was not a priority in educational design in Detroit. In general, schools are planned to be efficient, instructive spaces centered around a specific type of order and discipline, strategically placed throughout a city. But in Detroit, school closures, and the vacant buildings they left behind, occurred in neighborhoods that are far from ideal for educational reuse. [19] This presents another challenge: how to revitalize schools that are not in the “right” places.

[19] Grover and van der Velde, *A School District in Crisis: Detroit Public School 1842–2015*.

Schools are community hubs that can fuel dialogues and connections within a neighborhood—however, these connections are inevitably shifted through practices like “rightsizing.” In their recent study, IFF suggests “to root school improvement in place-based strategy.” Saying that, “school improvement and rightsizing strategies should be based on the demand for and supply of performing schools and conditions of school buildings in each neighborhood.” The study recommends that such strategies should identify the “10 highest-need neighborhoods,” and engage communities to turn unutilized buildings into neighborhood assets. [20]

Despite the complexities of the term “rightsizing”—its severities and its efficiencies—it has been used for years to instigate a smarter strategy for growth in Detroit. There are merits in trying to concentrate efforts to show tangible improvements for different, identified “highest-need” pockets of the city. But the practice can also be destructive: communities quickly lose resources and investment, schools shut down (similar to the narrative of Hutchins). Within the context of public schooling, the benefits of rightsizing are not immediately clear. Because it effectively means moving students to different schools, researchers have studied the impact of school closures on academic performance. Students who transfer from a closing, underperforming school to a better-performing school will likely improve academically. However, if students are moving laterally to similar conditions, they are more likely to see a decline in academic performance. In the context of Detroit, without a steady supply of high-performance schools, rightsizing, then, is a precarious strategy.

IFF does make an important connection between rightsizing and adaptive reuse—looking at ways to retrofit existing structures and expand their function to serve as resources for the surrounding neighborhood. In this way, adaptive reuse can be a form of reinvestment. The practice can provide additional community resources within the school building spaces available through close consultation with nearby residents. The most common reuse of a school building is charter and private schools, nonprofit and government offices, and housing, but the possibilities can and have extended to incubators, skate parks, and hospitality in Detroit.

From an automobile industry that mobilized the world to the birthplace of Motown and Techno, Detroit is a unique city with a unique set of challenges and a history of cultural energy. However, problems facing physical school environments spread far beyond the city. Detroit presents an extreme case of issues affecting schools all over America. This year, the Detroit Public School Community District has committed to begin the process of assessing how to move forward with its educational spaces, new and old. The revival of the public school system in Detroit is beginning to reflect the same spirit of transformative change we’ve seen from it before. New educational perspectives and methodologies seek to teach young, bright students what their ideas are worth to their city. And while the state of our schools is not the sole responsibility of the architect to solve, the role of design is becoming increasingly apparent and necessary. As a profession with an ethical responsibility to the occupants of its buildings, it is incumbent upon architects to lead the charge, becoming activists and advocates for supportive learning environments. Detroit has the chance to do things differently for the children that deserve to learn and prosper in beautiful, effective, safe spaces. Time is of the essence.

[20] IFF, *Reset, Rethink, Rebuild: A Shared Vision of Performing Schools in Quality Buildings for Every Child in Detroit*.