

A Study of Los Angeles Public School Design in Identifying Community Improvement

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Abstract Architectural utility in Richard Neutra's early twentieth century modern school design was paramount in progressively shaping salience of academic institutions, in part to move beyond neoclassical traditions in style based design. The intention being to address school and community through modern architectural solutions. Expanding on Neutra's practice, the planning and design of new public schools in Los Angeles, are advocating the integration of institutional and public spaces. This research will document through qualitative analysis of institutional design within transitioning neighborhoods, a utilitarian approach that has become foundational for positive urban change. The focus of this research will reflect upon contemporary schools designed by DalyGenik Architecture, Coop Himmelblau and Michael Maltzen Architecture. Comparing with Neutra's early modernist approach, the selected case studies will address material and spatial applications having redefined functional relationships of interior space, architectural envelope and an interconnected public realm. A dynamic peripheral condition in new school design has emerged with the elimination of decorative adornment, clarifying utilitarian intentions of institutional service to and the rejuvenation of public realms and community spaces.

Keywords: School Design, Public Design, External Material Application, Modernism

1. INTRODUCTION

1.1 Research Objectives

This research will analyze connections between spatial and material strategies of modern school design and ensuing urban conditions that demonstrate urban and community regeneration. Salience in academic institutes has long been imperative in Los Angeles, beginning with classical representations of applied style. However, by the mid twentieth century, an evolution beyond classical ideals produced decorative free solutions intent on functional clarity and more importantly, environmental engagement and change. This research aims to demonstrate that places of educational institution can be the new "centers of social life"¹ as a result of creative contextual response and architectural solution.

Reflecting on functional modernism, established in part by Richard Neutra, the early modernist Los Angeles Architect, this research will compare model case studies constructed within the last two decades in Los Angeles. The projects will be analyzed by

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¹ Architecture Record, 12.2005, p. 135

way of spatial and material constructions; as exterior surface, form and public space now give rise to community rejuvenation.

1.2 Theoretical Background on Public-ness

Public architectures provide community with a common center. Residents obtain their sense of place in history, within a community, and by relating their dwelling to that conceptual center.²

In contemporary American urban design, the neighborhood unit has played an important role of town making: centering the school in the middle of a neighborhood, implementing a wider use of school facilities for neighborhood meetings and activities, and constructing a large play area around the building for use by the local community.³

Much about the public realm in urban space and architecture has been researched extensively, including (but not limited to) corporate spaces, mixed use space, public plazas, and museums. Although public schools are very important public gathering spaces by function, the public-ness of this institution is limited in study. In order to link architectural conditions- spatial and material- to the institutional public realm, three public scenarios will be considered; cooperation, openness and participation.⁴ In this research, elements from each precedent are thoroughly analyzed.

1.3 The Evolution of Schools in Los Angeles


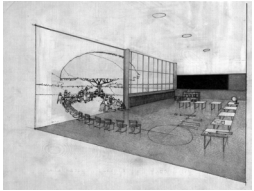


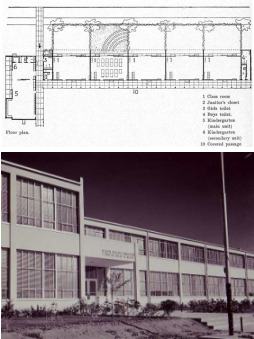
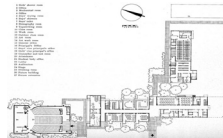
The Los Angeles Unified School District (LAUSD) has one of

² Harries, K.

³ Perry

⁴ Cho, 2008

Table 1. Richard Neutra's modernist school design

Neutra's Architectural 'public-ness' of 1930's Los Angeles				
Neutra's Projects	Illustrations	Original building history	Design conception: open to public interaction	Envelope and materials
<p>The Corona School 1930</p> 		 <p>In 1903, the first classes of Corona Avenue Elementary were held in a church in the Bell area.</p>	<p>The design consisted of oversized sliding glass patio walls which opened entire rooms directly to the outside.</p>	<p>Steel glazed window walls, when fully retracted, allowed interior classroom space to be moved freely outdoors.</p>
<p>Ralph Waldo Emerson middle School Los Angeles, 1938</p> 		 <p>Ralph Waldo Emerson middle School Los Angeles, was built in 1938</p>	<p>Visibly open to surrounding context, streamlined and clean appearance. Large windows area gives the appearance of being built with glass walls, while the second-floor classrooms have stairs leading to rooftop terraces establishing direct physical link between inside and outside.</p>	<p>Steel-frame structure with glass and steel sliding doors.</p>

the highest populations of students in the United States, second to only New York City public schools. In response, the LAUSD has instigated one of the largest funding initiatives of its kind in United States history for the planning and construction of new institutional facilities throughout the city. This initiative will include the construction of new schools as well as the renovation and updating of existing structures.⁵

What is now emerging are visionary institutions facilitating the diverse educational needs of students while simultaneously supporting and encouraging community change. It has been suggested that schools today are the places of community center, supplanting what have become neighborhoods of blighted condition. In Los Angeles, ties to local communities can be strained, however with recent progress; schools are becoming the centering seeds of change.

2. FOUNDATIONAL STUDY

2.1 Richard Neutra in Shaping Public Perception

The promotion of modern school design began in the 1930's with Richard Neutra's visionary addition to the Corona Avenue Elementary school. In reflecting upon measures by which school planning has evolved, Richard Neutra gave rise to expanded possibility via participatory spatial facilitation, whereby the inhabitants transformed classroom and adjoining outdoor spaces as needed. Unlike decrees of International Modernism, which sought "one building for all nations and climates," as, Le Corbusier

would once claim.⁶ In contrast, Richard Neutra combined, what he considered, functional necessities Table 1. with location specific attributes. Furthermore, public dissemination through strategic media use in staged photography and news print⁷, persuasively connected architecture and public opinion, raising the awareness of neighborhood satisfaction through institutional design. Modernism in architecture, as he sought to define it, was an ornament-free vehicle in which to achieve objective function for the betterment of society.⁸

Completed in 1934, Corona Avenue Elementary School in the Bell neighborhood of Los Angeles came to be known as the "test-tube school." A single story classroom wing was addition to an existing school building, in completing an 'L' campus configuration. It was comprised of two kindergarten rooms and five elementary classrooms,

⁶ As discussed in, 'The History and Meaning of Architecture', the streamlining of International Modernism, in theory as an extension of capitalist production would suggestively instigate a separation of architecture, culture and place, to the demise of modernist practice.

⁷ The Los Angeles Times made palpable comparisons of the Corona Avenue School addition like that of a "1936 model automobile from the original horseless carriage," In effect feeding public opinion in what would become an expected evolution in public school design. Throughout Neutra's career it became the composed scenic view of architectural photograph to elevate modernism in practice to a level of perfected expectation both in terms of aesthetic beauty and functional operation.

⁸ It has been suggested that contrary to the work of R.M. Schindler, Neutra's friend and colleague, whose focus was exclusively on theoretical space, where as Neutra's architecture sought functional duty to "social obligation". Furthermore, his pursuit of public commissions, in schools and civic institutions, were directed interest in community service explored through a modern paradigm.

⁵ Ibid

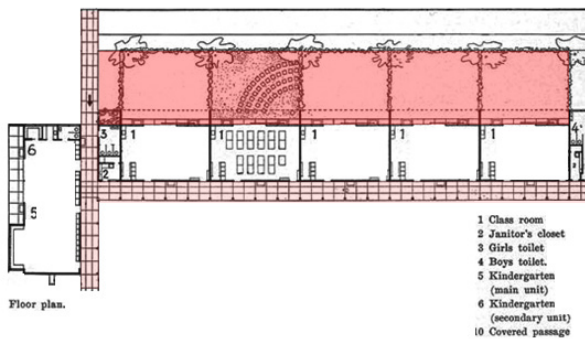


Figure 1. Corona Ave. School Plan: "open air" classrooms

connected adjacent to an outdoor corridor linked to a main entry hall. The new addition and facade was highlighted with deep-set windows, one for each classroom which created pocketed shading conditions for the allowance as well as deterrent of solar penetration.

The "open air" classrooms were fashioned with floor to ceiling steel glazed window walls, when fully retracted, allowing interior classroom space to be moved freely outdoors. Figure 1. Movable furniture and landscape features promoted further the idea of flexible, yet definitive inside-outside classrooms with unimpeded visual connections to the surrounding neighborhood.

The outdoor classrooms became a local favorite amongst neighbors for speculation and label; an early beginning to community awareness, albeit relegated to a viewable distance.¹⁰ The removal of neoclassical adornment was then replaced with functional clarity, objectively linked to healthy learning environment, in theory, within which student, teacher, and community could collaboratively participate.

2.2 Expanding Roles in Academic Architecture

There has been substantial connection between school facility and the surrounding neighborhoods in which they reside. Recently, public schools have played primary roles in community, not only as educational places, but also as flexible accommodation in outdoor leisure and other diverse activity. According to the research of "using school building as center of community facility" by Tchah, Lim, and Sim, academic architecture has great potential in use as community centers and can be used in supporting roles of multi-purpose complexes with sufficient physical space and the ability to support many programmatic opportunities.

To facilitate schools in becoming central to community activity, the following should be considered:

- Understanding current physical conditions and maintenance requirements therein.
- Linking local development planning and local land use projections with the objectives of the school system in mind.
- Providing a diversity of programs for community participation suitable within available facilities.

In the book, 'The Idea of Community Education' by Edward G. Olsen, Olsen highlighted the importance of the local school as major asset of its community. However, school design has been focused on internal use and function, which is surmised via easily recognized walls and fences. This study investigates design aspects

to achieve an interactive academic architecture.

3. CONTEMPORARY CASE STUDIES IN LOS ANGELES

Schools throughout North America, with limited exception, have been formulated upon aging models. Time tested precedents have become obsolete in meeting the challenges of 21st century educational needs with site specificity in mind. Spatial strategies organized around sequential patterning following a "functional, double loaded corridor"¹¹ with adjacently laid out classrooms, have been invariably planned within expected systems of economic viability and institutional outcome.

Today, schools incorporate more than requisite classrooms and administrative facility. Adrian Forty argues for design as mode of cultural production which "can cast ideas about who we are and how we should behave into permanent tangible forms"¹².

How students interact not only amongst peers but also within the very venues that contain their daily lives, is at the center of importance. The spaces of education are intermingled with that of contextual conditioning and the necessity of integrating complex urban conditions in the shaping of architecture and educational experience.

New schools in Los Angeles are saddled with educational need, while also establishing positive change in blighted neighborhoods. With severely limited budget and resource, creative response to in-situ conditions are prompting urban renewal as well as providing inspirational learning environments. Institutions designed by DalyGenik, Coop Himmelb(l)au, and Michael Maltzen demonstrate that design can engage neighborhoods through public and institutional interaction, as well as symbolical representation within the neighborhood unit. Combined, these are instigating renewal and renovation efforts, prompting turnarounds in "community economic development"¹³ and challenging what have become depressed post-industrial districts. The very nature of this transformation itself representing what Richard Neutra sought as architecture's obligation to enhance our physical and social environments through modernist vision.

3.1 Camino Nuevo Charter Academy: Burlington K-8th grade school, completed in 2000

3.1.1 Urban Regeneration through Adaptive Re-use

Adaptive reuse projects require cooperation on many levels. Not only in the architectural transformation, linking new and old, but extending to the interactive possibilities in public and private space. CNCA Burlington is composed of four campuses, two elementary schools, and two middle schools for approximately 250 students. The campus was planned on a reclaimed abandoned mini-mall site, <Figure.4> having been constructed during the 1980's but failing to sustain economic viability.¹⁴

3.1.2 Public Threshold

DalyGenik Architects were selected to design the CNCA Burlington School. The constrained site required strategic spatial zoning, taking into consideration both required educational

¹¹ Architectural Record, 12.2005, p. 137

¹² Forty, A., p. 6

¹³ Ball State University study

¹⁴ Carter and Lecuyer, p. 210

⁹ Hines, Thomas, p. 182

¹⁰ Ibid

Table 2. Camino Nuevo Charter Academy



Architect	Context and Connection to the surrounding	Interior organization
DalyGenik	Compact urban site reclaiming vacant mini-mall, making use of what has been void in the urban landscape.	
Illustrations		
		



Figure 2. Mini-mall before conversion

programs and the recreational play associated with extracurricular activities; all contained within a compact site requiring secure boundary. The architects were able to create a dynamic division between academics and recreation, establishing physical distinctions with the use of screened walls and circumscribed corridors. Entry to the school has adapted the existing mini-mall parking lot, transforming it into a public threshold where outdoor recreation, reception, and improvisational 'theater', activate as urban threshold in Figure 3.

The addition of a freestanding restroom and services block doubles as both needed program space as well as security perimeter wall in Figure 5. This architectural gesture has become unifying, in dynamic projection to community, as well as securing, with regards to containment of the requisite safe recreational space.

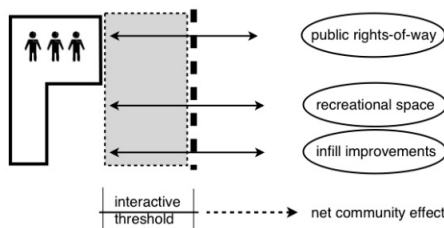


Figure 3. Aerial View CNCA Burlington: Impact on and interaction within public space



Figure 4. First floor commons theater and public threshold



Figure 5. Second floor screened edge

3.1.3 Multi-functional Screen

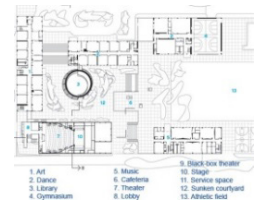
Within a limited budget, of approximately 75% typically allotted for comparable LAUSD public schools¹⁵, the architects utilized unlikely, yet cost effective material strategies. A recycled wood product (of plastic and paper pulp), attached to steel frames, functions as screen wall along the interior courtyard, and serves as both safety guardrail at the upper level and solar shade screening interior classrooms. An oversized metal egress stair is added to connect the court threshold and recreational area with upper level classrooms, making a direct route possible and contributing to the overall visual dynamic of this animated space.

3.1.4 Iconic Color

Bright yellow is the fresh face of CNCA Burlington, integral within the stucco finish. The vibrant color was chosen to be emblematic of local community spirit and what has become consistent in later CNCA schools¹⁶. Color and surface project the schools signature name and "progressive image"¹⁷ along the irregularly folded entry wall and public street edge.

3.2 Coop Himmelb(l)au Los Angeles Public High School #9, 2009

Table 3. Coop Himmelb(l)au, Los Angeles Public High School #9

Architect	Context and connection to the surrounding	Interior organization
Coop Himmelb(l)au	Extension of city public rights of-way open at strategic public access points	

Illustrations



3.2.1 Site as Extension of City

The master plan of High School #9 is an extension of city public

¹⁵ Ball State University study

¹⁶ Ibid

¹⁷ Carter and Lecuyer, p.210

rights-of-way. Taking into proximate consideration the city center cultural district, the campus arrangement of its various programs are distributed around an entire urban block, bound by downtown streets and opened at strategically located public access points. The school presents itself as ‘microcosm’, to be seen and discovered, within the central Los Angeles area in Figure 6.

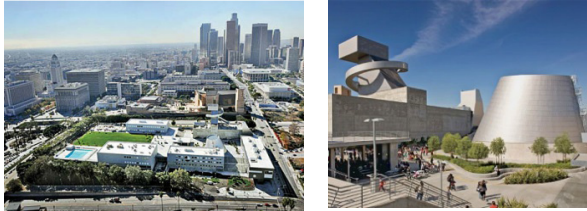


Figure 6. Campus as urban neighborhood

3.2.2 Performative Forms on Display

The site, as elevated platform, is intended as integrally visible within the expanding cultural district. High School #9 is an extension of the Los Angeles Cultural Arts Center with the

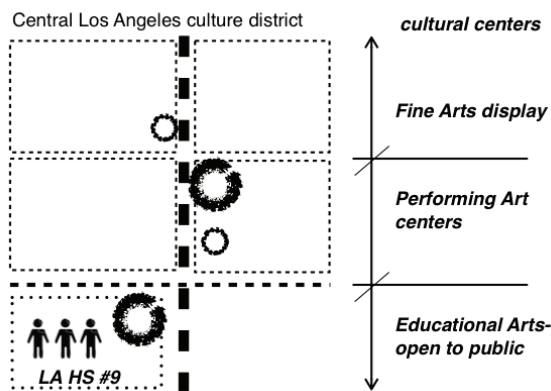


Figure 7. Campus and CBD

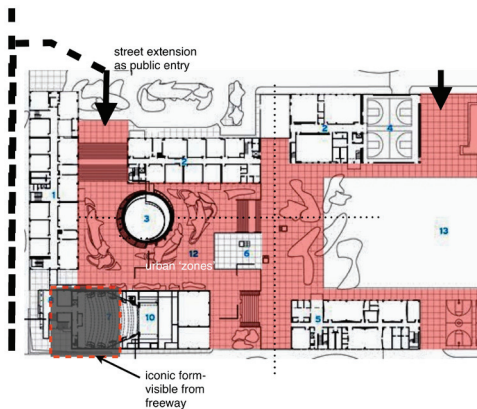


Figure 8. Los Angeles Public High School #9's interactive design

school itself an urban microcosm of performance and display. Conceptually, High School #9 demonstrate the ‘academic city’ as place of creative exploration. The campus organization establishes “choices” and “directions” in its public paths, both literal and figurative, in which students can freely choose routes- indicative of

choices in one's daily life.¹⁸

The signature spiral ramp terminates at a cantilevered cube, perched high above the Hollywood Freeway (Figure. 9). This elevated room itself symbolic of extended gesture to community, was conceived for community meetings and scheduled events.¹⁹

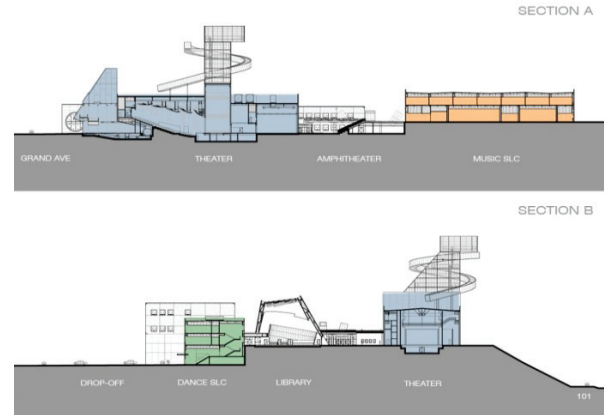


Figure 9. 'Open' campus with public accessibility

3.2.3 Program Differentiations

Exposed metals and concrete are used to differentiate autonomous academic programs. Transparency and opacity of materials expand visitor perception, both on and off campus; mechanisms of opaque containment and transparent exposure. Vertical and inclined architectural forms reflect and project light at various times of the day.

Window apertures, of various shape and size are punched randomly in metal siding, placed along street facades allow students to experience snap-shot views of the city. Inversely, city dwellers catch inside glimpses of random and dispersed academic activities. Creative impulse is selectively revealed for participants both inside and out.

3.3 Inner City Arts, Los Angeles

3.3.1 Industry to Cultural Conversion

Inner-City Arts was planned in a mixed zone of light industry, produce wholesalers, and garment industry shops, amongst various others. Located in an impoverished industrial Los Angeles neighborhood, Inner-City Arts community education center facilitates over 30,000 students each year from Los Angeles public schools within adapted spaces for participatory interpretation and use.


3.3.2 Contrast as Concept

Michael Maltzan Architects envisioned an arts campus as industrial neighborhood rejuvenator. An existing block of buildings was rehabilitated for improvisational education needs. Vertical additions to the existing buildings are functionally transformative (Figure 13). Strategically placed clerestory windows high on extended walls, provide natural light suitable for working artist

¹⁸ ibid

¹⁹ Architectural Record online, (retrieved 07.11.2012)

Table 4. Michael Maltzan, Inner City Arts

Architect	Context and connection to the surrounding	Interior organization
Michael Maltzan	Located in Los Angeles' mixed light industry center, the project is conceptually cast in contrast with the neighborhood.	

Illustrations



Figure 10. Inner City Arts

Figure 11. Interior courtyard

Figure 12. ICA contrast in context

studios. From the outside these windows offer glimpses of color punctuation, in visual contrast with the stark white façades.

Provisional spaces include individual learning for performance, painting and sculpture. Groups gather impromptu to interact within the public, irregularly shaped central courtyard, visible from various vantage points, both within and outside of the campus. The work spaces are fashioned with movable doors that open to the landscaped court, allowing for improvisational and interpretive use.

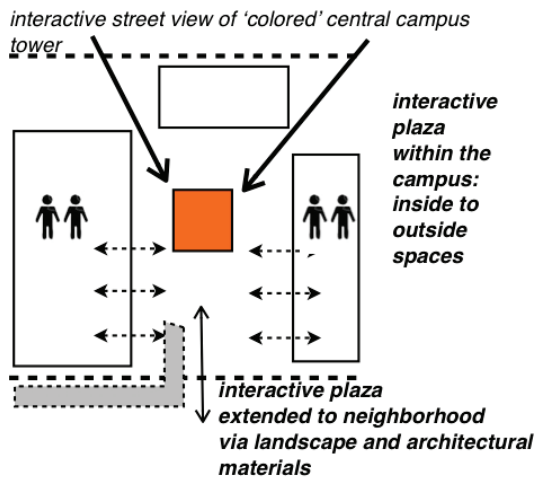


Figure 13. Interactive design

Maltzan states that “ICA is moving from a model of being primarily focused on education promoting the potential to be a collective space for the community.”²⁰ With the need to provide a safe and comfortable open space for children, the campus has created a sense of responsibility and interaction between self-contained creative possibilities.

3.3.3 Inherent Characteristics through Materials

The architects selected finish materials common to the area. Painted stucco on wood frame construction, concrete, and glass, are woven together amongst a landscape of palm trees, native plants and rocks. The design vocabulary consists of distinctively angular, stark forms emphasized in contrast by the white stucco walls on the exterior of the buildings. Unfinished interior spaces emphasize exposed finish materials, structural, mechanical and electrical systems which combined demonstrate the industrial history of the neighborhood.

3.4.4 Minimized Color

The use of luminous white is dominant on the outside of ICA. The building lends itself to pure speculation, as a contrasting canvas from which the local community can contribute and participate. The faded grey of industry has been replaced with the brilliance of clean white; new surfaces for projection and community reflection.

4. COMPOSITE CATALOGUE OF NEW SCHOOL CHARACTERISTICS

Table 5. CNCA Burlington School

Characteristics & Spatial functions			
Transparency & visibility: Openness	Program & Spatial organization	Relationship of Material application and Envelope	
Transparency is selectively obscured and revealed via Screen walls within the courtyard. Architectural form allows prescribed view to and from the street.	The design emphasizes flexibility with a secured courtyard. Clear entry points and gathering can be used for group meetings or informal gatherings.	Material application	Use of color
		Recycled composite wood, attached to steel frames functions as screen wall. Safety + solar shade screening interior classrooms.	The vi-brant bright yellow repre-sents community spirit.
Public-ness: Cooperation and Participation	The architects were able to create a dynamic division between academics and recreation, recognizing too the relation with pedestrian street side visibility and experience. Communal spaces of the school function as multi use for community gathering. Vibrant color and form favored by local residents.		

²⁰ Lotus 145, p. 64-69

Table 6. LA High School #9

Characteristics & Spatial functions			
Transparency & visibility: Openness	Program & Spatial organization	Relationship of Material application and Envelope	
Public visibility considered The tower as urban landmark The library, open to public, is dynamically shaped like a truncated cone within the main public square of the campus.	Free forms as new urban icons meant to demonstrate the local community's support for the arts.	Material application	Use of color
		Non-reflective stain-less steel. Exposed metals and concrete are used to differentiate autonomous campus programs -Mix of sculptural objects and functional rectilinear blocks. Raw materials: expressive within cultural district, both transparent & opaque	Opaque concrete and 'Natu-ral' metal finishes.
Public-ness: Cooperation and Participation	Visual and physical interaction with the surrounding community.		
	Master plan that considers shaping space and function within the urban context- an extension of the cities vision and goals.		
	Architecture as inspiration for community and students. Goal to provide place to creatively explore.		
Spaces open to outside community use- theater, library, etc.			

Table 7. Inner City Arts

Characteristics & Spatial functions			
Transparency & visibility: Openness	Program & Spatial organization	Relationship of Material application and Envelope	
Through selective transparency and interpretive, multi-functional space plan-ning, the de-sign blurs boundaries between teachers, students, and community	Reuse of existing industrial buildings are transformed and interconnected to create a campus com-munity. Indoor and outdoor spaces work together.	Material application	Use of color
		Steel-frame construction with pressure-treated wood joists for the performing arts Building. Concrete block infill used to acoustically isolate the theater. Industrial character of neighborhood expressed through exposed materials.	ICA's white walled towers and its landscaped courtyards stand out in contrast to the neighboring in-dustrial buildings.
Public-ness: Cooperation and Participation	Renewal of existing derelict buildings has given neighborhood hope for redevelopment and social opportunity. The project thus has had a visually positive impact within the blighted industrial area.		
	School integrated within urban plan by very nature of contextual conditions.		
	Urban renewal pilot project for the area.		

5. CONCLUSIONS

Architect Richard Neutra was early to recognize the need for institutional evolution within Los Angeles neighborhoods. The intentional interaction between school and surrounding neighborhood giving rise to the role of academic design in public place making.

With reference to this, recent case studies reveal means by which architectural solutions have improved local communities. Furthermore, renewed institutional public-ness has emerged in various forms with what can be surmised in new public spatial experiences associated with academic facilities. In summary the research has expanded on the following:

- The boundary between school and neighborhood community is better integrated by way of programmed public space that promotes cooperative activity.
- Materiality and color are crucial in establishing dynamic fronts; a participation of visual interest within neighborhoods.
- The planning of academic space engage streets and encourage well defined public spaces, evident in plazas and recreational courtyards for extended uses.
- The reuse of existing and derelict sites for academic purposes has been foundational in neighborhood rejuvenation.

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