

PARALLEL PLAY

Designing A Dual-Language Lab School in East Boston

Kim Yao and Adam Yarinsky with Stephen Cassell

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MIT Option Studio 4.152 Spring 2024

“Perhaps our largest challenge [as teachers] is to overcome the fear of disequilibrium – our own and that of our students – and trust that those instances in which the bedrock of our assumptions and understanding begins to waver mark the edge of new understanding” Naomi Mulvihill. How Do You Say Twos in Spanish, If Two is Dos? Language as Means and Object in a Bilingual Kindergarten Classroom.

When designing for the child, architects must attempt to put themselves in the mind of their younger selves with invention, imagination, investigation and exploration serving as primary drivers. The classroom becomes an experiential space where children are encouraged to discover and understand their relationship to the world around them. The focus of this intensive studio is the design of educational spaces for children culminating in a public K-2 dual-language lab school in East Boston.

Students will delve deep into the pedagogy and process of dual-language learning through architectural form, daylight, and environment. As practicing architects, we synthesize detailed information and multiple ideas in the design of buildings. The studio will promote programmatic and formal invention through an iterative design process that is grounded in deep engagement with how people use and experience architecture. How do we create architecture that bridges the relationship between the child and their community?

The program will be a dual-language lab school, of approximately 30,000 square feet, located in East Boston, MA. The school will serve students from kindergarten through second grade and provide spaces for the broader community. Dual-language schools are grounded in an approach to teaching young children their home language as well as English, in parallel. Beyond the classroom, this school model supports families within diverse immigrant communities. We will engage directly with teachers, who specialize in dual-language learning, to better understand the nuances and complexities of teaching multiple languages to young learners.

The studio’s methodology will synthesize several areas of exploration sequentially: Within the classroom unit, how can the specific pedagogy of project-based dual-language learning lead to innovative design? How can daylight integrate with the performative and programmatic design of the classroom and the entire building? How can the aggregation of classrooms create a larger organizational strategy for the building that supports teachers, students, and their families? How can the school relate to the larger East Boston neighborhood and the city beyond?

Daylight conditions will be modeled using both Climate Studio software and physical models. The small size of the project will enable each student to study multiple design alternatives and variations for the program, site, massing, and envelope, using feedback gained from both analog and digital tools.

The studio will meet twice weekly, Tuesdays and Thursdays (50% virtual, 50% in person). The studio will be taught primarily by Kim Yao and Adam Yarinsky. Their partner, Stephen Cassell, will attend key pin-ups and reviews. There will be a studio trip over Spring Break to New York City to visit relevant projects and Architecture Research Office (ARO).

The work of the studio will be supported by Professor Christoph Reinhart with a series of 'Climate Studio Refreshers.' These workshops are to support students in the use of Climate Studio software relative to their designs and will be offered typically on Thursdays from 5-6PM (TBC). We expect all students to attend these sessions to advance their designs.

program: Designing any architectural project means becoming an expert in its program and the particularities, values, absurdities, tensions, and impossibilities of that specific family, organization, institution, or municipality. In order to do this well, one must become an anthropologist of worlds that you never knew existed, even though they often coincide in space and time with your own. The best works of architecture are born out of this expertise and leverage deep research to create a design that not only strengthens but also transforms (and at times subverts) the user's expectations.

In addition to interrogating the relationships between typical early childhood educational spaces, the studio expects students to further investigate the specific requirements of an environment for dual-language learning. This will include having a keen understanding of the nature of dual language – the literal need to double all words visibly in spaces – through word walls, murals, artwork, objects, and learning stations. Teaching in a dual-language environment requires spaces that enable young learners to feel that they have the agency to take risks, explore, play and exchange ideas. When working with language, the real opportunity is not through repetition, but through lived experiences, hands-on activities, and direct connections to nature and physical things. Therefore, spaces like learning centers, hallways, garden spaces and storage are also essential to our design process.

travel: The studio will travel to NYC over Spring Break from March 28th to March 30th to be confirmed.

grading: Your grade for this studio will be based on participation, quality of thought and work, attendance, and completion of deliverables. Participation will be evaluated based on contribution to group discussion and pin-ups, and studio culture. Attendance is expected for all dates outlined in the schedule below unless otherwise agreed upon in advance between instructors and student. Students are expected to attend the entirety of studio sessions, pin-ups, reviews, discussions with outside experts, and site visits. Greater than two unexcused absences will impact your overall performance in the studio and may lead to a failing grade. Grades will be assigned according to MIT departmental criteria.

studio culture: We value the studio space as a high energy, iterative environment for exchange, collaboration, and risk taking! We aim to create a space for the respectful and productive exchange of ideas for all persons within the studio. To support ongoing project development and collaboration, students will be expected to post work-in-progress for each class in individual Miro boards for reference.

accessibility: Students who need disability accommodations are encouraged to speak with the faculty member/department administrator early in the semester so that accommodations can be implemented in a timely fashion.

STUDIO DATES

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| 1 | TU 2/06 TH 2/08 | Lottery (MIT) Studio Kickoff / Exercise 1 Intro (MIT) |
| 2 | TU 2/13 TH 2/15 | Desk Crits + Group Discussion (MIT) / Talk with Naomi Mulvihill + Jessie Auger @ 4PM Desk Crits (Virtual) |
| 3 | TU 2/20 TH 2/22 | NO CLASS Desk Crits (MIT) |
| 4 | TU 2/27 TH 2/29 | Desk Crits (MIT) Desk Crits (Virtual) |
| 5 | TU 3/05 TH 3/07 | EXERCISE 1 PIN-UP / Exercise 2 Intro (HYBRID) Desk Crits (Virtual) |
| 6 | TU 3/12 TH 3/14 | Desk Crits (MIT) Desk Crits (Virtual) |
| 7 | TU 3/19 TH 3/21 | Desk Crits (Virtual) MIDREVIEW (MIT) |
| 8 | March 25-29 | Spring Recess / Trip to NYC March 28th to March 30th |
| 9 | TU 4/02 TH 4/04 | Final Program and Deliverables (MIT) Desk Crits (Virtual) |
| 10 | TU 4/09 TH 4/11 | Desk Crits (MIT) Desk Crits (Virtual) |
| 11 | TU 4/16 TH 4/18 | PINUP (MIT) Desk Crits (Virtual) |
| 12 | TU 4/23 TH 4/25 | Desk Crits (MIT) Desk Crits (Virtual) |
| 13 | TU 4/30 TH 5/02 | Desk Crits (MIT) Desk Crits (Virtual) |
| 14 | TU 5/07 TH 5/09 | Pre-Review Pin-Up (MIT) Desk Crits (Virtual) |
| 15 | MO 5/13 | FINAL REVIEW (MIT) |

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The following works are an abbreviated list for reference on relevant topics surrounding the studio.

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Daylight and Thermal Comfort

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- Plummer, Henry. *The Architecture of Natural Light*. New York, Monacelli Press, 2009.
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Form

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Design Studio for Social Intervention (DS4SI). *Ideas, Arrangements, Effects: Systems Design and Social Justice*. Minor Compositions, 2020.

Maki, Fumihiko. *Investigations in Collective Form*. St. Louis, Washington University School of Architecture, 1964.

Moneo, Rafael. "On Typology." *Oppositions 13*, Spring 1978, p23-45.

PRECEDENTS:

schools

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Aldo van Eyck / Nagele Primary School / 1955-1956

Herman Hertzberger / Delft Montessori School / Delft Netherlands / 1960

Herman Hertzberger / Apollo School / Amsterdam, Netherlands / 1983

Anne Jacobsen / Munkegaard School / Denmark / 1957

Patkau Architects / Strawberry Vale School / Victoria, Canada / 1995

Jacques Kalisz / Nanterre Architecture School / Paris, France / 1971

Hannes Meyer / Peters Schule / 1926

Jan Duiker / Open-air School / Amsterdam / 1927

Alejandro de la Sota / Gimnasio Maravillas / Madrid, Spain / 1962

Paul Rudolph / John W. Chorley Elementary School / 1969

Anne Tyng / Elementary School in Bucks County / Bucks County PA / 1951-1953

Perkins and Will / Crow Island School / Illinois USA / 1940

Richard Neutra / Corona Avenue School / Los Angeles / 1935

Andres Jaque OPI / Reggio School / Madrid Spain / 2022

Tezuka Architects / Fuji Kindergarten / Tokyo, Japan / 2007

Junya Ishigami / Cloud Garden Nursery

MOS / Petit Ecole School No.3/ Denmark / 2021

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H Arquitectes / School Gym 704 / Catalonia, Spain / 2008
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Selldorf Architects / Mwabwinda School / Zambia / 2019
Rosan Bosch / Vittra Telefonplan School / Stockholm / 2011
Vo Trong Nghia Architects / Farming Kindergarten / Vietnam / 2013
Cobe / Frederiksvej Kindergarten / Denmark / 2015

play spaces

Isamu Noguchi / Piedmont Playground / Atlanta, Georgia / 1976
Isamu Noguchi / Contoured Playground / 1941
Aldo Van Eyck / Amsterdam playgrounds

daylight

Johannes Vermeer / Woman Holding a Balance / 1663
Albrecht Durer / A Draughtsman Drawing a Portrait Engraving / 1532
Nancy Holt / Sun Tunnels / Great Basin Desert, Utah / 1976
Marina Tabassum / Bait Ur Rouf Mosque / Dhaka, Bangladesh / 2016
Jai Prakash / Jaipur Observatory / New Delhi, India / 1724 – 1727
Anna Heringer / METI Handmade School / Rudrapur, Bangladesh / 2004
Alvar Alto / Paimio Sanatorium / Finland / 1932
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Renzo Piano / Menil Collection / Houston, Texas / 1981
Le Corbusier / Palace of the Assembly / Chandigarh, India / 1963
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Eero Saarinen / MIT Chapel / Cambridge, MA / 1955
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Lacatan Vassal / Social Housing / Bordeaux, France / 2016
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