

MIAAW

2022

Re-inventing schools

Politecnico Di Milano

School of Architecture Urban Planning
Construction Engineering



MIAW

The MIAW-Milan International Architecture Workshop is the international intensive programme at the Politecnico di Milano, School of Architecture Urban Planning Construction Engineering, that provides an international design forum for schools, teachers and students, but it is also an informal platform to discuss issues and share ambitions that education implies. Its aim is to stimulate cross-over thinking between researches and practitioners in the design field, involving different scales and encouraging an interdisciplinary approach towards design problems. Each class has an international guest professor of high profile whose activity and interests are related to the different study courses and disciplinary areas characterising our School.

MIAW 2022 / Re-inventing schools

ISBN 978-88-6242-830-9

Editors

Corinna Del Bianco
Camillo Magni
Giulia Setti

Template design

LetteraVentidue

Layout

Michele Porcelluzzi

Photo credits

p. 133, p. 159, p. 188, p. 214, p. 237
© Andrea Foppiani

Other images credits

All rights belong to their respective owners, under the responsibility of the submitting authors.

© LetteraVentidue Edizioni

All rights reserved

MIAW 2022

Scientific Board

DASU department, Politecnico di Milano
Barbara Coppetti
Corinna Del Bianco
Camillo Magni (coordinator)
Giulia Setti (coordinator)

DABC department, Politecnico di Milano
Francesca Belloni
Domenico Chizzoniti
Massimo Ferrari
Elena Fioretto
Nora Lombardini
Elvio Manganaro

Guest Professors

Karin Hofert
Mladen Jadric
Giancarlo Mazzanti
Elsa Prochazka
Mia Roth-Čerina

Tutors

Luigiemanuele Amabile
Andrea Foppiani
Riccardo Genta
Francesca Gotti
Michele Porcelluzzi
Yona Catrina Schreyer

Contents

01. INTRODUCTION	007
<i>Andrea Campioli</i>	
02. CONTRIBUTIONS	
Re-inventing schools. The school as a design opportunity	010
<i>Camillo Magni</i>	
Let's do school, let's make room! Operational reflections on the relationship between architecture and pedagogy	022
<i>Francesca Belloni, Pietro Vitali</i>	
What about (schools) typology?	033
<i>Francesca Belloni, Massimo Ferrari, Elvio Manganaro, Claudia Tinazzi</i>	
The school between education and emancipation	044
<i>Domenico Chizzoniti</i>	

Beyond the school perimeter involving the neighbourhood 059

Barbara Coppetti

Schools and the city. 072
Reflections on MIAW 2022

Corinna Del Bianco

The state of the Italian school buildings: 081
an overview

Nora Lombardini

Type Device Diagram Kit 094

Elvio Manganaro

Architecture for education. 102
The evolution of Bocconi University and
Politecnico di Milano.

Giulia Setti

03. PROJECT SITES

*Luigiemanuele Amabile, Andrea Foppiani, Riccardo Genta,
Francesca Gotti, Michele Porcelluzzi, Yona Catrina Schreyer*

1 | Via Carnovali 114

2 | Via Massaua 117

3 | Via Graf 120

4 | Via Quarenghi 123

5 | Viale Sarca 126

04. WORKSHOPS

WS.A Elsa Prochazka	129
WS.B Karin Hofert	154
WS.C Mia Roth-Čerina	183
WS.D Mladen Jadric	209
WS.E Giancarlo Mazzanti	232

05. AUTHORS PROFILES 258

Schools and the city. Reflections on MIAW 2022

Corinna Del Bianco

DASTU Department, Politecnico di Milano

MIAW 2022 workshop took the name of *Inventing Schools* on the back of the teaching experimentation project, coordinated by Barbara Coppetti and Elvio Manganaro, dedicated to schools, which promotes dialogue between the School of Architecture Urban Planning Construction Engineering (AUIC) and the Milanese municipal administration. The subject of schools was of crucial importance during the pandemic, which disrupted a system that was already undergoing a profound revolution with the advent of digital technologies. The school system reacted with enthusiasm and, in many cases, with skilled improvisation, managing to respond quickly with remote teaching.

This has led us to need to rethink the fundamentals of schools and their function, in terms of teaching and attendance, reimagining the spaces – in the interests of teaching securely – and reflecting on their relationship with the city.

Unlike the 2021 edition which had to be held completely remotely, MIAW 2022 was held in person between 6 and 17 June and it offered a return to normality, with opportunities for debate and discussion during the classes, public lectures by visiting professors – which had also been included in the New European Bauhaus programme – and a final presentation day with a jury composed of professors from the Politecnico. The workshop was opened on 17 May with a launch day held online, which was open to the public, for the purposes of introducing and meeting the participants and professors. The intention of this paper is to make a contribution to the recording of the international workshop experience, while providing some observations following an overview of the project outcomes.

Schools and the city

Schools are essentially an urban topic insofar as they are the place in which the concept of citizenship is formed, where the conditions for the future development of the community and community life are created (Consalez 2018). Citizens are created in schools and therefore the organisation of their spaces, both internal and external, and their relationship with the wider city is an urban-scale field of action, in which to incorporate wide-ranging projects, policies and interventions integrated across different scales (Renzoni and Savoldi 2019). School design is also strongly connected to pedagogical and teaching forms, and from this point of view, in recent years a radical change to the system has been observed, in particular following the introduction of new technologies among teaching tools and also following the Covid-19 pandemic, which turned schools into virtual spaces for everybody, for a significant period of time. As Consalez (2018) reports, the guidelines identified by INDIRE (Istituto Nazionale Documentazione Innovazione Ricerca Educativa - National Institute for Documentation, Innovation and Educational Research) are aimed at discarding “monosetting” in favour of increasing the number of learning spaces and opportunities, including by creating links to the city. The organisation of teaching involves moments that are either formal or informal, individual or group-based, and laboratories that need be delivered in a variety of spaces. A school is somewhat like a small city in itself, arranged into streets, squares and dedicated access areas. There are different levels of “public” space. The “connecting” spaces (for example corridors), play a fundamental role in this, being as they are places with functions for learning or breaks, breaking with the sole function as a distribution channel (Consalez 2018). Even the opening of school complexes to the community is a fiercely debated topic: spaces that during school hours are dedicated to the school, but which at other times are used by the city, as civic centres providing for suitable divisions and subdivisions which facilitate their opening and management.

Milan has a portfolio of school buildings that dates back largely to a major campaign in the immediate post-war period that was enacted on a national, municipal and provincial scale – of approximately 500 school buildings (in terms of infant, primary and secondary schools only), more than 300 were built between the 1950s and 1970s (Renzoni and Savoldi 2019). This intense period

of construction responded to a pressing need for citizen services which abated in the 1980s when the trend of population growth inverted and the response to the demand seems to have been exhausted. However, these buildings were largely constructed on the basis of the principle of efficiency; therefore, reduced costs and rapidity of construction, obtaining as a result the creation of a *modus operandi* which has permeated throughout the industry's culture (Renzoni and Savoldi 2019).

School complexes are places in which it is possible to create a relationship with the city: on one hand, by opening them to the citizenry, extending their hours and offering integrated services; on the other, thinking of them in relation to the network of public spaces and services. Although the contexts are extremely different, for the sole purpose of broadening horizons by freeing them from the schemes imposed by our legislative and design history, it could be interesting to turn our gaze towards the countries of the Global South which, with scarce resources, have found themselves using multi-use models, looking to enhance the schools with other services. In these settings, the school becomes a focal point for services, where a meal is provided, where the teachers sleep, where refuge is taken from a tornado, where humanitarian aid is concentrated and where community celebrations are organised. Civic and identity-based values, as well as those of innovation, are concentrated in schools.

The international profile of the visiting professors and the students participating in the workshop made it possible to begin a discussion, with experiences arriving from very distant settings, both to better understand the proposals and teaching approaches, and to leave free rein to creativity, by imagining new urban scenarios, in order to then address the challenge of their application to real settings.

Project areas

A selection of five school complexes from the Municipality of Milan were chosen for the *Inventing Schools* project with the aim of addressing themes that cut across teaching, through project strategies that would focus both on an architectural scale and with reflections on its functions and internal teaching, and on an urban scale, working on the relationship of the schools with their neighbourhoods. It is with this aim that the information materials were provided for the workshop, having been created by the corresponding tutors, providing a

multi-scale picture of the five schools. The first school was that of Via Carnovali, a complex with a nursery, pre-school and primary school located in the north-east of the city, in the working-class neighbourhood of Precotto, formerly a separate town which was absorbed by the city in the 1930s. A little further to the south-west is the complex in Viale Sarca with a nursery and middle schools, in the former industrial area of Bicocca, at one time the site of large industry and now an important hub as a home to important elements of Milanese culture. Meanwhile, in the south-east of the city there is the primary school in Via Massaua in the Arzaga neighbourhood, a middle-class residential area since the '60s. Two of the other complexes selected are located in the north-west of the city: a primary school and two secondary schools — one of which Montessori — in Via Quarenghi in Lampugnano, a residential area which is home to a considerable number of foreigners; and a complex comprising a nursery, primary schools and middle schools in Via Graf in Quarto Oggiaro, a residential area of state housing which was created in the mid-1900s.

The selected schools were varied, both in terms of the level of teaching, their functions and regulations, and for the neighbourhoods in which they were located. This provided the visiting professors and students with a range of situations with which to interact.

Five approaches to the topic of schools

Visiting professors 2022

The visiting professors for the 2022 edition represent extremely varied perspectives, both for their different experiences, in terms of teaching and projects, and for the cultural contexts of their backgrounds and training. Among the professors invited was Elsa Prochazka, who comes from Vienna, where she leads her architectural practice, in addition to having had international teaching experience with the University of Kassel, Bartlett at University College London, the University of Art and Design Linz as well as the University of Naples Federico II and the Politecnico di Milano in Italy. Her work as an architect has always complemented her teaching work, thereby enriching it.

A second section was guided by Giancarlo Mazzanti, a renowned architect

who hails from and has worked in Colombia, in Bogota, having trained in Italy at the University of Florence. There is no need to list his professional experience which covers international projects which have focused on social aspects and the empowerment of local communities, whereas his teaching work also spans many contexts, from various Colombian universities to Princeton, Harvard and Columbia University, without mentioning the exhibition of his work in permanent collections at MoMA and Pompidou. Mazzanti has long been working on the theme of schools, as he did for the 2016 *Atlantico Kindergatens* project for which, following floods in the region, 31 nurseries were designed using a form of co-design with the residents (Serrazaetti 2021). Karin Hofert, however, has a much more academic and theoretical research-based approach, having been trained at the ETSAB Barcelona School of Architecture - Universitat Politècnica de Catalunya (ETSAB-UPC) where she has also spent her career. Maintaining this as her base, Karin has been invited to many universities across all continents. Her work also extends to the field of cooperation and development and she has received numerous awards for her public space designs. Mladen Jadric also comes from the Viennese school, where he has also taught at TU Wien. He has worked in various universities across Europe, Asia, Australia and South America as a visiting professor and guest lecturer.

His work is primarily linked with the professional firm JADRIC ARCHITEKTUR ZT GmbH, delivering many projects in various parts of the world and on various scales, from urban to architectural, and also including installations and experimentation with new materials and technologies. He also holds positions in Austrian art and architecture institutions.

Lastly, Mia Roth-Čerina, who represents a different generation with respect to the other professors invited, carries out intense teaching and professional work, paying specific attention to school buildings and public spaces. She was trained in architecture at the University of Zagreb where she obtained her research doctorate in 2015. She has won many prizes for her architectural designs and she is part of prestigious juries and committees while more recently in 2019, her professional work won the prize for the best design for the Popovača primary school. Her intense professional work is accompanied by equally demanding teaching at her alma mater where she has been Vice Dean since 2016.

This wide range of experiences, in terms of teaching and professional activity,

represented an opportunity for the students involved to engage with teaching methods that differed greatly and to be able to absorb completely new stimuli directly, or indirectly by attending the public lessons or by coming into contact with the other sections.

The return to in-person teaching

Finally, after two years of pandemic, it was possible to return to intensive teaching with continuous direct interaction.

The face-to-face days were preceded by an online meeting: the kick-off saw institutional contributions, a presentation of the project areas and the themes of the workshop and was complemented by a lesson from Beate Christine Weyland of the Free University of Bozen-Bolzano.

The professors were constantly engaged with the students from the beginning of the workshop at the Milano Leonardo campus, alternating between site visits, classroom work and public lectures.

Finally, the students were able to compare the models on paper, and the opportunities to be able to return to experimentation with the research models was widely used by all of the professors that had been invited.

The public lectures

The public lectures were also thought-provoking and were extremely important. The days devoted to the presentations by the visiting professors were held in person at the IIIB hall of the auditorium in Via Pascoli on 9 and 10 June, with the possibility of taking part remotely. These formed part of the parallel events of the New European Bauhaus festival. The lectures were conceived not as moments of direct teaching, but of discussion and debate between the various schools involved. Indeed, the first day saw a debate between Jadric, Mazzanti and Roth, which was moderated by Magni and with Chizzoniti, Coppetti and Manganaro as discussants from the Politecnico. On the second day, Hofert, Prochazka instead debated with Bricocoli, Ferrari, Lombardini and Fioretto, while Setti moderated.

Innovations and contributions to the school - city relationship

The methodological approaches of the various international professors were extremely different, as were the methods of implementing the projects on a neighbourhood and urban scale. Elsa Prochazka's workshop identified the school as a tool for dialogue with public space, attempting to extend education beyond school hours and also in relation to the city. The projects developed by each of the five groups for all of the five project areas followed *Floating Schools*, a six-point manifesto which included: permeability (1), making contact with the neighbourhood, the institutions (2), investigating hybridisation with the public, expanding the usage and the combination of spaces (3) and the means of access (4), the quality of the spaces and the environment (5), not limiting itself to colours and furniture, and that of open spaces (6).

Karin Hofert instead approached the issue in a more typological way. Her class identified a design strategy that could be applied to the range of settings by determining five base modules that defined the learning spaces and which, by multiplying them, create special spaces such as gyms or theatres. The collection of modular systems in horizontal systems generated a variety of sections and prospects that have also defined the in-between spaces for "informal" education activities. The aggregative strategies were defined as attached boxes (1), detached boxes (2), spacial grids (3), vaults (4) umbrellas or trees (5) and each group tested them on two areas. With this approach, the spaces for special uses were of important in creating a connection with the neighbourhoods, in that they were located in a strategic way for direct access.

Mia Roth's class instead investigated the potential evolutions of public space, attempting to understand what educational spaces bring, not only to children, but also to their families, the neighbourhood and the city. On this basis, and by investigating a series of good practices and ways of thinking, the class defined five approach strategies, all of which involved a connection with the neighbourhood and adaptation to the identity of the environment. The first, a (kinder)garden school + urban farming, examined the value of direct contact with nature; the second, *didactic stack* + *public condenser*, focused on bringing together different communities; the third, *communal school* + *extended learning*, focused on making schools a space for various users and on various scales, extending the teaching

programme to activities for the community; the fourth, *laboratory school + startups and makers*, worked on the integration of creative and cultural activities; and finally, the fifth, *the school system + neighbourhood pedagogy* expanded on the concept of contextual learning.

Mladen Jadric's workshop instead addressed the theme of school design from an ethical perspective first and an aesthetic perspective second. The great challenge for the five project groups, each concentrating on two project areas, was that of resolving the complexity of the relationships between the spaces for individual learning and those of the environment, striving for connections with a view to large-scale integration in the neighbourhood. The designs were developed by organising the spaces for "formal" learning, characterised by the diversity of their dimensions with a view to providing greater flexibility, centred around a common area, a space for sharing which is increasingly involved in the learning process.

Lastly, the aim of Giancarlo Mazzanti's workshop was to create mechanisms and disrupt legacies, so that architecture might become a strategic tool for the common good in order to create the basis for the development of social relations, taking great care over the impact that architectural design has in the immediate vicinity. Play is crucial in Mazzanti's teaching approach to design work. It is a device, a composition tool, in which architect and user are both responsible for the creation of the architecture. This leads to profound interaction with the city, above all from the standpoint of identity issues. At the conclusion of the 10 intensive days, the professors expressed a high degree of satisfaction with the work performed by the students and their capability of working in groups.

Final considerations

Schools are excellent resources for neighbourhood activities, community activities and the services they offer in their spaces, and they must be seen as part of a neighbourhood and urban system, so that schools may be an element that experience different activities and are experienced by different social components, at various times of the day and year.

Moreover, it is increasingly apparent that schools represent the physical

location in which the basis of a community is formed. It is the place where citizens are created due to the function of the relationship between pedagogy and architecture and the relationship with the local community and with the wider urban setting. School design forms a part of a network of services and of public spaces, and its accessibility is widened by reaching various social components and, sometimes, taking inspiration from contexts further afield, to give schools, including from an architectural perspective, the characteristic of an identifying element of reference for the entire community.

Bibliographic references

- Consalez, Lorenzo. 2018. "Un ponte tra scuola e territorio." *Territorio*, 85: 80-92.
- Pasqui, Gabriele. 2017. "Buone pratiche in classe." *Abitare* no.570: 86-95.
- Weyland, Beate, and Sandy Attia. 2015. *Progettare scuole: tra pedagogia e architettura*. Milan: Guerini.
- Renzoni, Cristina, and Paola Savoldi. 2019. "Le scuole tra piani, burocrazie e modelli. Il caso milanese." *Territorio* no.90: 50-61.
- Magni, Camillo. 2021. "L'architettura della scuola nei Paesi del Sud del Mondo." *FAM* no. 56: Scuola: pedagogia, linguaggio, società.
- Belloni, Francesca, and Elvio Manganaro. 2021. "Scuole – schulen – schools – écoles – escuelas." *FAM* no.56: Scuola: pedagogia, linguaggio, società.
- Serrazanetti, Francesca. 2021. "Cento modi di giocare con lo spazio. Le architetture educative di Giancarlo Mazzanti." *FAM* no. 56: Scuola: pedagogia, linguaggio, società.

www.letteraventidue.com