UNIVERSITY OF SALERNO | Department of Civil Engineering

Ph.D.	Civil, Construction-Architectural, Environmental and Territory Engineering (XXIX cycle)
Curriculum	Engineering of Structures and Building & Urban Recovery
Coordinator	Prof. Eng. Ciro Faella
Tutor	Prof. Arch. Pierfrancesco Fiore
Tutor	Prof. Arch. Roberto Vanacore
Ph.D. Candidate	Dr. Arch. Pellegrino Carullo

Title of the Thesis

PRESCHOOL AND PRIMARY SCHOOL IN ITALY BETWEEN ARCHITECTURE AND PEDAGOGY. PROPOSALS FOR THE TRANSFORMATION OF LEARNING SPACES.

ABSTRACT

SUBJECT AND OBJECTIVES OF THE RESEARCH

Starting from the recent law provisions contained in the MIUR (Italian Ministry of Education) Plan - and aimed to revamp school buildings, this Ph.D. thesis has investigated **methods and preliminary criteria applicable to the transformation of learning spaces for preschool and primary school, presuming an interconnection among "pedagogy", "architecture" and "technical regulations"**.

The results of the research are therefore to be found in both **pedagogy and architecture**, which have characterized the Ph.D. activities. That is to say, identifying **meta-project guidelines for the transformation of existing spaces for preschools and primary schools in Italy** – after analyzing a complex critical apparatus divided into working phases validated by the choice and analysis of case histories and by the selection of general and technical bibliographies.

This made possible the development of a research based on the widespread knowledge of the phenomenology of the first-level school-system, through the understanding of pedagogical, architectural and legislative values and parameters that have served as the basis of its founding elements, as time passed by. As a result of such an interaction, several **concept** proposals have been put forward to scientifically implement the ongoing debate on the themes of strategic connections for models of "school regeneration", that can affect the quality and organization of the architectural space at the service of Science of Education.

It is clear that such a work presents some critical method- and content-related points. In the first case, it comes to acknowledging that the research identifies different procedures aiming to offer designers a technical and cultural argument-based framework, which is expressed above all through general operational guidelines. A sort of "evaluation and conceptual manual" apart from current "literature", and therefore subject to changes in the parameters adopted. The second case complements the first one: namely, this Ph.D. experience could have continued subsequently as an "applied research" field activity, so as to verify the theses assumed in the foreword and gathered from meta-project results. Due to the general

purposes of the different phases of the research, such a goal could not be achieved in this work and is therefore addressed to other and subsequent scientific research activities.

PHASES OF THE RESEARCH

PHASE I | ANALYSIS OF THE SCIENTIFIC PROBLEM AND THE STATE OF THE ART

- Identification of main themes emerging from the reference scientific literature;
- Drafting of research programme and preliminary index;
- Legislation on school system and school building;
- School building carried out according to the Italian Ministerial Decree December 18th,1975;
- The MIUR School Building Plan;
- Drafting of a reasoned bibliography.

PHASE II | PEDAGOGICAL METHODS AND SCHOOL BUILDINGS

- Pedagogical experiences between teaching and learning spaces;
- The new guidelines of the Italian Ministerial Decree April 11th 2013 for school design;
- Example cases of preschools and primary schools in Italy and abroad.

PHASE III | METHODOLOGICAL PROPOSALS OF INTERVENTION

- Guidelines for school design and main educational spaces;
- Elaboration of meta-project proposals for the transformation of learning spaces.

CONTENTS OF THE RESEARCH

It is worth remembering that the debate on the characteristics of school environments is not an exclusive subject for technicians or designers, but **today is a meeting point for different experts** who, in a continuous exchange of ideas on the themes of innovation and the needs of the school community, are looking for solutions that can interpret the new needs of school users and the demands of civil society.

It is the very same *National guidelines for preschool and primary school curriculum* to stress the need for a learning environment that can host and promote student-centred social activities: "The social dimension of learning plays a significant role. To this end, many are the forms of interaction and collaboration to be possibly introduced (from mutual assistance to cooperative learning, to peer learning), both in the class and through the formation of working groups made up of pupils of different ages and classes"[1].

According to the recently implemented reform of the school system (2008), the organization of the school system – as regards our field of research – sets forth that pre-primary education is implemented in pre-school, which lasts three years and is addressed to children aged 3-6 years, while primary school is compulsory, lasts 5 years and is attended by pupils aged 6-11 years. However, didactic activities are performed in school buildings that are part of the existing public property, seldom undergoing architectural and educational innovation and revamping projects. Only recently a school building plan has implemented, upon the initiative of the Italian Ministry of Education. For the first time in Italian history, in fact, a Program for

[1] http://hubmiur.pubblica.istruzione.it/web/istruzione/prot5559_12

school building works (period 2015-2017) has been set up, including funding of renovation projects, securing works, compliance with anti-seismic laws, and energy efficiency in schools, buildings dedicated to advanced artistic or musical education, or to be used as accommodations and residences for university students, gymnasiums and new buildings.

Apart from the above-mentioned legal provisions, the evolution of architecture for school buildings has shown that the arrangement of classrooms and furniture have changed in line with pedagogical concepts and the renewal of teaching methods. Avant-garde pedagogical theories – spread since the last century – acknowledged the educational role of space and the way it is constructed, in its symbolic, functional, and aesthetic aspects. Such theories also recognized the importance of learning environment, also defined as "the third teacher" by the pedagogue Loris Malaguzzi. Notwithstanding, schools designed by Modern Movement architects – despite acting upon the collaboration of pedagogues such as Montessori, Piaget, Malaguzzi, Papert – did not bring about significant changes in teaching, as, despite introducing new architectural elements, their space organization was again a traditional one: with classrooms and desks in parallel rows facing the teacher's desk[2].
The renewed debate between pedagogues and designers in 1960s Italy led to New Technical Regulations for School Building (Norme Tecniche per l'Edilizia Scolastica, Italian Ministerial Decree December 18th, 1975) being issued and introduced some important topics[3].
After such regulation was issued, a widespread yet fragmentary experimentation took place. Meanwhile, in Italy, the debate enlivening the first decades after World War II dwindled, while research continued in Europe and worldwide, thanks to some architects who started feeling the need to translate pedagogical theories into learning environments and how to reorganize learning spaces[4].
It is recent news that the "New Guidelines for internal architectures in schools" (Italian Ministerial Decree April 11th 2013) have been approved, whose inspiration is drawn from the need to renovate school based on new criteria: school spaces change according to the modifications produced by digital technologies and the evolution of teaching.

With objective foresight, "unusual didactic places" are then proposed, including group spaces, ateliers, exploration areas, agora, corners for presentations on big screens: a number of integrated and complementary environments where groups of young people meet to complete their projects, solve problems, discuss their proposed solutions, catch up with their lessons by working in close contact with more experienced mates on assigned themes. A school that looks to the future must be aware of its past and tradition in order to reinterpret it from a new perspective, that is suitable for new challenges.

It is no coincidence that the thesis "compares" with the "Manifesto for educational spaces of the third millennium": a proposal of **INDIRE**[5] aiming to go over the corridor-and-classrooms model, join together a project group or a school community to discuss different options that can offer school users environments in line with a new way of living and staying at school and interpreting teaching.

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[2] In an article dating back to 1947 (for the magazine Domus, No. 220), architect Ernesto Rogers claimed that to solve education-related problems, a "teaching architecture" had to be developed, as "It goes without saying that progressive pedagogy needs a suitable architecture: functional spaces, adjustable to the complex needs of a teaching method that is not satisfied with simply considering students as a mass with no distinction, but instead intends to encourage the development of each individual".

[3] The school building had to be part of a teaching '*continuum*', set in a social and urban context, and had to integrate with other nearby facilities. Moreover, the term "pedagogical unit" replaced "classroom", and could be determined not only based on age but also according to each student's interests and inclinations.

[4] Herman Hertzberger is the European architect who was most active in the last years of last century in studying and designing school buildings. Hertzberger developed his own idea of Montessori's "space pedagogy", namely aiming to give space a better structure. His concept of schools recalls that of cities, introducing the idea of an educational promenade, where classrooms are like houses connected by means of a road and the square becomes the evolution of the yard, seen as a privileged meeting place.

[5] L'Istituto Nazionale di Documentazione, Innovazione e Ricerca Educativa - INDIRE (National Institute for Documentation, Innovation and Educational Research) is the Italian Ministry of Education's oldest research organization. Since its foundation in1925, the Institute has contributed to the evolution of the Italian school system, investing in training and innovation while supporting improvement processes in schools. INDIRE is the benchmark for educational research in Italy. It develops new teaching models, tries out new technologies for training courses, and fosters innovation redefining the relationship between space and time of learning and teaching (http://www.indire.it/).

CONCLUSIONS

The design of a school – for both preschool and primary education – shall be based on the research of spaces focused on children and their physical and intellectual development. Environments do not simply need to be well-lit, heated and clean, from a merely functionalist standpoint. Due to their structure, instead, school buildings have to actively participate in educational activities, thus contributing to children's education and learning. Starting from Maria Montessori's theories, namely boosting students' independence and their ability to "take initiative", school shall therefore provide spaces suitable to allow autonomous acquisition of practical knowledge and skills, as well as supporting relationships and cooperation. Such pedagogical theories show how children must be able to interact with a physical environment that shall be conceived not only based on children's ages, but also according to their "interests and inclinations". This means designing not classrooms but pedagogical units, that can be so flexible as to welcome different activities, including leisure and open-air activities.

A matrix for the formulation of meta-project proposals as a useful support to the transformation of learning spaces followed the elaboration of this technical and scientific foreword, including the review of INDIRE's proposal – combined with – as already stated – the critical analysis of **design experiences** seen as an example of teaching methods capable of welcoming "everyone", each with their different cultural and social characteristics.