

## ENHANCING HERITAGE THROUGH SCHOOLS' DESIGN/

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**Abstract.** Every time people pass the neighbourhood they used to grow up in, some of the best of their memories come together, not only because schools represent something very special for their inner young souls, but because they are tangible, architectural pieces of cultural heritage that in most of the cases do not change for decades. Not only adults want to take a break and contemplate the whole feeling, but also, if children are around, they need to share with them the experience, and mostly, to outline the ME-MY SCHOOL correspondence.

In countries like Romania, for example, there are the First Romanian Schools, that are not one's own memory, but represent the pride of having a tradition that started with great ancestors. Then, there are the beautiful, decorated schools mostly from the 19th and 20th centuries that "graduated" when the WW2 started, but with the certification of being monuments of architecture. Despite the simplicity of shape and colour, the communist buildings are also of great value because they represent the memory of a contemporary generation, buildings with a great potential of extension and renovation due to simple but good structure, flexible spaces and easy adaptation to fire security or access issues.

Connecting schools, integrating the landscape architecture to create exterior-interior relations of spaces, enhancing the beauty of the facades, shapes or other valuable parts by using light both natural and artificial, technology integrated in the design like new but proper educational screens and gadgets, moving wall, windows or roofs, new sustainable materials, a must for the contemporary exteriors and interior that children need nowadays, architects can definitely revive the memories of a whole neighbourhood.

Education is the most valuable heritage!

Let's innovate schools! It's talked a lot, needed a lot, we just have to move better.

**Introduction.** Teacher-centred learning in front of a blackboard has served its time. Instead, many schools now teach in open learning landscapes with movement and new functional areas. In addition, environmental comfort and lighting as well as questions of energy efficiency and technology have become decisive. [...] Specifically, participatory planning methods and innovative floor plans as well as sustainable design details are

documented. All projects aim to positively influence everyday life and to provide scope for new educational concepts.' [1]

The quote above have been a proof and a relief that after three years of continuous research about the chair and the pencil schools, things have been also researched and have been put under the same question by other specialists in one of the publications of this famous publisher's (Detail) book. Firstly, children need to explore the exterior world, not only to study; secondly, the exterior world is not enough, contemporary children need also to develop and understand their inner selves. Their perception of space, through all their senses, is very important in understanding all these exterior and interior values and the connections between them. As architecture is without doubt one of the finest structured art, specialists in this domain can certainly develop innovative, sustainable, beautiful and remarkable buildings and spaces for individuals and for community. Why? Because the physical characteristics of a building can certainly influence people in many ways, but mostly in school design, enhance creativity and ability to learn.

The first project of the current research was the project of an afterschool, where an old secession restaurant in Targu Mures, Romania, gained its fourth façade as a contemporary approach to the park it looked to. Instead, in front of the park, stood some large pictures with other city attractions on a fence that looked not only superficial, but quite residual after some time. This was the most populated park in the city, nest to one of the most famous zoological gardens in the country. With this project, not only the old restaurant may become available to public and function as entrance to the afterschool, accommodating administration, but also may revive through the restoration of its façade. Its attic might also work for some of the principal's and teachers' offices. A new atrium, an amphitheatre, classrooms, activity rooms and playgrounds, both interior and exterior spaces, are designed with innovative materials and new concepts. An infinity of light can enter the spaces. The furniture and learning activities are also based on Montessori and Reggio Emilia strategies, that tend to use nature as the most important tool. In conclusion, children may benefit from an alternative to the standard afterschool schedule and activities that do not work very well in the actual Romanian context (schools are used also in the afternoons, children learning in the same manner they used to in the morning, for doing homework, usually just through writing). FIGURE 1, FIGURE 2.

This Preschool in Cluj-Napoca was designed last year and is already in the process of being built; the fact that is a real project had had its importance in discovering the real issues of Romania's capability of doing or not doing. First of all, the first design team had quit the project because a legal problem that appeared during the process of obtaining construction permit, because of a neighbour that was a lawyer. Even though community may be happy for having a new kindergarten in the zone, the reality looks different. To take a project and go through a new design phase, including functions that had to meet the constraints and the regulations was difficult, but very challenging for the new design team. Making ends meet it was a performance and a great lesson.

Through the projects above the current research has pointed out that there are some key concepts that are linked and always related and are developed below: heritage, identity-landmark, innovation and technology, sustainability. FIGURE 3.

**Heritage.** In terms of heritage, educational institutions give quality to heritage through their location, urbanistic features, large and beautiful yet functional buildings, and their generous yards. From colourful nurseries with a strict design in terms of health and safety, to primary, secondary -usually modernist schools- and to the grandeur of the universities they are stable points in both time and place for the locality they 'live' in, sometimes for centuries. Many of the aspects above are due to the fact that nurseries are for nurturing, schools are still for 'industrialization' and most universities are for performance.

When it comes to schools, the thought about heritage is far. But the pride of a country may at many points be in the history of schools like the first Romanian Schools (in Brasov, Targu Mures, etc). It can serve as a link between heritage and identity.

**Identity – Landmark.** As Kevin Lynch states in his book *The Image of the City* that physical objects such as buildings serve as public reference points, schools may become landmarks [2]. At least one aspect of them is unique or memorable in the context they exist.

'The physical environment of the school not only affects the atmosphere, but also the actual functioning. You feel the specificity of the school as soon as you enter the door. Whether they are old or new buildings, some schools leave you feeling impersonal and institutional. Others you experience as vibrant and alive. The walls are full of student and teacher work, there are displays, installations, performances and a hum of activity. The tones and features of the physical environment are more than aesthetic'. (our translation) [3].

For Malala, the 2014 Nobel Peace Prize winner and education activist the door to her simple school was the most majestic door in the world.

"For us, the students, that door was a magical entrance to a special world, only ours. As soon as we got there, we would uncover our heads, throw aside our shawls like the wind scatters the clouds, and then run up the stairs.'(our translation) [4].

Schools may encounter in terms of identity in two classical characterizations:

- as *Genius Loci*- the atmosphere of the place:

'History, on the other hand, only becomes meaningful if it represents new concretizations of the existential dimension. In general, the concretisation of the existential dimension depends on how things are made, that is, depend on technology ('inspired technology', Louis Kahn said) [5].

- as *The Memory of Space*, (depending on perception), which gives value to that space

Architects see value in details that have a harmonious composition and a feel they are technology based, innovative. But all people see the memory

of a space they inhabited at a moment in time. When looking at schools, this is for sure one of the building programmes that counts.

Franics Kere **embraced and denied** in the same time, the constraints of cost, climate and the proximity of resources when designing one of the projects he was a Pritzker Prize winner, Gando Primary School, in order to create identity, in that case, uniqueness [6].

When someone thinks about the Primary School, Secondary or the University attended, might not find many similarities between the architecture, the quality of the spaces, the diversity of resources, but it may be as much important to a person or a community to see that the school, the street of the school, the neighbourhood of the school was taken care of, developed, technologized, but also protected as a landmark and for what it represents, keeping its identity while getting along with innovation.

**Innovation and Technology.** In the book *School Buildings-Spaces for Building and the Community* the authors have made a spectacular journey of school design from extensions and renovations to the Neo-Gothic Special School in Kent from 1873 to new schools like the German School in Madrid built in 2015 from scratch. All of them have combined the new technology approaches to the context they sat in.

Extension of most of the existing schools: good structures and good fire protection because of the brick-concrete walls and slabs.

-horizontally > schools still have large yards

-vertically >the structures built in 60s-70-s-80s can bear at least another floor

Schools before 1945 -how can we use them? They are a continuously source of inspiration for designing eclectic interior spaces for high-schools learning and university courses, not very good for primary schools.

From a physical point of view, new schools, extensions, renovations and reuse of old schools, go through a process to implement functionality, structural calculations, safety (fire safety, acoustic safety, health, etc), accessibility and not the least, low carbon emissions. All these can be summed in the following two categories: use of space and materials, techniques and equipment. FIGURE 4.

- use of space

- materials, techniques and equipment. How a contemporary approach for Riaz Primary School in Switzerland is described:

'Construction. The new building consists of a central masonry core and a wooden structure for the facades, floors, and roof. Each classroom has a wall made of compressed mud bricks. These warm-textured bricks are chosen for their thermal inertia and humidity-regulating properties. All these qualities guarantee to the users a healthy comfort and a pleasant interior environment, a building in which one feels good.

Technique. The concrete for the floor slab and the base walls was poured on-site. The prefabrication of the framework allowed the construction time to be limited. A dry screed of poured and levelled wood pellets made it easier to distribute the technique. The mud bricks were installed in the

interiors at the same time as the advance on the facades. The interior finishing work was almost completely carried out by the careful work of the carpenters, without recourse to plasterboard and paint that are often used for finishing. These healthy construction choices leave a pleasant solvent-free after-smell.' [8]

**Sustainability -return to Nature.** In the Romanian context, education is a delicate issue, but not for everyone. In the book Responsible Education, Andrei Marga, one of the reformers in Romanian educational programs, having contact with both politics and universities, could see the problems that nowadays society has with global politics, globalization, democracy that is not finding its way... 'And yet, nothing is possible without education...'

'Even education, if it is thorough, cannot make up for the characteristics of the existing society. In fact, the circumstance in which we are, as humans, on the historical course created by three processes with an overwhelming impact - the emergence of globalization, the triumph of neoliberalism and the digitization of activities.'

'In today's Romania, money is not missing in the first place, as a refrain that prevents changes. New ideas and organizational solutions that lead forward are missing, above all.'

Though, in the context of Romania as part of the European Union since 2017, The New European Bauhaus, an initiative started by the European Commission in 2021 that introduces sustainable solutions to the lifestyle and the built environment as green development may be a chance to change, as all European directives oblige to participation.

Preserving and transforming cultural heritage through this new program includes:

- preservation of existing buildings
- cultural heritage access to anyone
- low carbon footprint
- vernacular knowledge and knowhow with new technologies for contemporary solutions and products connected to local heritage
- attention to cultural heritage (may offer opportunities for renewing our dialogue with history, building new relationship between places and people, ensure the reinvention of a large scale collective present and future lifestyles).

The extension and renovation of Riaz Primary School, in Switzerland, built of course, using a lot of natural materials and sustainable technologies, finds itself in a natural but also cultural well-preserved context, and give the inhabitants the feeling of a 'house'. The extension was generated by the need of after-school classes and care, and turned out to be an example of good practice.

**Conclusion.** Innovation using technology improvements, material use and good research is undoubtedly a part of the imminent development of the society. A permanent positioning on preserving the environment, enhancing what history stamped all over the place and became heritage, taking care of what is memory valuable and not only immediate beauty,

will certainly define an architect that is able to understand in both space and time. As simple as it is, schools' design may depend mainly on space, but how an educational building is shaped depends enormously on past and future(generations).

**Attributions.** We thank to all the people that gave support with the current work: our family of 6 and UAUIM teachers.

#### References.

1. Bartels, Kirstin; Endres, Elisabeth; Hofmann, Suzsanne; Hofmeister, Sandra; Pampe, Barbara; Wies van Mil, Imke, School Buildings-Spaces for Building and the Community, Detail Business Information GmbH, Munich, 2020.
2. Lynch, Kevin, The Image of the City, MIT Press Ltd, Cambridge, Massachuttes, 1960.
3. Robinson, Ken, Creative Schools: The Grassroots Evolution That's Transforming Education, (Școli creative: revoluția de bază a învățământului, trad. Emilia Vasiliu,) Publica, Bucharest, 2014 .
4. Yousafzai, Malala, I am Malala, Polirom, Iași, 2014, pp. 8.
5. Norberg-Schulz, Christian, Genius Loci - Towards a phenomenology of architecture [https://issuu.com/jbfb/docs/\\_towards\\_a\\_phenomenology\\_of\\_architec](https://issuu.com/jbfb/docs/_towards_a_phenomenology_of_architec).
6. Igloo magazine, december2022-january 2023 issue, Igloomedia, Bucharest, 2023, pp. 112-117.
7. Marga, Andrei, Educația responsabilă. O viziune asupra învățământului românesc, Editura Niculescu, București, 2019 pp.5, pp 32, back cover.
8. <https://www.archdaily.com/963353/extension-and-renovation-of-riazs-primary-school-faz-architectes-both>.

#### Figures.

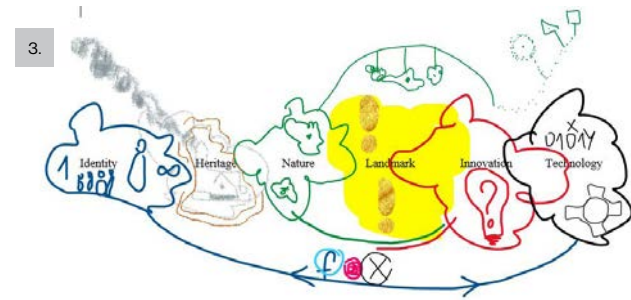
FIGURE 1 – Afterschool project renderings(own work).

FIGURE 2 – Preschool design in Cluj-Napoca (own work).

FIGURE 3 – Key concepts in schools' design.

FIGURE 4 – Schemes of possibilities of extensions in school design.





4. Extension possibilities: LARGE SITE  
A. Horizontally



Extension possibilities: SMALL SITE  
B. Vertically

