
Place and action:

The school building as an enhancer of the learning process

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Keywords

Space use, Evidence-Based Design, School building,
Learning process

Abstract

This paper aims to highlight the relevance of the built space towards society, and more specifically the influence that the school building bears for the learning process, that there takes place. It also intends to emphasize the relevance of studies on space use, assuming that they provide a comprehensive input on the actual occupancy of a particular space, and that conversely present guidelines as an operative design tool when intervening on that or other buildings with a similar brief. Ultimately, contributing for a more complete and effective spatial, social and pedagogical answer to the actual needs and wants of the users, at each particular time, throughout its lifecycle.

Hence, it will regard first the relationship between architecture and society, focusing on the bond between providers and users of the places, thought and lived in. It

will then concentrate on school buildings and their input towards education, considering space use research as a means to understand space as a social «setting» and also a social «influence». Finally, it will address psycho-social studies on spatiality, while dealing with means and techniques within architectural studies concerned with this relationship. Firstly in its generic assertion and secondly and more specifically applied to school buildings.

1. Introduction: Place and action

In recognizing architecture's embedded relevance for society and simultaneously the incidence of the context where architecture is made as its source and product, it is also acknowledgeable the deep relation between the professionals and the inhabitants, and the place with the actions it shelters and promotes¹.

For architecture this relationship between product and use, place and action, bears particular relevance, since it works both ways: space is the set of human action but can also influence behavior (Markus, 1993), and the inhabitants can define space by shaping it to their own needs. Famous sayings like: Winston Churchill's «We shape our buildings; thereafter they shape us» (1944), Walter Benjamin's «For the reader is at all times ready to become a writer, that is, a describer, but also a prescriber» (1937), or Roland Barthes's «The Death of the Author» (1968); all explore Karl Popper's (1972) thoughts on «world three» - the one about the dialogic relations

1. This paper lies within the current study of «Life within architecture» applied to school buildings today, for the purposes of a Doctoral Thesis to be presented in the University of Coimbra, with a grant by the Foundation for Science and Technology, Portugal. It also derives from the previous graduate thesis «The matter of the architect: the Portuguese society and the architect, today», that already discussed the role of the architect and its interconnection to society.

between the products of thought, in this case between: space and society².

This is curiously illustrated in the movie *Le Bal* by Ettore Scola, a non-spoken movie whose characters dance over time in the same set. Peter Zumthor, referring to this movie, reflects on the binomial relation between the set and its characters, over the fifty years represented in the movie:

The focus of the film is on its main characters. But it is the ballroom with its tiled floor and its paneling, the stairs in the background and the lion's paw at the side which creates the film's dense, powerful atmosphere. Or is it the other way round? Is it the people who endow the room with its particular mood?

I ask this question because I am convinced that a good building must be capable of absorbing the traces of human life and thus of taking on a specific richness. [...] At these moments, architecture's aesthetics and practical values, stylistic and historical significance are of secondary importance. What matters now is only this feeling of deep melancholy. Architecture is exposed to life.» (Zumthor, 2010, p.24)

Understanding that space is both designed by the architect as a *cosa mentale* and experienced by the inhabitants as a contextualized object (Lefebvre, 1974), and acknowledging use as part of architecture's intrinsic being, is therefore ineluctable.

After the design process and its construction, the building becomes part of reality, where the needs for which

2. According to Popper (1972) the «first world» refers to material conditions (the space itself), the «second world» to mental states (architectural design as a product of the architect's conception), and the «third world» refers to the theories and logical relationships between products of thought. The logical relations established between space and society belong to the «third world», in a two-way relationship.

it was created start to be answered by its actual inhabitants in real time. This «real time» assertion implies the recognition of a broad range of users and actions that will take place in that space, along with the changeable circumstances that occur throughout the whole space's lifecycle.

2. The bond between the school building and the learning process

This has particular relevance for school buildings, because they have the potential to answer and foremost to enhance the learning process. Schneider explores this relationship, concluding that «School facilities affect learning» (2002, p. 16). Also according to Moore and Lackney (1994), both physical features of the school such as: materials, textures, technical requirements, soundproofing, lighting, thermal conditions, configuration, proportion, area, or integration / segregation of spaces; as well as psychological, social and pedagogical features of the school organism, affect student performance as «mediating variables»³.

Other authors stress this connection between school space, the learning process and student performance. Monahan (2002) considers schools as «built pedagogies», Heitor (2005) as an «educational tool», and more recently, Lippman (2010) construes the concept of «transactional settings»:

«As just as designers must understand that the physical environment evolves in relation to the people situated in it, educators and researchers must acknowledge that the physical learning environment

3. «[...] the physical setting, in addition to more familiar psychological and social variables, has both direct and mediated affects on pro-social and achievement outcomes, the conventional bottom-line quantitative measures of educational performance.» (Moore and Lackney, 1994, p. 13)

assists them in providing opportunities for learning to take place.» (Lippman, 2010, p. ix) «[...] the physical setting, in addition to more familiar psychological and social variables, has both direct and mediated affects on prosocial and achievement outcomes, the conventional bottom-line quantitative measures of educational performance.» (Moore and Lackney, 1994, p. 13)

Basil Bernstein (1977), in the knowledge area of Sociology of Education, points out that schools mimic the social construction of society and William Fawcett (1995) also supports the school building as an appropriate case study for academic research of the space-use relation, due to the variety of general behavior patterns, combined with the variability of small daily happenings that can be generated. Furthermore, both Lippman (2010) and Hertzberger (2008) underline the relevance of working on the school brief.

Thus, it is up to the architect, in his social and professional responsibility, to understand this correspondence and rethink the design process and goals, not just technical or aesthetic, but also semantic, as creators of meaning and social and human development:

«Just as we see learning as second nature and an enlargement of one's space, it should be second nature to architects to prime space to those ends.» (Hertzberger, 2008, p. 9)

There is a wide range of recent literature on today's school buildings and how to translate the current learning processes to spatial features, namely by the Organisation for Economic Co-operation and Development (OECD) - attesting that it is a current and emerging theme. This situation is mostly due to the pedagogical paradigm shift brought by the new teaching practices, the prominence of informal and non-academic spaces, the wide use of



A representation of a Portuguese traditional classroom from the late 1930s, that portrays the traditional furniture and pedagogical layout, but also the iconography related to that particular context, which was aimed to be transmitted to the pupils on the schools.

Photo from the exhibition on the «100 years of Heritage: memory and identity – Portugal 1910-2010», that took place in Palácio Nacional da Ajuda in Lisbon, in 2010, coordinated by Jorge Custódio. Photo credits: Courtesy of Luís Miguel Correia.



*Contemporary classroom for multipurpose pedagogical activities in Quinta das Flores School in Coimbra, Portugal, rehabilitated in 2008-2009.
Photo credits: Carolina Coelho*

information technology, and the social and economic changes, which result in the creation of a new way of understanding the formation of the student and the educator, as well as the teaching and learning profile. School space should thus respond, be adapted to, and strengthen this change, to the current and up-coming social, pedagogical and functional needs, as a vital part of the whole process:

«Educational facilities need to accommodate both the known and identifiable needs of today, and the uncertain demands of the future.» (OECD, 2001, p. vii)

3. Space Use Studies on schools

After recognizing school space as relevant to the actions and outcomes that it provides, conversely it becomes crucial to study use in order to inform on the frequency, range and actors of the actions that happen in that building. Foremost, this information serves as tools to test expected and effective use along the space's lifecycle, realizing first if its social and functional purposes are being fulfilled, and second accompanying the natural and inescapable changes on activities and people's wants and needs, since its completion and throughout its use.

Hence, Space Use Studies foster a dialogic platform between professionals and inhabitants, extending the work of the architect besides the mental design process to the realm of space use, answering more thoroughly to what is required of the space in each time, and lengthening the building's use value in a sustainable manner. These studies act as operative knowledge that inform the architect, during the design process, both on that particular context and case study for future rehabilitation actions on that building, as well as on more general

features of the design as guidelines when conceiving a school building today.

Currently, there is a wide range of User Research Studies, like the ones with a more analytical nature such as: Post-Occupancy Evaluation, Space Syntax, Facilities Performance Evaluation or Usability Studies; or others with a more active contribution from the users, like «self-report measures»: interviews, written reports by participants, surveys, focus groups, narrative techniques, time sampling and diaries (Lippman, 2010).

Specifically, authors like Lippman (2010), Sanoff (2001), Ornstein (1997) and Fawcett (1995), have applied methods of Evidence-Based Design to school buildings. By and large, the relevance in using each method will provide specific results according to the goals and the spatial and social context of each research process, and the acknowledgment of a combination of methods will provide broader outputs. Moreover, it is also relevant to understand the need of updating the techniques for analyzing space use in school buildings, according to the current pedagogical paradigm and foremost the current school spaces, realizing that today's informal adaptable school spaces will ask for specific Evidence-Based Design methods when studying space use.

To conclude, along with the architect's techné and episteme, the recognition of use, needs, change and people, reminding Alberti's (1485) *concinnitas* as a balance between distinctive but relevant inputs, will lead to a more informed and responsive design, participated by all the stakeholders and lasting throughout a longer period of time. In this manner, the design process becomes a synthesis of the several contributions and the built object a conjoint product of the circumstances, the outputs of the multiple subjects involved in the process, and mostly of the contribution of all professionals and



Present-day library in Quinta das Flores School in Coimbra, Portugal, rehabilitated in 2008-2009. This library provides technological equipment and a respective spatial layout as a contemporary learning environment.

Photo credits: Carolina Coelho

inhabitants, in order to provide a more thorough answer to what is asked of it from the beginning.

Specifically, in the case of the school building, the incorporation of Evidence-Based Design outputs in subsequent schools' design processes, aims at potentiating the learning process in each time, for a more full use, broader range of activities and inhabitants and a more enduring building for the future, that acts as a community's cultural and «social hub» (Department for Education, 2010).

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