



## Architecture for Education: Cities, Campus, Buildings, Classrooms

**Pablo Campos Calvo-Sotelo**  
Universidad CEU-SAN PABLO (Spain)  
[utoplan@telefonica.net](mailto:utoplan@telefonica.net)

### 1. Introduction: principles on Education

In the current international University situation, it is time to remark an important assumption, namely, that good Architecture consolidates the good University. This conviction lies on some principles:

Education is an affective event. The mission of a University is the integral formation of human beings; consequently, that transcendental process requires necessarily a sensitive approach from faculty to students. As stated by the Spanish philosopher Jose Luis Sampedro, "education is a sum of love and provocation".

Education is a collective act as well. It has been demonstrated through the history of institutions addressed to this social function that a group progresses more than the individuals in the genesis and transference of knowledge. As a consequence, a University campus becomes an ideal environment where to build up a true community of learning and research.

Education is also a sustainable act, bringing the Long Life Learning philosophy.

And Education is a spatial act. If human contact is necessary component of integral formation, that activity has to happen within a physical framework; thus, Architecture plays a key role, as the material host of such a relevant relation.

### 2. Proposal of an innovative paradigm: the "Educational Campus"

Recent studies, such as Pink's: "A whole new mind: Moving from the Information Age to the Conceptual Age" point out that IQ accounts in a reduced portion of career success: just 4% - 10%. (Pink, 2005). Consequently, we must ask ourselves what factors account for successful student learning? Amongst others (curiosity, challenge, etc.), the quality of space plays a key role in motivation. University Architecture has the essential aim of modifying human behavior, fostering visual comfort and psychological wellbeing. As suggested by the German professor Rudolph Arnheim:

"The Sensualist philosophers have reminded us forcefully that nothing is in the intellect which was not previously in the senses" (Arnheim 1962, p.2)

Within Europe, Higher Education in its built form has not shown in the last decades enough energy, as reported in the case of Spain by acknowledged professors such as Antonio José Campesino (Campesino, 1995), or Josefina Gómez-Mendoza, (Gómez-Mendoza et al., 1987).

The "Educational Campus" is a concept that was born in 2005, together with the design of the new Villamayor Campus of the University of Salamanca, in Spain, and published in the Review "Programme on Educational Building" by the OECD (Campos, 2005) and in the books "Spain-Campus of International Excellence" of the Ministry of Education (Campos, 2010) and "Identity, Innovation and Environment at Spanish Universities" (Campos, 2011).

University Architecture transmits added value to the Institution: the sense of human habitation on Earth (Purini, 1980). If the built environment does not wholeheartedly relate its users, it is an empty shell. Amongst the values that the design of physical space should look to foster and proclaim, the following ten may be considered, as principles of the "Educational Campus":

1. Utopia and Integrated Planning. Creation of integrated planning strategies for universities, so giving shape to an evolution enjoying wide freedom and flexibility in both space and time, based on the insight that to create a university precinct is not to formalize a mere object of architectural and planning technique, but to frame a living process.

2. Community of Learning and Research. Stimulation of personal contact and the integration of multiple functions, thus encouraging the formation of a fully fledged community of learning and research where the human scale prevails throughout the various loci, fostering a "sense of belonging" in the university student. By carefully studied design, the physical setting must form bonds of empathy with the human being inhabiting it, such that urban planning and architecture act as a spur to engagement with study and research, with fellow students and mentors, and with the academic experience as a whole.

3. Spatial Harmony. Crystallization of a global aesthetic in the configuration of its architecture and urban planning, being destined as they are to form part of the host society's collective memory. The physical embodiments of institutions of learning must be something more than an "equipment" of built surfaces; it must concern itself with visual education by designs enacting coherent spatial orders in which as much heed is paid to built volumes as to open spaces. The campus, as the body and material reality of the university, is the lesson that first meets a student's gaze; it is a "three-dimensional textbook" in tectonic corporeal form.



4. An Emotional and Intellectual Embrace. Embodiment of a spatial metaphor of the university's "emotional and intellectual embrace" by means of an ordering of the precinct deliberately concerned with its impact on and empathy with the community. The plan, volume, form and texture of the various architectural constituents of a campus must be directed toward fostering the psychological well being of those inhabiting the centre of knowledge.
5. Nature and Art. Incorporation of Nature as a cultural asset, through integration in an overarching whole governed by a rule of "unity in diversity". The different elements – buildings and open spaces – should construct a physical habitat expressing the vocation of a campus as a cultural artifact endowed with curricular content of its own for study and research. To this there could be appended further outdoor and indoor zones for exhibiting artwork, providing a supplementary educational experience.
6. Image and Accessibility. Outward projection of a powerful image in consonance with the university's vital missions of teaching, research and engagement with society. Fostering the values of conceptual and physical accessibility, it must militate in an intense sensibility towards the local culture and traditions, in their full social, geographic, cultural and architectural meanings.
7. Adaptation to the Environment and Sustainability. Adaptation of architecture and urban planning to the surrounding geographical and climatic conditions, by leading the way in the university's stance towards the environment, biodiversity, climate and sustainability, its choice of materials and technical construction solutions, and its use of mechanisms that recruit renewable sources of energy and exhibit an environmental sensibility.
8. Memory and Avant Garde. Honoring of the memory of planning and architectural paradigms, inherited from the tradition of "places of learning", as a source of intellectual resources that nourish design. Both wholly new projects, with their wide freedom to experiment with form, and adaptations of pre-existing buildings (as testimony of a positive change in previous functions) should imbue themselves with a sense of modernity and the avant-garde, lending lustre to the intellectual identity of academia.
9. University-City Relationship. Creation of university-city synergies, encouraging the active presence of academics and sites of learning in social and urban contexts – so that both spheres can reciprocally nourish efforts towards innovation – and enlist the efforts of other institutions for the sake of an all-encompassing university project.
10. Innovative Teaching and Learning Modalities. Design of places that inspire and foster innovative forms of teaching and learning as part of a holistic educational project, so that physical alternatives to the conventional lecture hall should leave behind obsolete, inert roles and become "intelligent" locations that stimulate the creation and transfer of knowledge and a salutary exchange of views in the teacher-student relationship.

### **3. Cities, precincts, buildings and classrooms**

The "Educational Campus" involves four consecutive spatial scales.

The first scale frames the relation between University and City. When located in an urban environment, the University's physical representation projects an important statement about the positive benefits that accrue to both town and gown.

The second scale focuses on the precinct ("campus"): an integrated environment made up of built volumes and open spaces, the latter where the natural environment has a key part; campus express metaphorically the unpredictable character of modern Education (Turner, 1984, p. 304).

The third scale applies to the building, as an autonomous piece of Architecture. The division of its interior space, partitions, or mobile screens adaptable to different learning/teaching modalities, is the neat expression of the University's engagement in the promotion of alternative learning environments.

The fourth and final scale is the classroom. Alongside the formal amphitheatre, different forms of "teaching cells" can be designed, thereby extending the variety in both the University's range of programs and in the settings in which their contents are dispensed.

Within classrooms, flexibility and visibility should be present in the physical premises of education. Universities are complex organizations and variable. Hence, before tackling the issue of the four scales of the "Educational Campus", some basic principles are in order. Architectural units within an educational complex serve as "3D texts" and very especially so when sustainability is built into the design goals of universities:

"Transparent architecture and engineering systems are ideal in a learning setting because they can engage students imaginations and spur learning about buildings as 3-dimensional textbooks" (Nair, & Fielding, 2005, p. 80)

Instructing capacity of Architecture, an idea involved in the concept of "Educational Campus"- As David Orr remarked:

"The curriculum embedded in any building instructs as fully and powerfully as any course taught in it." (Orr, 2002, p. 137)



#### 4. Conclusions: utopia, space and place

Good Architecture fosters good Education...and a contrario.

A University environment, including both Architecture and open spaces, ought to express a special engagement to its specific natural (landscape, ecology and climate), social and urban context. The paradigm of the "Educational Campus" can guide Universities towards excellence, as well as providing adequate criteria for the adaptation to the European Higher Education Area, in the case of institutions of the Old Continent. The window of opportunity, which the EHEA has opened up, reinforces the importance of planning, both as a technical and an ideological lever to help Universities to improve their physical bodies.

University planning has many faces. Converting ideas into practice is the business of Campus planners (Dober, 1997). This paper has examined one face in particular: viewing planning through the "Educational Campus", as the innovative tool through which the energies of a utopian vision are harnessed to meet a purpose that is realistic, realizable and operational. Throughout their History, Utopia has always been a source of critical inspiration for Universities in their unceasing quest for renovation.

University Urban Planning & Architecture provide the frame for an on-going and ever-renewed dialogue between buildings and individuals, a dialogue that transcends the mere supply and logistics of available areas. Artistic intention, clear and unambiguous, incorporated into and emerging from, the design of the many complexes that make up a University, is the *conditio sine qua non* that ensures a "campus" built is also an "Educational Campus" with a clear commitment to innovative learning that reflects the goals and ambitions of the European Higher Education Area. The Programme "Campus of International Excellence", launched in 2009 by the Ministry of Education of Spain, has assumed this new concept.

The designing of urban&architectural spaces is an all-consuming vocation and this for two main reasons: first, those spaces express – or can be made to express - certain values -sustainability and aesthetics, for instance-; second, they sustain creative, human contact, as the basic value on which the University is founded.

Universities must pay critical attention to the design of their physical facilities if only because the quality of learning is intimately related to the quality of the Architecture that houses it.

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