

Environmental sustainability in the Italian architectural teaching

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The paper collects some research and teaching experiences done over the last few years in the field of the environmental design of Architecture.

Particularly the contribute try to analyze, by a critical review of this experimentations, potentialities and limits of the application of sustainable development's and circular economy's principles into the Architectural field.

All the students's activities have been oriented on a systemic design approach, based on the evaluation of the environmental implications of architectural choices throughout the life cycle of the building. To this end, references to the main environmental design and assessment methodologies such as bioclimatic design, ecodesign, life cycle design and life cycle assessment was fundamental.

These design methodologies have been tested, at various deeping levels, both in the design of new neighborhoods and buildings and in the energetical and environmental refurbishment of existing ones.

Coherently with the current Italian government guidelines for land use reduction, design choices regarding new buildings have always been accompanied by a preliminary assessment, related to the opportunity to respond to the new needs through the reconversion of existing buildings, especially the historical ones very diffused in Italy.

Experiences done have evidenced the need to improve the control level of project's environmental impacts, especially in its early stages, through a deeping knowledge of available resources (materials, energy and enterprises) so that decisions can be oriented towards a real feasibility and sustainability. Furthermore, have also been able to detect the fundamental role played, on the urban scale, by the availability of primary data on microclimatic conditions of the site, on the basis of which orienting the localization choices. This information, also essential for the bio-climatic configuration, needs to be integrated at the building level by further primary data regarding the eco-profile of materials and products used, to create a complete environmental picture of the building itself.

Apart from the architectural outcomes, the adoption of these methodologies by the students has allowed them to increase their environmental awareness and stimulate their attention to the development of sustainable design solutions.

It has also allowed the development of innovative functional hypotheses, capable of producing significant improvements in the living quality of new and existing public buildings and spaces.

It confirming the fundamental need to accompany the political programs choices with realization hypotheses capable of prefiguring the outcomes of its.