SCHOOL BUILDING HERITAGE: STRATEGIC PLANNING OF FUNCTIONAL AND ENERGY RENOVATION ACTIONS

Key words: existing school buildings, renovation, planning processes, strategies, meta-design

PhD: Giulia Olivieri Tutor: Prof. Andrea Boeri

The research deals with the theme of the Italian school buildings renovation, that represents a key topic for a number of PA in the near future, relating to the size and complexity of this public heritage. The school building has been widely investigated in the last decade, outlining the lacks and the outdated conditions affecting it without maintenance actions being able to face them due to the progressive contraction of available economic resources.

As a consequence of that, the need to plan and schedule the renovation actions with new methods is emerging, in order to achieve more effective initiatives according to the current budget constraints.

In this general framework, the research focuses on school building stocks, (from kindergartens to the first level of secondary schools), grouped according to the owner PA and located in a geographically delimited area.

The multiple perspective through which the renovation issue can be approached and the great variety of problems affecting the school building stock – from seismic safety to functional arrangement, from energy efficiency to equipments safety – makes the planning activity difficult and expensive.

The research provides new tools aimed to make the planning activity of public works faster and more efficient.

The first goal consists in a multi-criteria evaluation tool that supports the decision making processes by organizing a comprehensive knowledge of the problem, based on some predetermined criteria, selected to indicate in which schools of the stock the PA should concern first. Adopting the envisaged methodology and tool, which allow to compare qualitative and quantitative data, is possible to provide a hierarchy of schools, listed by priority of action.

The second goal is the elaboration of guidelines for a meta design, in order to prefigure the physical and environmental facilities of the schools of the future; the research develops a filing system aimed to gather and display some alternative design solutions, organized according to key topics.