TITLE
The Climate HubLAB: Experimental Education Activities Fostering Environmental Imagination in Climate Adaptive Design

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ABSTRACT

Increased awareness about environmental implications of human activities has required architecture schools to revise their curriculum in a way to include methods and tools for reducing environmental impact of buildings. In 1955, referring to structural design, Pierluigi Nervi stated that architecture education should limit itself to "correctness", equipping students with the ability to properly dimension structural elements. However, Nervi himself recognized that the ability to creatively conceive a structural system, is "as aesthetic sensitivity, an essentially personal aptitude". A poor imagination is often responsible for unhappy buildings (Gio Ponti) and only when adding "something extra – a dream, a desire, an imagine" architecture moves from pure construction to something extraordinary (Renzo Piano). Question is therefore how much numerical concerns can be embedded in architectural education while still ensuring that students' creativity and imagination is fostered.

Courses in Climate and Built Form at the Norwegian University of Science and Technology have been structured as a sequence of pedagogic modules where students are trained in the line between environmental control and environmental imagination. Teaching and learning activities have been planned in a way to let students correctly solve numerical issues for climate adaptation while using results of their analyses for imagining new architectural scenarios. In 2024, an experimental intensive design workshop was developed with the purpose of letting students solve environmental design issues based on a series of experimental design activities. Experimental physical models were built in different scales to let students grasp theory behind solar design and understand boundary conditions for the development of their projects. Abstract experimental models were later used as the basis to define their projects on the basis of a process of synthesis.

This article will describe teaching and learning activities in the workshop with a particular insight on tools and processes used for translating the result of numerical analyses in architectural scenarios. Reflections will be related to experimental learning theories and discuss how creative experimental form-finding processes can be used to serve processes of synthesis.