27 The Design of A Test Program For Basic Design

Zhang Lei
National Professional CAAD Lab, Southeast University, China

Within the whole range of methods available in the teaching of design with computer the “Exercise” mode, seems to be one of the most productive.

Not only the student but also the teacher is involved in a step by step process of search, discovery and development.

The continuous and controlled building of complexity in architecture design are the underlying issues.

The student models in decussate steps, exploring, testing, discovering and thus build a “repertoire” which combines knowledge skills, experience, attitudes as well as methodology.

Symbiotically related the teacher prepares the exercise, one might call the process applied design research.

Since based upon research, the teacher structures the learning process defining the what and why by indirect means. Leaving the how to the student’s initiative and inventiveness.

The design of the design or the design of the learning process poses one of the real challenges to the teacher.

In the case of chains of exercise the interactiveness of the student and teacher are of specific interest, since feedback loops add to the process.

The following test program is directly related to this line of thinking. In it a “teacher” is asked to develop a simple chain of exercises based on a given “theoretical model”. Thus building his own experience in basic design. In this test run the student is introduced to the concept of continuous space as well as the notion of architecture form as the interaction between space, site and structure a course. It could be seen as a basic model since we could have much more complex resolutions if we change the given elements and limitations.
ORGANISE AN ARCHITECTURAL SPACE USING GIVEN ELEMENTS.

COLUMN 0.3X0.3M 15M
LONG WALL 15X0.3M 15M
VOLUME 3X3M 15M

LIMITATIONS:
- GIVEN SPACE DEFINING ELEMENTS
- 3M GRID
- NO SPAN LARGER THAN 3M
DEFINE A CONTINUOUS ARCHITECTURALLY GOOD SPACE
COLUMN  0.3X0.3M H3M
LONG WALL 15X0.3M H3M
VOLUME  3X3M H3M
ROOF  3X3M 4UNITS
ROOF SHOULD BE ON 3M GRID
IN SUPPORT OF THE DEFINED SPACE
NOT IDENTICAL BUT IN DIALOGUE
STRUCTURE: 0

SITE: 0

SPACE

DEFINE A CONTINUOUS ARCHITECTURALLY
GOOD SPACE
COLUMN 0.3X0.3M H3M
LONG WALL 15X0.3M H3M
VOLUME 3X3M H3M
ROOF 3X3M 4 UNITS
FLOOR
FLOOR SHOULD BE ON 3M GRID
IN SUPPORT OF THE DEFINED SPACE
NOT IDENTICAL BUT IN DIALOGUE

VERSION 1

VERSION 2

VERSION 3
DEFINE A CONTINUOUS ARCHITECTURALLY GOOD SPACE

SITE STEP DOWN 0.75M
ADD 1 TREE
ADD 1 RIVER

ELEMENTS SHOULD BE ON 3M GRID IN SUPPORT OF THE DEFINED SPACE
NOT IDENTICAL BUT IN DIALOGUE
DEFINE A CONTINUOUS ARCHITECTURALLY GOOD SPACE
CONSTRUCT THE ROOF STRUCTURE IN CONCRETE UTILIZING ITS MATERIAL PROPERTIES
ORGANISE THE STRUCTURE INTO PRIMARY AND SECOND ELEMENTS
Structure

Site: Space

Define a continuous architecturally good space
Construct the roof structure in steel utilizing its material properties
Organise the structure into primary and second elements