Mock-up System Wageningen: development, limitation and future

drs. ing. Ruud H.J. van Wezel

Abstract
A brief description of the development of the Mock-up System (MUS) in the context of the Wageningen training program. The students are first taught some keywords in understanding of the building process. They are then trained to express how they want to live (theory) and later on they confront themselves with what they have built in the MUS (practice). Besides being an educational tool, the MUS is used for pre-building evaluation and research questions. The drawbacks or limitations of the system (outdoor reality versus indoor simulation) and future use by different target groups are also discussed in this paper. The power of the MUS is, and will continue to be, the concrete building of communicational results and the generation of communication by doing so.
Introduction

Wageningen is an agricultural university with training focused on flora and fauna but also on the human dimensions of societies. The department of household and consumer studies has three major orientations: economy, sociology and technology of households. In the latter field aspects as for instance textiles, technical equipment and habitat are studied. In the sixties the Mock-up System was developed and presented to students as a tool to facilitate the dialogue between parties during the building process. So first of all the MUS was used for education in what we called 'ecology of habitat', a field of study where social and technical aspects of design and living are interrelated. Further on I will discuss two other possibilities of the MUS: as a support for specific targetgroups and as a research tool.

Training

In a period of six weeks one professor can train up to 15 students, in sessions of a morning or an afternoon every day, in the theory behind the mock-up system, give them support in drawing a lay-out and in building a scale model (1:20). The basic assumption is that within a household, its members do all kinds of activities. These activities are related to each other and have a spatial component. Students are stimulated to articulate their personal schedule for daily, routine household activities. This consciousness-raising phase is ended with a relation diagram on a velvet board. From there on discussions are held to develop an ideal-typical lay-out of a dwelling. A scale model is built and scale interior elements are put into it.

In this phase of the process students are not much limited in expressing their views. Bureaucratic and technical rules are not yet presented. In our department we have the possibility of placing the scale model under a so called enthoscope, a technical device with lenses and mirrors, which projects a picture on a television screen.

One entire day spent building a scale model (MUS information adjoint) rounds off this educational program. With
technical assistance of the department staff, students can
build one floor of a house in one morning session. Discussions
between the students about the functional and relational
aspects of the building are encouraged by a simulation game of
real household activities. Here we see quite some limitations
of our MUS, that is to say limitations in the of imitation of
reality. You can become very philosophical about this, but we
in Wageningen still believe that the deconstruction of a
concrete wall is best done with a pneumatic hammer and not by
an intellectual discourse. We have problems with the type of
floor we use (clean but very slippery), with the un-papered
walls, no ceiling or roof (to be able to video tape the re-
sult), with the doors (we don’t yet have adjustable doors) and
with the relationship between the inside of the dwelling and
the outside (the MUS laboratory is in a basement of our offi-
ce).

Support in communication

Our MUS is secondly applied in the interests of all kinds
of groups in the Dutch society (policy makers, architects,
owner-occupiers, tenant-associations, elderly, central-living
groups etc.). The theoretical part as described above for the
students is left out in working with the groups from outside
of the university. Building is started right away from the
lay-out people bring to us. Discussion is held during building
and on evaluating the 1:1 result. Architects with their com-
missoner, or future users/occupiers and policy makers are
communicating: expressing their (sometimes unconscious) norms
and values, their way of caring for a house, their way of
doing housework.

As the housing market changed dramatically in the 80’s,
we saw our 'traditional' MUS users coming less to the labora-
tory. In the 60’s and 70’s the participatory groups involved
in urban renewal came to discuss building new homes. In the
80’s the topic of discussion changed into the maintenance of
the housing stock. Development of a lay-out occurs rarely.
The government's interest for housing diminished during the
80’s and market forces got more freedom. On the other hand,
we in Wageningen think that the MUS could gain more interest again in the 90's. Partly because of the trend, stimulated both by government and by social change, to let people live as long as possible in their own house, independent of professional care. So we see 'new' groups using the MUS: physically handicapped, mentally retarded, elderly etc. This demands special efforts from the supporting staff of the laboratory. And technical adaptation of the system itself is required.

Research

Research is the third field of activities that the MUS is used for. Students for their graduate theses, scientific staff of our department and professionals from outside the university are using the MUS for specific research projects. We will show you later in the conference a video where you can see three alternative bathroom dimensions presented to users of wheelchairs. The central research question was which dimension would be optimal for the users? Technical limits of our MUS are for instance that we are not able to easily adjust interior elements such as kitchen sinks. If we want to be of full service to our increasingly diverse target groups, we have to work on making the MUS more flexible and on storing insights and measurements (unhomogeneous data) with modern equipment.

Our experience is that people working with this box of bricks are very stimulated and we expect that this will continue to be the case in the future.