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A multidisciplinary approach

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The principles of the Design Education

At the Bologna conference in 1999 the ministers of education from 29 European countries agreed to homogenize the structures of higher education within Europe. This agreement significantly influenced the organization and the content of the architectural design education at the Eindhoven University of Technology. Since 2000 the Department of Architecture is working on a new structure based on the Bachelor and Master model. This implies, in opposite to the former system, the division of the academic education into two phases, each to be completed with a separate degree, namely Bachelor of Science and Master of Science.

The adopted pedagogy, the chosen educational method and the structure of each design course depend on the phase of the study. Undergraduate students are obliged to follow a multidisciplinary design program. The multidisciplinary approach is certainly the most significant aspect of the design education in Eindhoven. Those students who are studying design can chose between the profiles Architecture-Technology and Architecture-Urban Design.

The main objective for the undergraduate design studios is the education of primary design skills concerning architectural space, urban structures and building technology, as well as the ability to integrate these issues into a broader theoretical, cultural and historical framework.

In the undergraduate courses the students work on primary urban patterns and morphologies, elementary architectural typologies, supporting systems and environmental technologies.

The design courses are strictly structured and the main goal is to generate a thorough understanding of the cognitive, conceptual and sensual aspects of design.

Students who satisfactorily complete the three-year undergraduate program can choose to follow up a two-year Master Program of Architecture. Although the design education in this phase focuses on particular architectural objectives, the multidisciplinary approach is still forming the backbone of the offered courses. Due to this concept, the topics of the design studios in architecture are always related to topics of urbanization and urban culture, architectural engineering or history and theory of architecture.

In the Master phase theoretical as well as professional projects are offered. Students investigate and work on complex design proposals, which are related to the PhD program of the Department of Architecture. The professional projects are linked to recent urban, architectural and technical themes and very often these projects come into being in a close co-operation with the Department of
Architecture and ‘clients’ like local governments, cultural institutes or housing cooperatives. These ‘clients’ are interested in a free exploration of issues that they work on, and it seems a perfect solution to have students investigate these matters in architectural courses. The design studios become experimental laboratories where motivated students reflect the architectural practice.

**How do I teach?**

*Dynamo Dwellings Design Studio*

I will explain the design approach at the Department of Architecture by an example. The Dynamo Dwellings Design Studio is developed in a co-operation with the Department of Urban Planning of the City of Almere and CASla, the Centre of Architecture and Urban Design of Almere.

Almere is a fast growing newly built city in the man-made polder landscape finished in the 60’s near Amsterdam. The past of Almere stretches no further than the contemporary history of designing and building, the orientation towards the future is predominant. Planned as a suburb Almere now faces serious ‘branding’ problems. Due to its boring image, the city seems not to be attractive to many young people. But the cities municipality is highly ambitious to turn the stagnation into development and intends to work away the image of a sleeping city by offering brand-new dwellings especially designed for students and young employees of enterprises located nearby.

For that purpose students at the TU/e were asked to develop new architectural concepts for this target group. Five plots, in the centre as well as in the periphery are selected as locations for this project. During the course the meaning of flexibility should be analysed and the influence of different lifestyles on spatial organisations should be investigated and finally the design proposal should attract young people.

On the other hand the proposals should also be realistic, inexpensive, and include commercial and recreational activities too. A multidisciplinary approach was chosen to meet all these demands, but the co-operation between students of Architecture and Real Estate as the most optimal way seemed unusual, even at TU/e with its tradition in multidisciplinary education.

In general design studios take 10 weeks. The students are working for about twenty hours each week on their projects and meet with their supervisors once a week. The studio ‘Dynamo Dwellings in Almere’ was run by a multidisciplinary team of teachers of Architectural Design and Real Estate. External experts specialized in flexibility and advisors of the Urban Planning Department of the City of Almere. During the course, various topics were discussed in lectures.

Each plot was investigated by a small project group of three students in Architecture and one student in Real Estate. The function of the latter was to make up a realistic financial inventory of the plot, to determine the brief and supervise the design proposals on their feasibility aspects.

The architects had to analyse the qualities of the context, as well as the organization patterns of comparable projects with a special attention to spatial flexibility. In a second step they should develop design proposals which deal with the goals such as described above. During the course, the most exciting discussions emerged about the aspects of the different lifestyles of young people and the culture of the mtv-generation in general.
How satisfied am I?

The supervision and the lectures by external supervisors and advisors with their different perspectives on topics concerning the course had an extremely positive influence on the development of the design and real estate proposals. Due to their participation, the often-clausrophobic attitude of academic design education was replaced by a new approach. Now spatial issues are explored, investigated and discussed within the framework of the ‘real’ world. During the course students were more than once forced to deal with restrictions and criticism given by external supervisors. It occurred that the criticism was quite tough and controversial to the design attitude. And this is just the point. The experience that restrictions can lead to stimulating design proposals was certainly one of the primary eye openers of the course for students as well as teachers.

The multidisciplinary co-operation between Architecture and Real Estate was unusual but very successful. Students learned to communicate, to argue and to convince within a multidisciplinary team. This process was not always pleasant, the attitude of the designer often clashed with the manager’s point of view. The architects reproached the managers to have a lack of vision and experimental approach. On the other hand the architects were criticized as unrealistic and egocentric dreamers, interested only on the form without giving any attention to function, use or budget. This clash of perspectives or cultures turned out to be very stimulating.

The final for ‘Dynamo Dwellings’ was an impressive exhibition of all design and real estate proposals in the City Hall of Almere and an excellent project publication.