

Schools With Future Value

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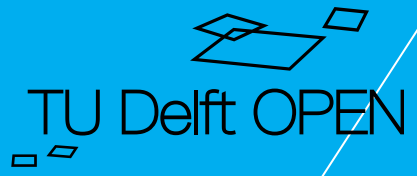
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Conference for Artistic and Architectural
Research & Collective Evaluation of Design-driven
Doctoral Training Programme



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Book of Proceedings

Rec — om —men— da —tion

**Conference for Artistic and Architectural
Research & Collective Evaluation of Design-driven
Doctoral Training Programme**

Faculty of Architecture and the Built Environment,
Delft University of Technology

The Netherlands, Delft, March 28 – April 1 2022

Recommendation Book of Proceedings Colophon

CA²RE+ Delft RECOMMENDATION: Conference for Artistic and Architectural Research & Collective Evaluation of Design-driven Doctoral Training Programme

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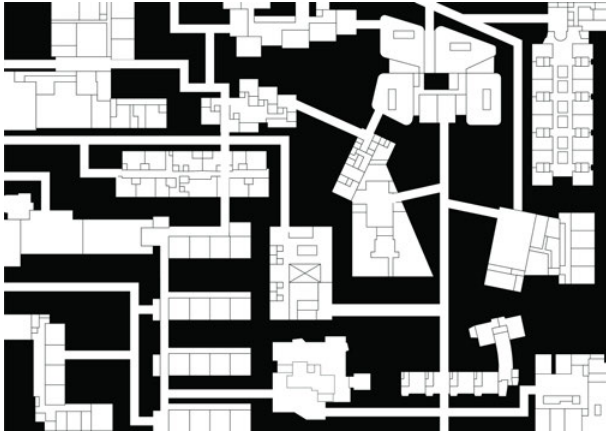


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Schools With Future Value

Yağız Söylev, TU Delft



Initial stage of a funded research-by-design project, pre-doctoral

Supervisor: Bart Reuser, NEXT Architects

School design, typology, programmatic diversity, social infrastructure

Abstract

Schools with Future Value investigates the school buildings as public buildings and expands the definition of their value with architectural and social aspects beyond their education function. Schools are increasingly becoming social catalysts in the Dutch context, providing a meeting ground for students, parents, and neighbourhood inhabitants. Despite their significance on society, the school buildings are among the most cost and space-efficient buildings, resulting in poor quality and minimum possible spaces optimized only for the purpose. The uncertainty of the future use of these buildings adds to the further diminishing of the ambition in design and development processes. The project aims to conduct a typological analysis of the school buildings' social, spatial conditions and pedagogical aspects; and finally, propose new school typologies and generic spatial strategies that resist the limitations of current design trends and financial models while offering design possibilities for future adaptation.

DDR statement

The architecture of education buildings is a crucial yet complex and interdisciplinary field that requires critical investigation to reflect and reshape the cities and society. After researching the transformation of education buildings from a historical perspective, I realized that the DDR approach is crucial to grasp these projects and their processes. Different aspects of schools can be probed in isolation for analytic review, yet their integration can only be observed by the intuitive nature of design and reflection iterations. Furthermore, I find the opportunity to tap into tacit knowledge¹ inherent in school design processes due to my background in practice and my collaboration with the architects and engineers in this DDR project.

Design is applied in two ways throughout the project. Firstly, design is used to analyze school buildings' social, spatial, and pedagogical aspects. I am conducting a typological analysis on the school's organization, urban connections, and potential for adaptation. Reproducing the drawings of these schools will help synthesize the ideas and strategies while providing design tools and guidelines. Secondly, research-through-design is used to propose new school typologies by integrating generic design strategies and guidelines developed in the research phase. Design and research phases are conducted in parallel, and the feedback loops between multiple iterations are the key moments to revise and reflect on the research findings and methodology, as well as the design direction. The generic design approach creates possibilities for design to become a research method.

Schools with Future Value investigates the school buildings as public buildings and expands the definition of their value with architectural and social aspects beyond their education function. Schools are increasingly becoming social catalysts in the Dutch context, providing a meeting ground for students, parents, and neighborhood inhabitants.¹ Despite their significance on society, the school buildings are among the most cost and space-efficient buildings, resulting in poor quality and minimum possible spaces optimized only for the purpose. The uncertainty of the future use of these buildings adds to the further diminishing of the ambition in design and development processes. The project aims to conduct a typological analysis of the school buildings' social, spatial conditions and pedagogical aspects; and finally, propose new school typologies and generic spatial strategies that resist the limitations of current design trends and financial models while offering design possibilities for future adaptation.

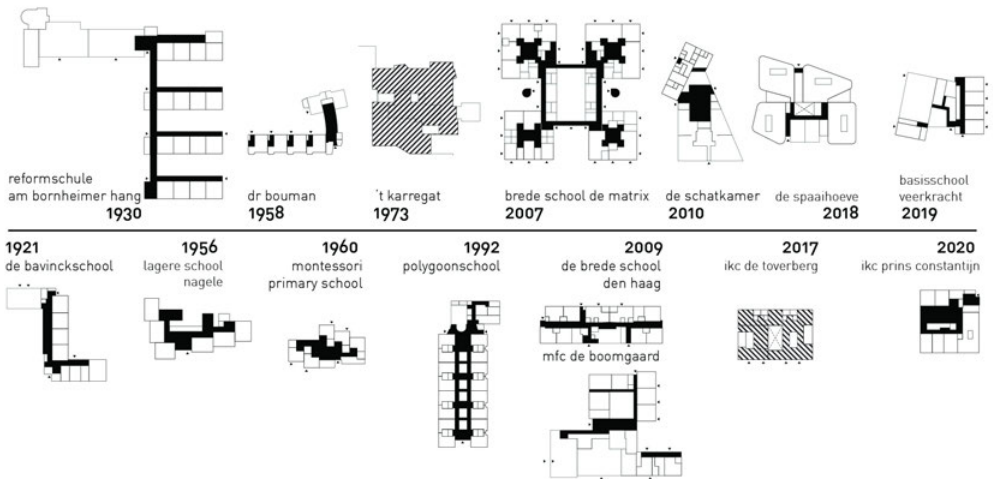


Figure 1

The current demand is to design more sustainable, even completely circular schools while minimizing the costs. This creates a great gap between wish and reality, and the ambitions are reconsidered and confronted from multiple sides. However, the discussion mainly revolves around new materials, building technologies, and energy requirements. What is left unconsidered becomes the school typologies and spatial design in addressing the issues of education, building performance, and sustainability. Dr. Bouman, an example of the Groningen type of school, shows how the issues of hygiene² were solved spatially in the 50s, through individualized access to classrooms, their connection to outside space, and spatial qualities to maximize the natural light and ventilation, such as the high ceiling and skylights.³ This DDr project aims to reintroduce the abandoned spatial qualities to the debate and make a case for the importance of design thinking alongside the transdisciplinary approach for the education buildings.

The places of learning are spatial manifestations of social and pedagogical ideals. Thus, it is crucial to understand the motives behind their

change to reflect on the design task itself. The corridors have been one of the key elements of school organization. Initially, the equal-sized classrooms were clustered around and accessed through linear corridors. Later, in the school designs of Herman Hertzberger, the importance of the in-between spaces gains importance, leading to the idea of design clusters where circulation areas can be used for multiple purposes. What followed was the dissolution of the classroom, either through split levels or acoustical zones as learning plazas that allow for bigger groups and diverse educational activities, such as in 't Karregat school as designed in 1973.⁴⁵ Most recently, expanding the educational activities to the neighborhood inhabitants and introducing more outside spaces in education emerges the idea of a learning landscape. The concept of the learning landscape, specifically street in the scope of this project, is key to addressing the social value of the schools as an integral part of their architecture and offers a model for flexible and adaptive design layouts. The broad schools in the Netherlands incorporate community facilities, such as sports halls, language classes, in school buildings with a decentralized organization of spaces. Different programs are clustered in the building depending on their relationship to the surrounding with their own entrances. This compartmentalization opens the possibilities for partial use of the building, thus privacy for education and even partial transformation or leasing for different purposes.

Research Questions

- How can the design of school buildings and their role in the community benefit the durability of the building in the city?
- How can building performance and sustainability be improved through rethinking school typologies?
- Which spatial strategies and guidelines should be equipped to design schools that can offer future value and possibilities while resisting the trend of cost-efficient, highly specific education buildings?

Schools with Future Value is a collaboration between myself as the researcher, NEXT Architects as the supervising design firm who put forward the idea of the schools with future value, and WSP as an engineering and consultancy firm. The research-by-design project is made possible by Creative Industries Funds NL under the Building Talent grant program. The project consists of three phases. The first phase includes a typological analysis of the spatial and pedagogical aspects of school projects. Moreover, the conditions of visibility, lighting, and acoustic and their implications on education will be analyzed. The research will be supported by a survey on Dutch schools and literature research.

The second and third phases will be conducted in parallel and make use of the feedback loops between research and design. The iterative design exercises will provide reflections on the research process and influence the research inputs, whilst, the research findings will offer tools and guidelines for the design phase. The research embraces the participatory and interdisciplinary design process of the schools. Several Interviews will be conducted with the collaborating architects, NEXT Architects,

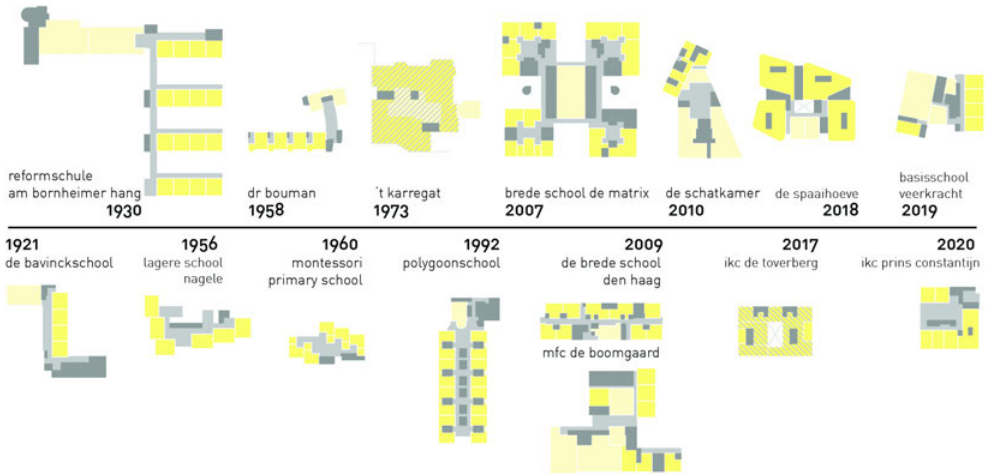


Figure 2

WSP engineers, and the contract advisor HEVO. These interviews will not only help gain insight into the specific design necessities, including building systems, particular dimensions, and technical aspects, but also into the contractual and financial dynamics in school developments.

During the design phase, generic school types, spatial concepts, strategies, and guidelines will be developed to show potential future scenarios for schools and reconsider their social status in the urban fabric. The concept of a learning landscape and street is taken as a starting point for the design exercise. The street will be studied for its potential for urban connection, flexibility through multiple entrances and articulated facades, nature inclusivity, and the blending of indoor and outdoor space. Visibility and acoustic conditions, and specific dimensions of education building case studies are critical inputs for the design assignment that will require iterations of research and design. The proposals are envisioned as public buildings that foster social cohesion and sustain their architectural and urban values by resisting the trend of cost-efficient, highly specific education buildings.

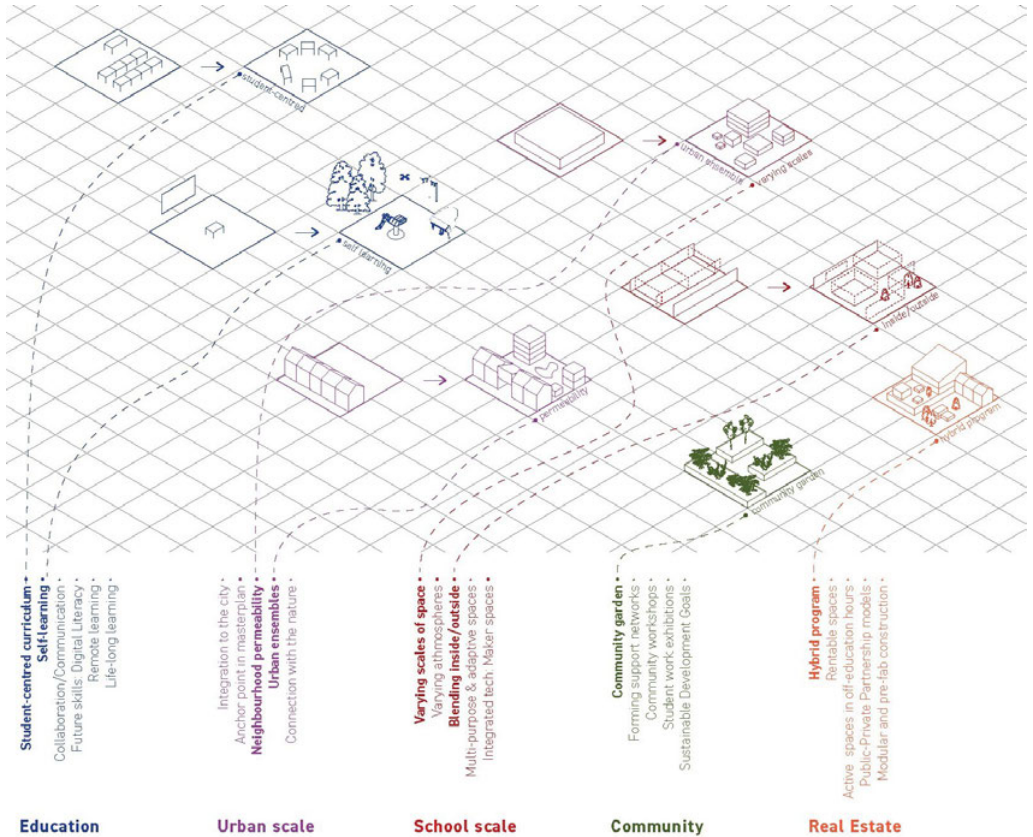


Figure 3

- 1 Broekhuizen, Dolf. (2022): De Basisschool als Sociale Omgeving. Ruimte Maken Voor Ontmoeting, <https://adviezen.raadrvs.nl/ruimte-maken-voor-ontmoeting/plekken/> from March 7, 2022.
- 2 Forty, Adrian (2000): Objects of Desire. London: Thames & Hudson.
- 3 Verstegen, Ton, et al. (2008): Contemporary Dutch School Architecture: A Tradition of Change. Rotterdam: NAI Publishers/Staro.
- 4 Müller, Thomas (2014): »From Classroom to Learning Landscape«, in: Meuser, Natascha (Ed.), Construction and Design Manual: School Buildings, Berlin: DOM Publishers, pp.33–55.
- 5 Komossa, Susanne (2011): »Oude Scholen – Nieuwe Scholen«, in: van Dam, Sien, et al. (Ed.), De Transformatie van het Schoolsgebouw, Bussum: Thoth Publishers, pp. 14–19.

CA²RE / CA²RE+, the Conference for Artistic and Architectural Research, is dedicated to promoting Design-Driven Doctoral Research (DDDr) through its conference series. This initiative aims to strengthen and expand the community of researchers interested in this subject. The Faculty of Architecture and the Built Environment at Delft University of Technology has gladly provided the platform for this noteworthy conference.

The central theme of this event revolves around the "RECOMMENDATION" for Design-Driven Doctoral Research. This theme is a natural progression from the main topics explored in the previous CA²RE+ conferences, which included OBSERVATION, SHARING, COMPARISON, REFLECTION, and FRAMEWORK. The CA²RE+ Delft conference seeks to scrutinize the progress made thus far and endeavors to formulate guidelines and recommendations for the establishment, introduction, development, and evaluation of DDDr.

