

## Diversity in School Design -

### Is there a better place to drive change than in school?

*A review on the interviews in the Renew School project.*

Picture 1: Ledina Grammar School Ljubljana.  
Renovation of the unused secondary entry 2013,  
Architecture: Ana Kreč and Ana Kosi - partners of the Svet  
vmes office.  
Picture: Matevž Paternoster



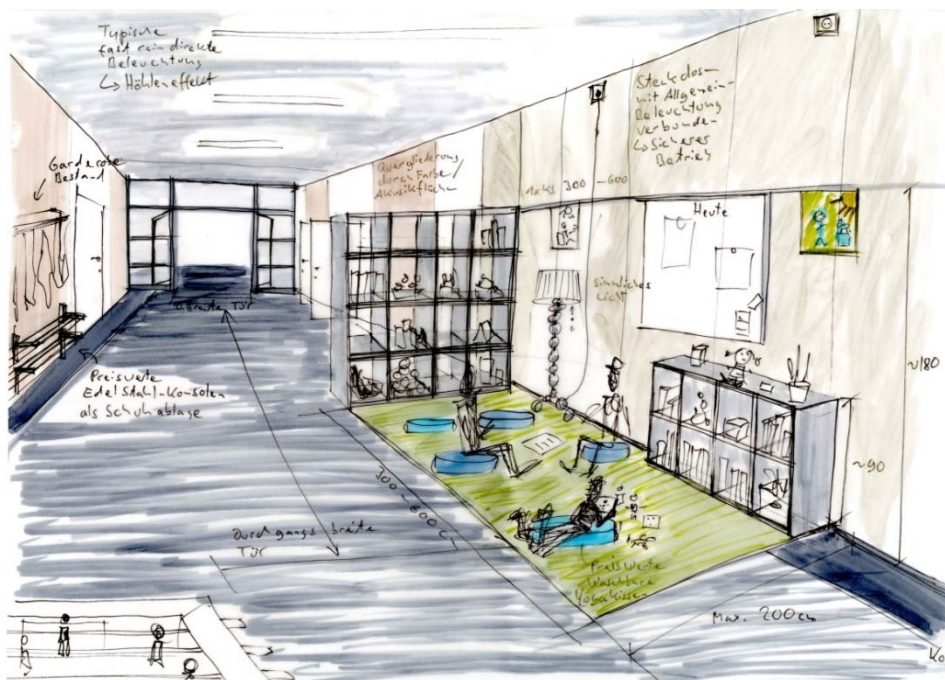
The renovation of school buildings is a major challenge for cities, municipalities and education offices. Ambitious energetic goals are essential in order to reach the climate protection targets and to raise the renovation rate. This also means a big financial challenge for those who are responsible for school buildings. The surveys in the frame of the Renew School Project showed that fund raising is the most time-consuming part. Many different sources of financing have to be found that are all linked with different conditions and obligations. Subsidies alone do not cover the realization of the increased demands. The project team gets even more under pressure and each additional measure is a challenge as far as finances and resources are concerned.

As a consequence, from the financial perspective, renovation measures are always subject to critical cost-benefit analysis. Structural defects and energy-oriented goals are always top priority.

This is at the expense of the potential of the multiplication effect. School is the central space to trigger and diffuse a new consciousness among the people. In an interview Karin Doberer, ex holistic objective under consideration of the usage quality in school buildings:

*«If an energy-oriented renovation in a public building proves to be successful, these concepts transfer to private house owners. The key point, however, is user satisfaction without which a transfer would not work. The aim is to prevent that the users feel uncomfortable and regard the renovation as unsuccessful – a frequent reaction in case of energy-oriented renovations, primarily in passive house or plus energy house renovations that mean a big challenge for the users.»*

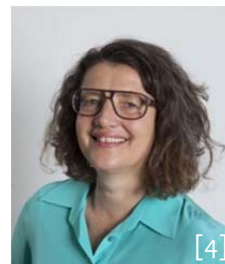
With all the energy-oriented and technical goals the integration of modified pedagogic concepts and the user satisfaction is often neglected. Many people are not aware of the fact that even negative effects might be generated. Many users feel helpless if confronted with new technical building systems. The frustration that the 'do not work properly' might lead to a general rejection of the energy-oriented renovation of the building.



Picture 2: Pedagogic architecture - sketches during the design phase. Source: LernLandSchaft®

Within the frame of the IEE-Project Renew School current practices in school renovation were to be analysed. The aim was to identify actors in the participating countries who see beyond their own noses. Their activities in school renovation and sustainable building were analyzed and the exemplary ones published. The following interviews were made and published in the frame of the project:

- [1] Ingrid Domenig- Meisinger, arch+more (architectural office), Österreich
- [2] Ana Kosi and Ana Kreč, Svet Vmes (architectural office), Slovenia
- [3] Vesna Žegarac Leskovic, University of Maribor, Slovenia
- [4] Susanne Hofmann, Die Baupiloten (architectural office), Germany
- [5] Cornelia Becker, agn over architekten GmbH (architectural office), Germany
- [6] Kirsten Engelund Thomsen, Danish Building Research Institute (SBI), Denmark
- [7] Ditte Rode, Mangor & Nagel (architectural office), Denmark
- [8] Lidewij Tummers, TU Delft, Faculty of Architecture & the Built Environment, The Netherlands
- [9] Karin Doberer, LernLandSchaft (office for pedagogic architecture), Germany



Source pictures: [2] Romana Verbič, [4] Rosa Merk, [5] © Uwe Sülflöhn, [6] www.fbbs.dk, [7] Mangor & Nagel, [9] LernLandSchaft®

In her interview Susanne Hofmann summarizes the current situation in school renovation as follows:

*«Many people forget or don't consider that school changes with our changing society and that children need to be educated in a different way than in former days. Many people are not aware of the fact that space is an important factor here.» [4]*

In her interview she holds the architect responsible:

*«The reason is simply because other architects do what the developers want them to do without questioning, without thinking. They do not have to make decisions. The result is architecture that is totally trivial. It fulfils a purpose and that's about it.» [4]*

As an architect Ditte Rode feels confronted with the price pressure – it is a duty to build cost-effectively, however it must be coordinated with the schedule of requirements:

*«The biggest challenge was the low economic frame. It had not been cross-checked with the space and functionality needed by the school and the increasing number of pupils. » [7]*

Susanne Hofmann holds the constructors responsible and mentions the price pressure on apartment buildings and schools:

*«I have the feeling that at the moment architecture and building culture has been pushed into the background. Good architecture is the architecture that has all technical issues under control and is able to juggle with figures. Many developers' priority is to realize a project with (technical) functionality, and which is cost efficient. People are not interested in acting well from the social political point of view.»*

But the Renew School interviews showed that the consideration of the users and their expectations is an essential aspect in sustainable renovation. Vesna Žegarac Leskovar for example is convinced:

*«The issue of 'social responsibility' is the answer to this question. Is it possible to achieve the social aspect without listening, understanding and accepting the opinion of the users of the living environment that we are creating? Finding the right balance between their and our image is the art which can be only achieved if*

the main designer not only possesses creativity and technical knowledge but also emotional intelligence.» [3]

Susanne Hofmann explains the procedure in energy-oriented renovation and the improvement of the user quality at the same time:

«This was clearly seen in school construction. When it came to refurbishing, the most important thing was that all toilets and everything else functioned. Of course functionality is an important issue, but it has to be seen in the context of the building and the overall project. In one of our projects the KITA [Children's day care center, author's remark] Nido Piccolo, we were supposed to plan a pure façade refurbishment for 600'000 Euros. That is quite a lot of money for a building that the children are not even aware of. Especially with a day care center I thought it was important to deal with the question: Which rooms do children experience? So in this project we suggested to plan the façade refurbishment as economically as possible. Not ugly, but cost-efficient. Our plan was to expand the refurbishment into the individual rooms». [4]



Picture 3 and 4: Ledina Grammar School Ljubljana. Renovation of the main entry hall 2014.  
Architecture: Ana Kreč and Ana Kosi - partners of the Svet vmes office. Pictures: Matevž Paternoster

Her comprehension and approach are extraordinary:

«We do our 'home'-work as architects. That means, a building must function, energy indexes and budget frames must be complied with. That's our job. But we do not want to produce low-cost space. We also want to show the developers the potential that an object offers. [...] [...] These discussions [with the future users, remark of the author] have been prepared in a way that it's discussable by laymen. You cannot communicate simply by the means of plans because laymen cannot deal with plans. It's about principle topics that we introduce: the inside-outside ratio, flexibility or atmospheric worlds of imagination. The question we ask is: Is it this world or a different one? As an architect you must be aware of your role as an expert for the creation and design of space. That is our task which we must not give up. But the users can tell you whether they want something comfortable, something warm or rather something cool. Then we know that we should maybe choose a different material or color. Users might rather want more transparency. These are things that can easily be realized within the frame of the architectural concept. You have to be careful not to give up your own expertise because then the planners will end up as the faceless agents». [4]



Picture 5 and 6: Erika-Mann-Elementary School in Berlin. Renovation 2008-2009. The children's posters were spatially investigated and transferred into a conceptual model: the 'shield spring model'. After intensive brainstorming with the children a protected capsule was developed from which they could look out. Architecture and picture: Die Baupiloten

Another dead-end road is the overemphasis of the creative aspects that often neglect the technical and often the financial aspects. Vesna Žegarac Leskovar speaks about the supplement of the competency profile of future architects:

*«Even a very small country like Slovenia is no exception concerning architectural trends. There are a few offices focusing predominantly on architectural form ignoring all technical and economic aspects of architecture. On the other hand we have also 'invisible' architects with lower design skills that do not enjoy big attention of public, architectural magazines etc. What we are missing are more architects with high technical knowledge as a support for their design, incorporating originality, functional concept and social responsibility. I believe that this is the profile that a future architect must meet.» [3]*

It requires a general rethinking and also the perspective in connection with school renovation:

*«We should be aware that we create spaces for people and not pure buildings that need to be published in 'best' magazines due to exceptional design. In this sense the mission of an architect is not different from the mission of a good human being, we should listen and try to help those who need us in the right way.» [3]*

An important issue shall be the dialog with the users says Susanne Hofmann:

*«I don't design a façade in its own. Before the Baupiloten design a façade they approach the user in order to get a feeling of his needs. This happens via workshops and is a relatively fast procedure. With this additional information we try to develop the architecture, including the energy standards. We do think laterally, but we try to make people feel as comfortable as possible.» [4]*

The key to success, however, is to take care of the interests of both – the contractors' and the future users':

*«I do neither want 'customer-tailored' nor 'generic architecture', but I try to understand both the users' needs and the requirements of the developer. If for example they want high flexibility, I would try to figure out how utilizations could be modified.» [4]*



Picture 7: Sundbyøster school. Interior hall. Source: Mangor & Nagel

One way to combine energy-oriented renovation and cost-effective construction are cooperative planning strategies that integrate the know-how of the entrepreneur in order to optimize the technical-economic during the early phase of the project. Cornelia Becker tells about her experience with construction teams in residential construction:

*«The aim was cost-efficient construction. Intensive communication and cooperation among the architects, engineers and construction companies in early stages were the key elements of success. [...]. It was a very good idea to develop a draft together and cost efficiently. All specialists sat around one table. This interdisciplinary cooperation was great and proved to be a huge advantage. [5]»*



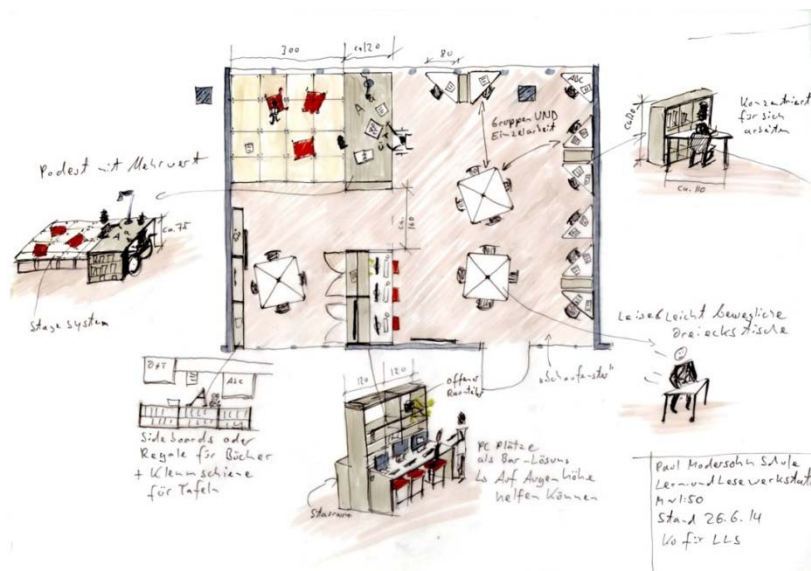
Picture 8: Meeting of users and planners. Source: LernLandSchaft®

Lidewij Tummers also points out the advantages of cooperative planning:

*«It is a very silly practice in The Netherlands or in other countries to choose a builder with the lowest price, because everybody is getting the wrong incentive. Unite people in a Bauteam with their own expertise [...] and make them work together to make a good design with cost optimization. This optimization in the team is absolutely one of the big advantages in a Bauteam.» [8]*

The cooperative approach between the planning and the executing companies does not only enhance a cost-effective and sustainable renovation. There remain resources for the consideration the user quality and the character of the dialog transfers to the expanded perspectives in planning. Planning procedures that are imposed from 'above' and that design the building as a functional envelope, negate the diversity of the user and his needs. Participation without any support is not the right way. It is about the design of an open dialogical process where architects and experts support the persons responsible in the decision process of the persons responsible for the construction and the users. The advantage is that additional optimization potential shall be set free. Many rooms are hardly or insufficiently used, however, in all renovations 'more space' is one of the key issues. As a process coach Karin Doberer holds all actors in school renovations equally responsible:

«[...] the cooperative planning must happen on eye level. We will never find the synergy in room utilization if we are not able to synchronize all players with their different roles, perspectives and sensitivities. Everybody is integrated with his own scope of responsibility and everybody is equally responsible for the success of the overall project.» [9]



Picture 9: New rooms for learning are needed vitally. Source: LernLandSchaft®

She points out that her experience showed that for the sake of a successful school renovation the planning process in school renovation needs to be changed:

«High-quality school renovation does not automatically need to be expensive; However, it needs a different planning process! Good architecture alone does not make a good school. School development is only successful if you combine building architecture and pedagogic architecture.» [9]

The added value of user satisfaction concerning the renovation of a school as an overall modified pedagogic requirement also manifests as a monetary value, Karin Doberer explains:

«We will never build a school without you again, because we achieved a higher user satisfaction and had far less time loss caused by misunderstandings and thus lower costs.»

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February 2017