

Schools and Kindergartens under Reconstruction

It is inevitable that, when educational concepts and policies radically change, even solidly built schools and kindergartens have to be renovated. The poor scores achieved by German schoolchildren in the OECD PISA tests prompted a heated debate about how the state school system might be improved and, as a result, German schools and kindergartens are undergoing a range of very different reconstruction programmes. Many schools are now opening all day, which means that children are provided with lunch in newly built refectories and supervised during the afternoons. Kindergartens are also increasingly required to take on a teaching role, offering children a preschool education and preparing them for school life. The spatial reorganisation of children's day centres is therefore essential to foster group activities and provide areas of refuge for individual children. In schools, formal front-of-class instruction is giving way to group work but the classrooms are to be retained, thus creating a need for additional rooms. Moreover, schools and kindergartens are important focal points in the social life of their immediate neighbourhood. Children spend a large part of their day here, but their parents also make a substantial contribution to the life of the school and kindergarten. In city areas with a highly segregated population where language barriers and cultural differences sometimes produce problems, schools and kindergartens provide an opportunity to make contact and integrate. The capacity of children to socialise readily also offers adults the chance to mix more freely. Architecture may assist this process and act as a social catalyst if all interested parties and users of the building are involved in its design and are thus given the opportunity to identify with 'their school' or 'their kindergarten.' Several schools and kindergartens consider this part of their social and educational function with the architecture of their establishment in a valuable supporting role. Italian and Swedish school reformers have suggested that a room with a stimulating atmosphere becomes a 'third educator' after the class group and the teacher. A sensitive architecture, which addresses all human senses and can be experienced physically, is helpful in this respect. It also enables the user (in this case the children attending the school or kindergarten) to identify with the institution by encouraging a rational, emotional and, most especially, a personal bond with the school or kindergarten. Children therefore feel they have a second home, and they are able to accept their educational institution as part of their new home environment. It is only too easy to underestimate the users' appreciation of spatial and atmospheric qualities and, in most cases, little value is attached to the spatial ambience as perceived through the senses. Tremendous inspiration may be drawn from the potential to translate the fantasy worlds of those outside the architectural profession.

Although plans may often be socially ambitious, budgets are usually constrained within narrow limits mostly not sufficient to allow for changes to the structure. In some cases it is not economically feasible to make even minor alterations to the fabric of the building, so many reconstruction projects have to be completed within a narrow framework but to maximum effect. In such cases intensive preparatory work is essential in which the ideas of the users are recorded and translated into an architectural design. The result is realised as a cost-effective building project, which also has to comply with statutory and technical building regulations. This assumes a highly experimental design approach. Examples of this process are to be found in three projects designed and built by the 'Baupiloten' of the Technical University of Berlin.

The 'Baupiloten' are a changing group of students. As part of their architectural studies, they develop independent building projects under professional guidance and supervision, and plan all construction phases themselves, from the design through to its realisation, within the constraints of a limited budget. In the process, the 'Baupiloten' encourage future users of their buildings to participate in the design phase. As trainee architects the status of the students is very similar to that of the users; they are even close to the children in terms of age. Their impartiality and curiosity and, not least, their constant critical assessment of their own position, make for an inspiring collaboration.

In 2003, the Erika Mann Elementary School in Berlin-Wedding was modernised. The pupils, ranging in age from 9-13 years, produced collages of fantasy landscapes in a workshop entitled 'The path through the garden of the future,' giving convincing concrete expression to the architectural future of their school. Inspired by these lively drawings and the visions and wishes of the children, the 'Baupiloten' tried to interpret moods and atmospheric effects and to define them more precisely in further collages and spatial models. Future uses and functions were also taken into account and the results subsequently realised as prototypes. The children were invited to test and re-evaluate them. It was absolutely essential that all these designs

should be legible and, above all, immediately comprehensible. They introduced an ephemeral sensitivity intended to inject a playful light-heartedness into the stark severity of the school building. A 'school committee' comprising representatives chosen from all classes from year 3 upwards took on the role of the clients throughout the building process.

The district of Berlin-Wedding is an urban social hot spot with more than 50% unemployment. 85% of the parents of the children who attend the Erika Mann School are of non-German speaking origin and pupils come from 25 different countries. Its transformation into an all-day school was intended to help the children overcome language and cultural barriers; and the wide range of facilities available in the building were designed to provide an education centre for all neighbourhood residents. Parents and teachers were therefore actively involved in the building process. The orientation of the school towards theatre and music also had to be taken into account as the building transformed to become a 'Children's Neighbourhood Centre.' The project was supported with resources from the Federal Government's urban regeneration programme: the 'Socially Integrative City'. Nevertheless, the budget was very tight and it was not possible to make massive changes to the fabric of the building. The broad corridors and hallways of the school house, built in 1914 by Berlin city councillor Ludwig Hoffmann, provided sufficient space to accommodate additional work and leisure areas, and room was also found for new cloakrooms. However, a prerequisite was the use of non-combustible materials to comply with fire regulations.

The students and schoolchildren created the 'World of the Silver Dragon' to form the basis of a playful and expressive architecture. As they enter the building, visitors are greeted by a small exhibition of the children's work on the theme of the 'World of the Silver Dragon'. A gallery on the ground floor and in one of the stairwells presents a constantly changing display of the children's current work. The further you go into the school building the more strongly you feel the spirit of the Silver Dragon: a spirit which changes, resonates, glows and shimmers. On the ground floor, in the world of 'star dust diving,' plants grow under violet light above yellow-green lacquered metal furniture, providing the imaginary dragon with a place to sleep. On the first floor in the 'breath of gentle air,' the breath of the dragon becomes perceptible between the light translucent veils of the ceiling and the shimmering textile wardrobes. The second floor houses the 'throne on the beat of the wings,' where groups of four children sit on folding seats in the crook of the dragon's wing to read, work and chat. Finally, on the third floor you can 'fly with the dragon.' The children learn



Start of the 'Silver Dragon Worlds' project: Collage workshop with the children of the 'School Committee'



The hallway of the Erika Mann Elementary School in Berlin-Wedding before and after conversion with its inviting foldable seating.

in small study groups between luminous metal dragon tails. The main stairwell has become a versatile musical instrument and the dragon can dance and jump along the 'Giant Humming Trail.'

The reconstruction captured the imagination of the children to such an extent that they were able to feel and describe the presence of the dragon. Their identification with the school was also so great that, three years after the renovation work, nothing has been defaced or destroyed.

For their second project, the 'Tree of Dreams' Kindergarten in Berlin-Kreuzberg, the 'Baupiloten' followed a similar approach. In this case the cost limit for renovation work was even lower than it had been to reconstruct the school. Children attending the kindergarten range in age from 2-11 years. They produced pictures and models to depict their visions of a 'Tree of Dreams.' The youngest amongst them were not yet able to express themselves in language but were able to communicate through their pictures: the 'Tree of Dreams' would be their companion and playmate. The images and wishes of the children again served to inspire the work of the 'Baupiloten.' They designed structures and shapes representative of a tree, offering protective nooks and crannies to snuggle into. The 'Tree of Dreams' encourages children from a wide variety of cultural backgrounds to come together. As they arrive, the tree greets them in their 14 different languages. It works like a mythical creature that has become real, stimulating the children's imagination and social skills, and encouraging them to play and communicate in smaller or larger groups. It glitters and glows, moves and makes noises. Its leafy roof reflects natural light deep into hitherto insufficiently lit corridors, its

Atrium and corridors of the 'Tree of Dreams' Kindergarten in Berlin-Kreuzberg before (left) and after reconstruction (right).



The children choose their favourites from the preliminary designs submitted by the 'Baupiloten.'



The children romp in the flowery bowers and swings of the 'Tree of Dreams.'



leaves rustle as if the tree is 'giggling.' The 'Tree of Dreams' even 'snores,' inviting the children to share its dreams. They are able to explore and experience their world with all their senses, make new friends and chat to one another.

In another refurbishment project, the 'Taka-Tuka Land' Kindergarten in Berlin-Spandau, the 'Baupiloten' were given the opportunity to change the spatial organisation of the building. In the course of essential renovation work to this kindergarten, originally built only as a temporary solution, the façade was restructured to provide a play space for the children, and the existing room sequence was broken up to create intercommunicating group spaces. The kindergarten was named after Pippi Longstocking's 'Taka-Tuka-Land' as featured in Astrid Lindgren's children's novel of the same name. The children and their teachers presented their visions of 'Taka-Tuka Land', which were to form the basis of their new daily environment, incorpo-

rating musical bridges, little huts, a merry-go-round of blossoms and the throne of shells belonging to Pippi's father. The 'Baupiloten' again drew inspiration for their designs from these ideas and by observing the movements, communication and daily routines of the children. Through reconstruction, the school building becomes Pippi's ancient oak tree; in its hollow interior 'lemonade' is made and flows like a river, along which seven activity stations are provided for the children. For example, you can see visitors to 'Taka-Tuka' approaching from a distance through the large panoramic window where crystals reflect the midday sun and form the 'glittering cave' of Lindgren's story. The children can wait for their parents in the yellow glow of 'lemonade' and display their works in the Lemonade Gallery. The focal point is Lemonade Island: on this yellow platform the children can romp, hide and lose themselves in this lemonade world. The 'lemonade river' breaches the rough bark of the oak tree at its last activity station. Nooks and crannies are provided in the walls of the building and bark of the tree where the children can climb, hide and snuggle up. The play space within the façade is softly cushioned with luminous yellow fabric, and tarpaulin covers offer protection against all weather conditions.

The kindergarten building is interpreted as Pippi Longstocking's ancient oak tree in which lemonade is made. The children can experience the 'lemonade' spatially at seven activity stations.



The children present their visions of Taka-Tuka Land.



The Taka-Tuka Land Kindergarten in Berlin-Spandau before and after renovation, view from the garden

The children's reactions during the design phases and after completion of the three projects confirmed how important it had been for the design work to take explicit account of the atmospheric effects produced by the architecture. It was also essential to ensure that these effects were monitored and reflected throughout the building process. Because the children had been so closely involved in the design process, they were able to identify strongly with their newly created environment.