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15

Research-Based Design Building for Children in Theory and Practice

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Hochschule Anhalt
Anhalt University of Applied Sciences

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Building for Children in
Theory and Practice

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The workshop was taught by Prof. Dr. Natascha Meuser and M.A. Quangduc Nguyen (Department of Interior Architecture) in collaboration with the architect Kai Korn (Managing Director of FRÖBEL).

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Hochschule Anhalt
Anhalt University of Applied Sciences

FRÖBEL
Kompetenz für Kinder

Contents

»If you trust play, you will not have to control your child's development as much. Play will raise the child in ways you can never imagine.«

Vince Gowmon

Cardboard toy house, to decorate freely.
Source: Zamomba and Istock

Preface

Kai Korn

I like to think back on my childhood, and one of my favourite books was (and still is) Pippi Longstocking: a brave little girl, who makes her way through life in a carefree way, playfully mastering the challenges that come her way. Her attitude can be summed up in the line that goes something like, »I'll make the world for myself and do it just as I like.«

Playful and carefree – just as *FRÖBEL Bildung und Erziehung* promotes the development of their child-friendly architecture. To see the world through a child's eyes – that is our wish, our aspiration, and our approach. In architecture for children, it is important to listen to one's 'inner child', all the way from the initial design idea to the completion, and to impart the design process with the same whimsy and unselfconsciousness. With the self-same ease that children perceive their world.

That is why we are particularly pleased to organise a design studio event with the theme »Building for Children« in cooperation with the Department of Interior Design at Hochschule Anhalt in Dessau.

When setting the task, large areas were deliberately left open. Because these open spaces offer the opportunity to let one's imagination and creativity run wild and unfold in the design. Such architectural freedom also emphasises and strengthens the pedagogical principles of participation, connections, and individuality. We want children to get to know architectural qualities at an early age: **insight, perspective, and vision**.

FRÖBEL Bildung und Erziehung would like to thank all students for their ideas and creative work. Through their commitment, they contribute decisively towards making children's architecture come alive in a very special way, and push the development of child-friendly architecture a step further.

Due thanks go to Natascha Meuser for her constructive cooperation, as well as to the FRÖBEL pedagogical department, represented by Elisa Steinfeld. Thanks to all students once again, and in the words of Astrid Lindgren, stay »cheeky and wild and wonderful!«

Picture: Istock

The urban nursery school
From childcare centre to place of development

Natascha Meuser

Building for children has once again become a hot topic for architects, particularly with the recent announcement in January 2019 of the *Gute-Kita-Gesetz*, a new law in Germany aimed at improving the availability and quality of nursery schools. According to the German government's estimations, there is currently a shortage of carers and built space for almost 300,000 children in the country.[1] In recent years, no other building typology has changed and evolved more rapidly than educational facilities for children.
Architectural solutions must go far beyond the structural aspects of the respective building: they must also ensure flexibility, safety, and accessibility and account for the current technical, ecological, and energy standards. This seminar explored nursery schools and childcare facilities from an architectural perspective. The aim was to provide a cultural-historical account of the development of educational buildings for

On 1 January 2019, the »Good KiTa Law« was established. With this law, the Federal Government of Germany is investing a total of 5.5 billion euros until 2022.

1 ZEIT ONLINE from 17 Mai 2017: https://www.zeit.de/gesellschaft/familie/2017-05/kinderbetreeung-kitaplaetze-betreuung-sluecke-deutschland-nrw-bremen, zuletzt geöffnet: 11. Januar 2019

Field Trip: Visit of kindergartens in Berlin-Mitte, October 2018.
Pictures: Natascha Meuser

Kick-off event in Berlin-Mitte with Stefan Spieker,
the director of Fröbel.

children, to define design tasks, and to formulate quality standards. Students developed, through guided research and methodical design, planning parameters as well as models for organising space. They then implemented and present these parameters and models in a design of their own.

After an individual's own home, the kindergarten is the first building whose architecture is firmly engraved in their memory. In kindergarten, children gain their first experience of themselves as active members of society, away from home. The organisation and design of the space in which this personal development takes place is particularly important. »Kindergartens are constantly subjected to change in educational methods«, explains teacher Elisa Steinfeldt. »Therefore, above all, rooms must be flexibly equipped for diverse uses.« But still, kindergarten architecture is especially good if it can last over many generations of children. And what about the increasingly common notion of the school building as the »third teacher«? Designed space always has an effect on human beings.

Step 1: Research-based Design
Formulating design parameters for buildings for children is a challenge at first. The requirements of the building mean that planning parameters have to adapt to the scales and habits of both children and adults. What are the outlines of the generally valid aspects for a design? From the analysis of existing buildings, regularities and trends can be discerned, which may be relevant for future designs. Although this analysis by no means claims to be complete, by observation of these parameters, the design and planning of a kindergarten building can be carried out. The section that follows is intended to serve as a planning aid for the development of a design. It can also be used as a communication platform if all parties involved in planning and construction want to agree on an optimal building concept including architects, specialist planners, pedagogues, building sponsors, and users. It should be stated at the outset that the concern here is architectural and pedagogical design parameters. That should also make it clear that the planning of a kindergarten building

Through team design process students earn a deep
understanding within the design process.

The interim presentation with guests create an individual
reflection on the design results.

should be entrusted to an architect who will of course engage landscape architects and specialist planners. Only if the architect from the beginning creates a collaboration with specialist planners for building technology and the surrounding grounds, can a design emerge that successfully reflects the needs of the children, their teachers, the parents and visitors, and thereby the kindergarten.

Step 2: Methodical Design Solution
Does this takes into account that the architecture itself hardly needs to change – so long as you follow the proven rules of spatial art? In this complex planning task there were many questions, that had to be solved. The methodical design process hereby helped the student to find a structured way of solving problems by using object-design-knowledge within a design team. The central aim of the course was for students to learn how to independently gain a deep understanding of a problem area, formulate the problem based on thorough research, and to develop an individual, interdisciplinary, and methodical design solution.

Starting with a team design process, any barriers of communication had to be overcome by the team members by solving the misunderstandings and the development of the shared insight. Through visualizing the individual design contributions within the design team, the students earned a deep understanding, sharing and collaboration within the design process. By structuring activities and communication between the team members, the aim was to create an individual reflection on the design results. Thus, dialogue and true cooperation mostly leads to sustainable knowledge about the design project.

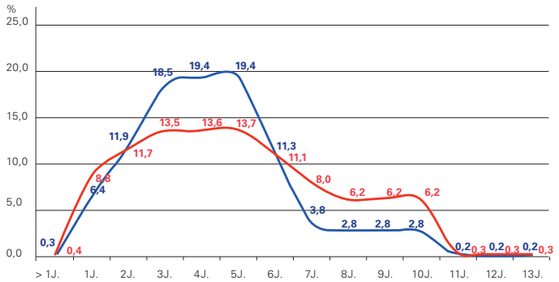
Step 3: Final presentation
The sketching phase leads to the synthesis phase, where the design comes together. At this stage, the logistics of the building and site, the construction, the form and materials etc. become united into one entity. Finally, the presentation phase covers all the material used to present and explain the project. The audit involves the presentation by the author and a subsequent public discussion.

Picture: Natascha Meuser

Kindergarten – a space for life, education, and work
Flexibility is an enormous challenge

Detlef Diskowski

In Germany, children attend nursery schools (Fröbel referred to these more quaintly as Kindergarten) from early infancy until the end of childhood, i.e. until aged twelve or thirteen. Although the age cohort encompassing three-year-olds up to those eligible for primary school enrolment (i.e. the classic kindergarten age) continues to be the biggest group in terms of numbers, the planning of day-care facilities will have to take into account a broader age range. The strong upswing in demand as a consequence of legal childcare entitlement for toddlers demonstrates that in the past the low rates of provision within West Germany represented an overly-conservative estimate, rather than being based on actual need. The roll-out of places tailored to this articulated demand is far from complete, with the German federal government estimating that only a further increase in coverage to the extent of 43.2 per cent of that needed to meet demand among infants would be achieved. In the wake of the nationwide discussion which has been ratcheted up across Germany in mid-2018 on entire-day care for children of primary school age, an appropriate offering of places for this age bracket too will have to be made available in schools and in kindergartens.



Percentage of children in daycare facilities in Germany in 2018 by age (in %)[2]

Sources:

1 Draft by the Federal Government of Germany: law on the further quantitative and qualitative expansion of child daycare facilities. *Bundestag printed matter (T-Drs.18/11408)*

2 Federal Statistical Office: Statistics on child and youth welfare. Children and staff working in daycare facilities and day-care with public funding, 2018; Calculations by the *Dortmunder Arbeitsstelle Kinder- und Jugendhilfestatistik*

3 Statistisches Bundesamt 2018, article no: 5225402187005

4 ibid.

5 Viernickel, Voss, Mauz, Schumann: Gesundheit am Arbeitsplatz Kita Ressourcen stärken, Belastungen mindern. Gesundheit am Arbeitsplatz Kita, Unfallkasse NRW, Issue 55

It is therefore reasonable to expect that the traditional kindergarten model of West German states will become a thing of the past. Day-care facilities for children are not as a rule able to choose the children in their care; rather they must respond to local needs (parental wishes) and demand (that demand which is politically acknowledged as requiring to be fulfilled) and then conform to these changes. Even just taking into account this large age cohort presents a major challenge to the designers of such facilities: the age bracket encompassing children of crèche age up to nursery age is similar to that between those of primary school age and those sitting for the Abitur graduation exam – and in terms of physical and mental development the margin is much greater. If it is the case that study groups comprising pupils of the same age are projected to be retained in schools, at day-care centres there is a significant trend towards organisational frameworks based upon mixed age groups. Moreover, the construction of schools affords a planning phase of several years, whereas the generally smaller-scale nursery schools are forced to adapt to parental wishes and demands essentially without proper warning. A shift in the provision or scheme of local public transport, job creation, job losses or the construction of new housing estates can all decisively alter demand and the age composition of those to be accommodated – and all in the blink of an eye. A building designed nowadays as a crèche for infants must possibly in five years' time offer facilities to a broad age spectrum, or even open up the premises to the local community.

Life Cycles – Living Environments

Day-care facilities for children are living environments in which children (but also adults) spend most of their waking hours. Although kindergartens in the wider states of West Germany most commonly offered morning sessions only (for children from three to six years of age) a more lengthy duration of stay has seeped in alongside the broadened age spectrum described above – including associated requirements to take into account and meet children's vital needs. On 1 March 2018 children were on average looked after for 7.2 hours each day or 35.9 hours per week in nurseries, with 19 per cent spending less than 25 hours per week but 31 per cent spending 45 hours or more on the premises.[3] It becomes quickly apparent that these children are not just sitting around the table drawing nice little pictures until their mother picks them up to go home for the evening meal. Eating, drinking, resting, running around, experiencing both social interaction as well as time to oneself are all basic activities necessary in order to grow up healthily. It can only be right to expect planners and designers to change their approach and imagine someone spending six, eight or ten hours within such areas every day.

What would they themselves see necessary to ensure their own well-being and what might children of different age groups or their teachers, both male and female, require? What kind of areas for quiet retreat or communal activities are required? Pools of light, sleeping facilities and snuggle dens as well as differentiation in space allocation can all steer clear of uniform bright lighting whilst at the same time meeting the necessity for supervision (or constant checking). While open-plan offices for ten adults are considered to be less than ideal as regards noise etc. such rooms (generally considerably smaller) appear entirely appropriate for children playing, moving around and occasionally being boisterous. Now, planners can hardly go above and beyond the surface area which has attracted funding, but they can do much in respect of floor plans, noise insulation and lighting – that is to say in respect of differentiation.

Dividing up the Interior within the Context of Space

Where explicit spatial norms or financial planning dictates for day-care facilities frequently permit a playing area of merely 3 to 4 m^2 per child the challenges for the spatial conceptualisation of the facility become apparent. If all tables, chairs, cupboards and play areas/equipment are to accommodate a group of approximately 20 to 25 children within correspondingly-sized communal areas then already the scope for movement among children may be woefully cramped. It is for this reason too that group-oriented concepts are increasingly emerging – for which premises built in keeping with more traditional operating principles are less suitable. If a facility is designed as a conglomeration of isolated islands (each with room for play, sanitary facilities and cloakroom) then children and teachers are going to find themselves subjected to great constraints when undertaking group-oriented tasks. Within the larger units teachers assign classes to functionally designated areas and children mostly choose activities which are compatible with these at the time. Depending upon the number of children, age groups and space available, the open area can extend over the whole premises or be made up of units, where such units do not have to include (with the exception of perhaps only for the very youngest children) specific group-oriented spaces with cloakroom and toilets, but rather areas for building things, running around, reading, having a rest and eating meals/snacks etc.

The challenge planners are facing lies in the need to adapt the spatial framework available to accommodate differing internal factions i.e. both the group principle and group-oriented work. Architecture should not set out to create pedagogy, but rather to facilitate it. Planners must therefore disengage from their own ideas as to how a day-care facility should be run and instead take on board the know-how of pedagogical experts and representatives of the business world as regards educational and workflow theory. However, it would be entirely remiss to allow the concepts put forward by a sponsor or a team to be wholeheartedly converted into a building, simply because they are usually stuck-in-time in their present-day environment. Far-reaching, future-oriented and flexible facilities present a challenge into which planners should incorporate the knowledge of other professions – but all without surrendering the final design to them.

The Kindergarten as Workplace

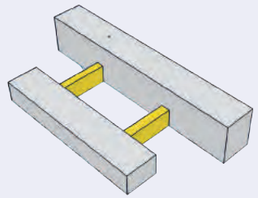
If in the past working at a kindergarten within West German federal states was a job for life for a select few teachers, then retention rates within this profession have begun to grow considerably. In 2018 the average age of educational, managerial and administrative personnel was 40.9 years and the proportion of the workforce aged fifty or over amounted to 30 per cent.[4] a safeguard for older workers in particular, but undoubtedly for everyone else in general, working health and safety conditions set the bar at the highest possible levels. This not only benefits employees, but is also in the interests of the controlling authority and is of considerable economic significance.[5] In this respect major importance is accorded to exacerbating factors at the workplace – e.g. noise and poor ergonomics – which are determined by the construction design and furnishings. Sitting on the floor or on small child-sized chairs, hoisting infants on to baby changing units, carrying children to be consoled in their arms etc. govern the daily routine of teachers in the same manner as continuous background noise. Architects and interior designers need to devote their energies more to the layout of the workplace in order to prevent relatively high rates of absenteeism or early retirement.

Basics

Aerial view over Berlin-Mitte.
Picture: DOM publishers

Deutsche Grundkarte DGK 5
Senatsverwaltung für Stadtentwicklung, Berlin

Kindergarten Standard Design Type 66
Series Model for Prefabrication



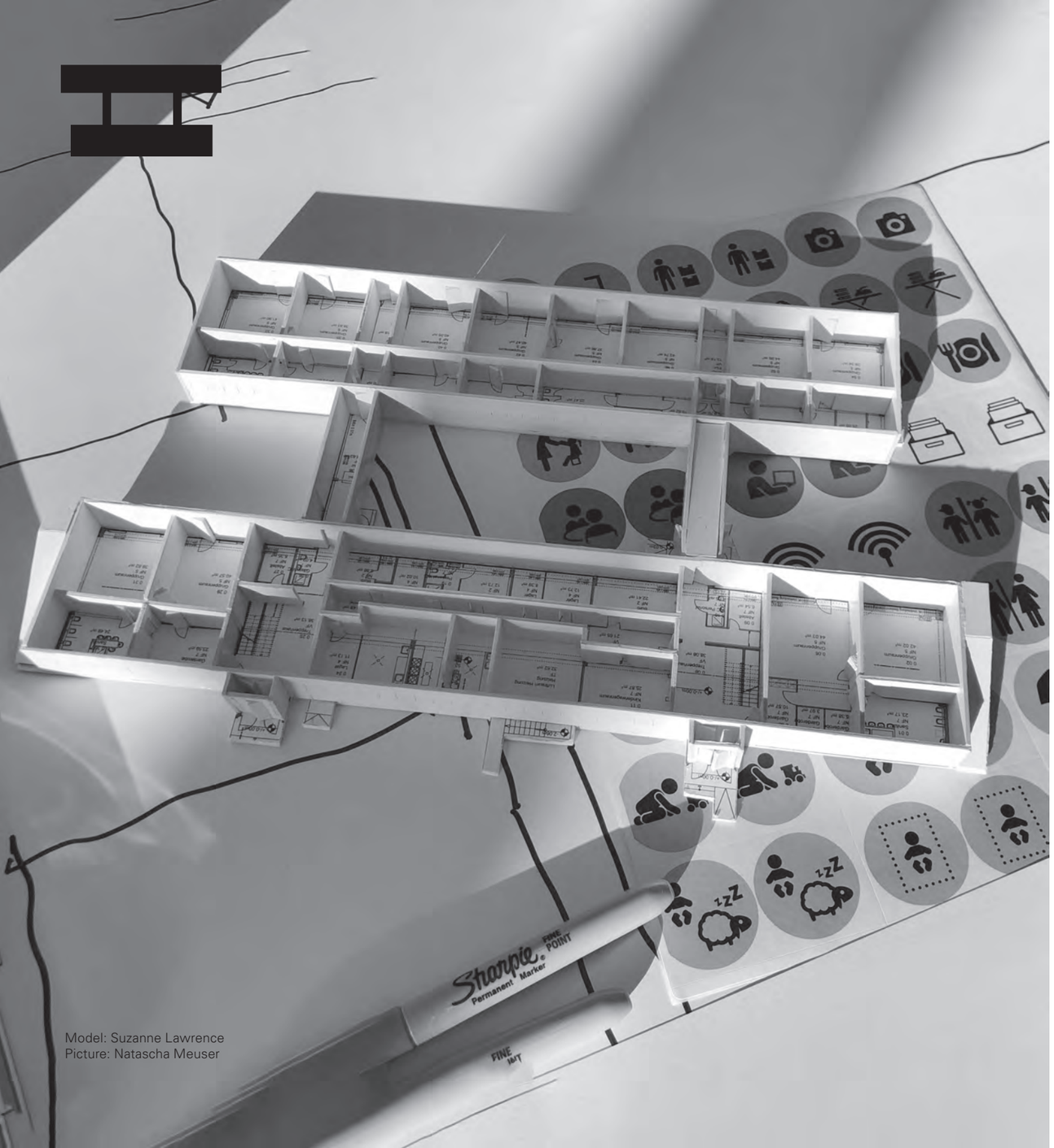
Natascha Meuser

For almost fifty years the schools and kindergartens built under *VEB Typenprojektierung* (i.e. governmental typology projects) have generally been considered to offer a successful series model for prefabrication within the complex house-building sector of the GDR.[1] In 1965 *Standard Design Type 66* for children's facilities and crèches (also referred to as the *Erfurt Series* for short) had been intended to supersede those building series based on brickwork which together with individual designs had hitherto been prevalent in the GDR districts. This heralded a new era for the building of socialist educational institutions, since henceforth floor plans and assembly panels alike would now be underpinned by one uniform measuring system. These radically standardised typology designs were defined with great precision in the form of a catalogue of set criteria and were then laid before the architects.

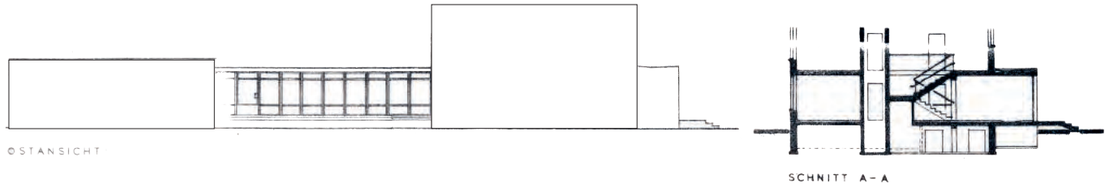
Ever since the current unforeseen need for new kindergarten places the focus is once again on industrially standardised construction – albeit within a different political context. For even today the issue of building facilities as swiftly and cost-effectively as possible continues to arise. This intense pressure on planners and firms to act will harness new opportunities for the construction of contemporary kindergartens in every aspect. It was against this backdrop that a design seminar under the master's degree programme in architecture at Anhalt University of Applied Sciences took place in order to explore the conversion of an existing building from *Standard Design Series Type 66*. The facility is located within the Berlin-Mitte district. Within the framework of making detailed drawings of the building the students firstly produced a structural record, capturing it both two- and three-dimensionally. In the second phase students analysed the original state of the building as well as modifications from the GDR era with the use of a working model.

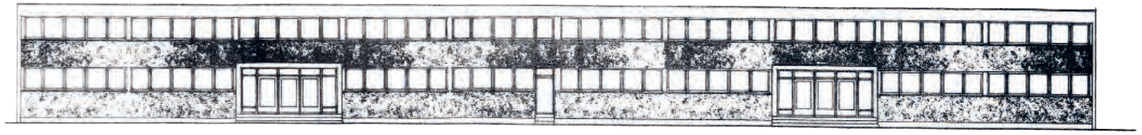
The objective was to demonstrate through their research to the commissioning company how even a building built to a standardised design can be customised with some structural reconfiguring in order to meet modern standards regarding space allocation and education. Students were asked to compile ideas for their own personalised design of an interior as well as present concrete proposals for the design of a new entranceway and extension. The resulting work was put up for discussion and further input from the commissioning company over the course of three workshops in all.

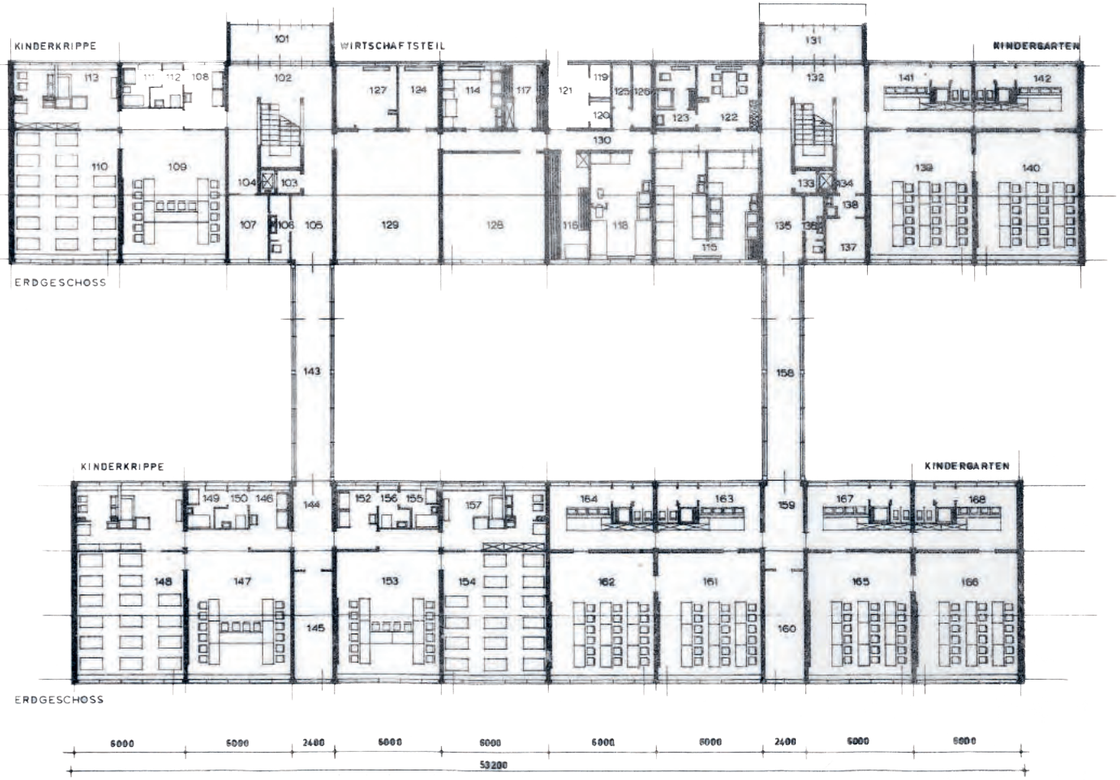
1 Hopf, Siegfried, Manfred Stephan, Die Typenserie 66 Schulbauten, in: Deutsche Architektur 1967/7, p. 419-421,



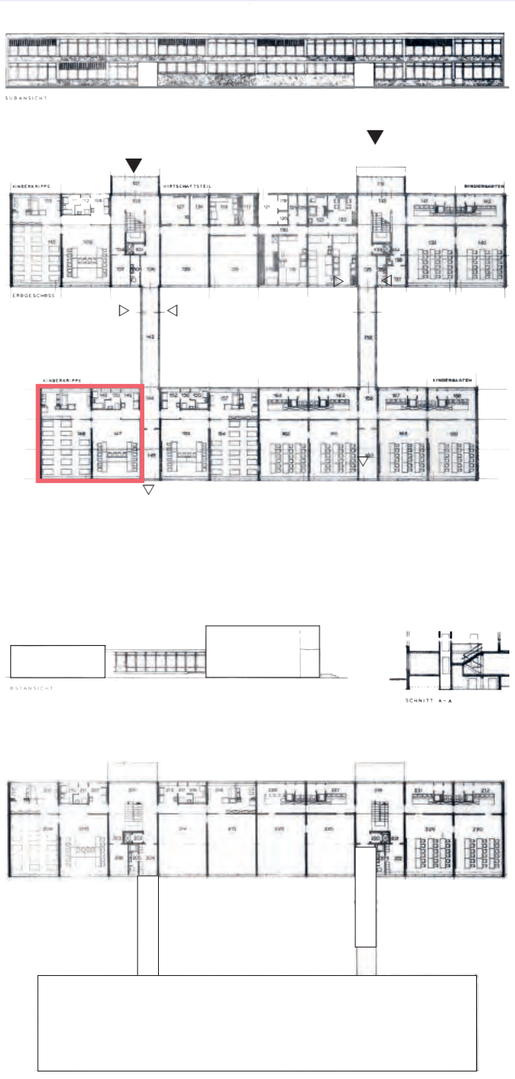
Model: Suzanne Lawrence
Picture: Natascha Meuser







Pictures: VEB Typenprojektierung (1965)



Die Typenserie 66
(Auszug aus dem Informationskatalog: VEB Typenprojektierung (Berlin, Ost) aus dem Jahre 1965

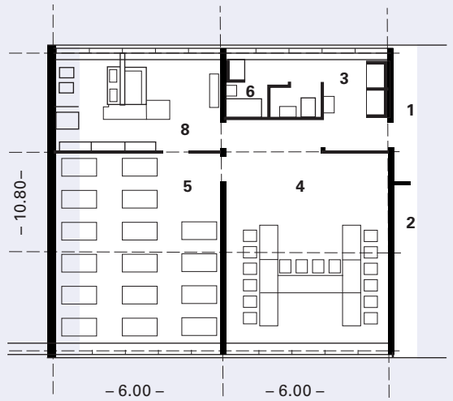
Im Perspektivplanzeitraum ist im Rahmen des komplexen Wohnungsbaues die Errichtung von 29.000 Plätzen in Kinderkrippen und 53.000 Plätzen in Kindergärten vorgesehen. Zur Sicherung des geplanten Kapazitätszuwachses werden neue Typenprojekte für Kindereinrichtungen in industrieller Bauweise ausgearbeitet. Die neuen Typenprojekte werden in den Hauptparametern des Wohnungsbaues mit der Geschoßhöhe 2.80 cm entwickelt und gewährleisten die weitgehende Verwendung von Typenbauelementen der Laststufen 2,0 Mp bzw. 5,0 Mp.[1]
Der Informationskatalog vermittelt eine kurzgefasste Übersicht über die neue Typenprojektreihe. Die Projekte werden durch den *VEB Typenprojektierung* ausgearbeitet und herausgegeben. Die ausgewiesenen Flächen beziehen sich auf die Ausführung in Streifenbauweise 2,0 Mp. Die geringfügigen Änderungen bei Ausführung in Plattenbauweise 5,0 Mp sind im Informationskatalog nicht berücksichtigt. Die Elementeliste enthält das Grundsortiment der Rohbauelemente. Sie ist Grundlage für die Grobbilanzierung der Elementeproduktion.

Funktion
Die Gebäudelösungen entsprechen der Forderung nach größtmöglicher Verkürzung der Frontlänge je Funktionseinheit (Vergrößerung der Gebäudetiefe) sowie der Forderung nach Reduzierung der Anzahl

1 Paul Dobrinski, Gunter Krakau, Anselm Vogel: Physik für Ingenieure. Springer, 2003. Wie auch beim Kilogramm ist die Basiseinheit als das tausendfache der scheinbaren Grundeinheit Pond, die der Gewichtskraft von einem Gramm entspricht, definiert.Dezimale Vielfache und Teile werden nicht von der Einheit Kilopond, sondern von der Einheit Pond gebildet. Ein Beispiel ist das Megapond, welches einer Million Pond oder eintausend Kilopond entspricht. Diese Einheit wurde beispielsweise für die Achslast vom Dampflokomotiven verwendet.

der Baukörper. Die Einrichtungen setzen sich aus Funktionseinheiten zusammen, die vereinheitlichte Abmessungen aufweisen. Alle Hauptfunktionsräume (Gruppenräume) liegen an einer Gebäudeseite (Orientierung von Ost über Süd bis West möglich). Pro Geschoss werden über je ein Treppenhaus 4 Gruppen im Kindergartenbereich und 2 Gruppen im Kinderkrippenbereich erschlossen. Jedes Objekt hat einen eigenen Wirtschaftsteil. In den Kombinationen sind Kindergartenbereich und Kinderkrippenbereich voneinander getrennt zu erreichen. Eine gemeinsame Wirtschaftsanlage versorgt beide Bereiche. In den Kindergärten sind Doppelgruppeneinheiten vorgesehen. Die Nebenräume sind zur Verringerung der Infektionsübertragung getrennt. Die Gruppen-und Schlafräume sind einseitig direkt belichtet und belüftet. Eine Querlüftung der Haupträume ist über die Nebenräume möglich. Die Gebäude sind in einer Breite von 360 cm mit einem Montagekeller (160 cm lichte Raumhöhe) versehen, aber nicht unterkellert. Eine Ausnahme bilden die Kinderkrippen, die zur Unterbringung der technischen Versorgung einen 360 cm x 720 cm großen Kellerraum (220 cm lichte Raumhöhe) mit Kelleraußentreppe haben.
Zur Schaffung des nach TGL 10 685, Blatt 4 (Bautechnischer Brandschutz, Evakuierung der Bauwerke von Menschen) geforderten zweiten Evakuierungsweges werden in allen Obergeschossen an den Giebeln in den Gruppen- bzw. Gruppenschlafräumen Notausgänge mit eisernen Außentreppen angeordnet.

Konstruktion
Die Projektreihe »Kindereinrichtungen« wird für die Ausführung in Streifenbauweise, Laststufe 2,0 Mp, und Plattenbauweise, Laststufe 5,0 Mp, erarbeitet. Den Projekten liegt das **Querwandprinzip** zugrunde.

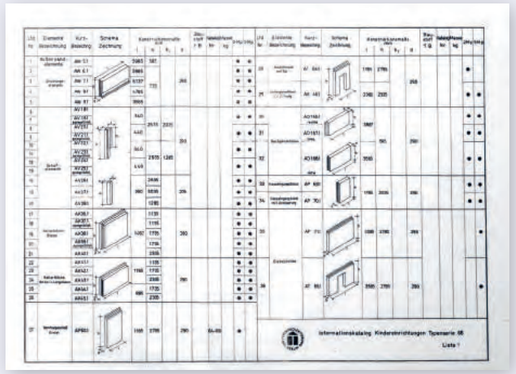


Kindergarten Clustereinheit

1 Vorraum
2 Spielgeräte, Lehrmittel
3 Gruppenschlafraum – Übergabe
4 Gruppenraum
5 Gruppen – Schlafraum
6 Isolierraum
7 Schleuse
8 WC-, Wasch- und Umkleideraum

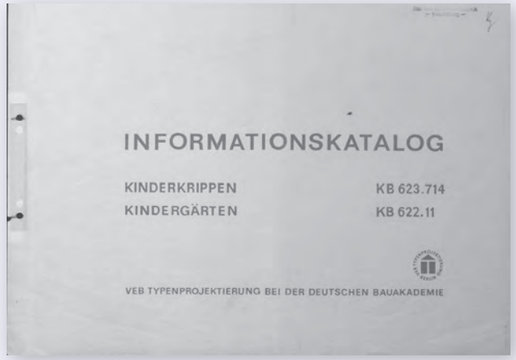
Dieser Plattenbautyp mit Flachdach bestand aus zwei parallel liegenden ein- und zweigeschossigen Flügeln mit zwei ebenfalls parallel liegenden eingeschossigen Verbindungsbauten.

Raster: 120 cm
Achsmaß: 600 cm
Systembreite: 1080 cm
Gebäudesystemlänge: 600/ 1200/ 2640/ 3000/ 5280/ 6000 cm
Geschosshöhe: 280 cm



Die Typenentwürfe wurden anhand eines Kriterienkataloges genau kategorisiert und definiert.

Kindergärten und Krippen in Modulbauweise
Informationskatalog: VEB Typenprojektierung (Berlin, Ost), Typenserie 66 - Kindereinrichtungen: Kinderkrippen KB 623.714; Kindergärten KB 622.11, (1965)



Rohbau
Fundamente: Streifenfundamente in Ortbeton
Außenwände: An den Giebeln geschosshohe Wandelemente 29 cm dick, an den Längsseiten Brüstungs- und Schaftelemente 29 cm dick. Tragende Querwände und aussteifende Längswände 19 cm (2,0 Mp) und 150 mm (5,0 Mp) dick.
Nichttragende Innenwände: (Trennwände) aus Gips, 7 cm dick, geschosshoch und oberflächenfertig, und als Holz-Glas-Konstruktionen.
Decken: vorgespannte Vollbetondeckenplatten über max. 600 cm Spannweite, d = 14 cm. Deckenuntersicht oberflächenfertig.
Treppen: Nach TBE-Katalog 63 - 167 aus dem Wohnungsbau. Steigungsverhältnis 30/17,5 cm.
Dach: Warmdach mit 2% Gefälle, innenliegender Entwässerung und umlaufender Dachwandplatte.
Dachdeckung: bekiestes Pappdach nach TGL 116 - 0881 mit 10 cm Lindowplatte als Wärmedämmung.

Ausbau
Fußböden: Der Fußbodenaufbau entspricht den Forderungen nach TGL 10686. Die Konstruktionshöhe beträgt 7.5 cm.
In den Naßräumen: Fliesen, Schutzbeton, Dichtung, Gefällebeton: In den Windfängen, Verbindern und Treppenhäusern: Kunststeinplatten
In allen anderen Räumen: Trockenfußboden: PVC-Belag, Feinausgleich-und Hartschicht, Fußbodendämmplatten (Schalldämmung bzw. Wärmedämmung) Schlacke-Grobausgleichschicht.
Fenster: Holzverbundfenster nach TGL 8471, Blatt 3 (Entwurf) als Kippflügelfenster und Drehflügelfenster. Sonnenschutzmarkisen an den Südseiten.
In den Windfängen und Verbindungsgängen Stahlleichtbaukonstruktionen mit einfacher Verglasung.
Türen: Innentüren nach TGL 8471, Blatt 3 (Entwurf) mit Stahlzarge. Nebeneingangstüren als Holzverbundkonstruktionen (TGL 8471, Blatt 3 (Entwurf)
Küchen: Gasbeheizte Küchenblockgeräte, mechanische Entlüftung durch Schraubenentlüfter in den Spülen.

Erstausstattung
Für die mobile Ausstattung in den Gruppeneinheiten sind die Kinderkrippen- und Kindergartenmöbel des Informationskataloges KB 676 + KKm - KGm Typro 61-70 vom September 1961 vorgesehen. Die Auswahl der Möbel erfolgt nach den erforderlichen funktionellen Forderungen und wird im Projekt für eine Gruppeneinheit in Kinderkrippen einmal für Säuglinge und einmal für Kleinkinder und für Kindergärten festgelegt. Gleichfalls wird die mobile Ausstattung in den Räumen für Schmutzwäsche, Außenspielgeräte, Leiterinzimmer und Aufenthalts- und Umkleideräume für das Pflegepersonal und für das Küchenpersonal ausgewiesen.
Das Ausstattungsprojekt enthält außerdem Wäsche und Kleidung und sonstige Ausstattung für die Gruppeneinheiten sowie für den Wirtschaftsteil.

Freiflächen
Die Freiflächen wurden nach der »Richtlinie für die Planung und Projektierung gesellschaftlicher Bauten im Wohngebiet« entwickelt. Der Grundstückszuschnitt und die Gebäudestellung im Grundstück wurden so gewählt, dass gute funktionelle und gestalterische Beziehungen zwischen dem Gebäude und den Freiflächen innerhalb der Freiflächen bestehen, das Bauland sparsam beansprucht wird und die Voraussetzungen für die verkehrs- und versorgungstechnische Erschließung günstig sind.
Durch eine großzügige, geradlinige und rechtwinklige Gestaltung wurden flächensparende Entwurfslösungen erzielt und die Einführung eines einheitlichen Rasters ermöglicht. Den Freiflächenplänen wurde das Raster 120 cm zugrunde gelegt. Dieses Raster, das im gesamten Ingenieur- und Tiefbau angestrebt wird, ist Voraussetzung für eine rationelle Verlegung verschiedenartiger und verschiedenformatiger standardisierter und typisierter Bauelemente, zur Anwendung der Montagebauweise und des Fotomodellbaukastens bei der Projektierung dar Freiflächen. Die Grundstückslängen und -breiten wurden im 600 cm Raster festgelegt.
Für die häufig vorkommenden Einrichtungen der Freiflächen, wie Gruppenspielplätze, Spielgeräteplatz und Planschbecken werden 1965 Typenprojekte bearbeitet.

1 Kinderkrippe 64 Plätze, Dresden, Goethestraße
Architekt Helmut Trauzettel, 1963
An die Gruppeneinheiten schließen sich die gegliederten Freiräume direkt an

Kleinkindereinrichtungen

Entwicklungstendenzen

Professor Dr.-Ing. habil. Helmut Trauzettel
Dipl.-Ing. Claudia Schrader
Technische Universität Dresden

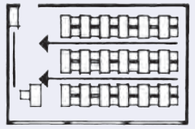
Die ersten Kleinkindereinrichtungen entstanden in der Zeit des Frühkapitalismus, als die familiäre Produktionseinheit im Handwerkerhaus zerfiel und viele Frauen der armen Bevölkerung aus Not gezwungen waren, in die Fabrik zu gehen.
Für die sich selbst überlassenen Kinder wurden „Kleinkinderbewahranstalten" eingerichtet. Man war zufrieden, dafür einen Raum im Pfarrhaus oder Spital zu finden. Vorbild für die Einrichtung und Aufsicht war die Schulklasse.
Ein erster Plan aus einer „umfassenden Anleitung über die Errichtung von Kleinkinderbewahranstalten" von Wirth (1838) verlangt einen Raum für 100 Kleinkinder mit einer Fläche von 100 m², dazu gehörte eine Aufsichtsperson.
Dem Raum fehlte jede wohnliche Atmosphäre. An eine für das Kind faßbare soziologische Struktur war nicht gedacht, obwohl Pestalozzi zu dieser Zeit bereits seine „Wohnstubenidee" verbreitete. Die unter Robert Owen, England, gegründeten Kleinkinderschulen wiesen neben fürsorgerischen Gesichtspunkten bereits pädagogische Aspekte auf.
Das preußisch-königliche Ministerium forderte Menschenfreunde und Kommunalbehörden auf, den verwildernden Kindern der Armen durch Anlagen von Kleinkinderschulen zu helfen. Der Staat selbst hatte dafür kein Geld.
1840 gründete Friedrich Fröbel, der mit den Ideen Pestalozzis aus der Schweiz kam, eine Anstalt zur Pflege des „Beschäftigungstriebes" in Blankenburg. Seine Erziehungsreform will er mit Hilfe der Familie durchsetzen. In dem „Entwurf eines Planes zur Begründung und Ausführung eines Kindergartens" – hier fällt das Wort Kindergarten zum ersten Mal – wendet er sich an alle deutschen Frauen. Fröbel erkennt im Spiel des Kindes die reinste Form des menschlichen Tätigkeitstriebes und sieht als entscheidende Aufgabe des Kindergartens, dieses Spiel zu pflegen.
Die Träger der Kindergärten waren die Konfessionen, nicht der Staat. Preußen verbot sogar die Fröbelschen Erziehungsstätten „als erfolgreichste demokratische Pflanzschule für die Jugend". Vor dem ersten Weltkrieg gab es in Deutschland neben 5739 konfessionellen nur 132 Kindergärten des Pestalozzi-Fröbel-Verbandes.
Die Fröbel-Anhänger, die den Konfessionellen auf der Reichsschulkonferenz 1919 unterlagen, stellten folgende bemerkenswerten Forderungen an einen staatlichen Kindergarten:
Aufgabe des Kindergartens ist es, die geistige und körperliche Entwicklung durch zielbewußte Pädagogik zu fördern, die Familienerziehung zu ergänzen und Vorarbeit für die Schule zu leisten.
Es sind Kindergärten in solcher Anzahl zu errichten, daß alle Kinder aufgenommen werden können, deren Eltern es wünschen.
Der Kindergarten soll unter staatlicher Aufsicht stehen, an alle Kindergärten sind dieselben pädagogischen und hygienischen Anforderungen zu stellen.
Die Kindergärtnerinnen müssen durch Ablegung einer staatlichen Prüfung eine Befähigung nachweisen.
Es ist der sozialistischen Entwicklung der DDR vorbehalten geblieben, diesen Forderungen einen großen Schritt näher gekommen zu sein. Kindergarten und auch -krippe wurden Teile des einheitlichen sozialistischen Bildungssystems; ihre Aufgaben sind fest umrissen, beiden liegt ein klares Programm für die allseitige körperliche und geistige Entfaltung der Kinder zugrunde.

Besondere hygienische Probleme der Krippe

So wie wir für den Bau der ersten Kindergärten die Schulklasse als Vorbild finden, geht die verhältnismäßig junge Einrichtung der Krippe auf die Kinderklinik zurück. Tatsächlich sind es die hygienischen Erkenntnisse dieses Jahrhunderts, die ihre Existenz ermöglichte. Trotzdem ist die Krankheitsanfälligkeit im Krippenalter besonders groß, so daß durch die Ausfalltage ein Teil unserer Krippenkapazität ungenutzt bleibt. Der Produktionsausfall der Mütter kommt hinzu. Erhebliche volkswirtschaftliche Einsparungen lassen sich erzielen, wenn die Krankheitshäufigkeit gesenkt wird. Standortfaktoren und die gesamte Gebäudeplanung spielen dabei eine wesentliche Rolle. Die Morbidität läßt sich einschränken durch:

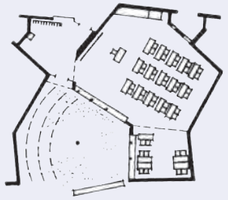
- günstige Lage der Krippen zu den Wohnungen, damit öffentliche Verkehrsmittel als Überträger von Krankheiten ausgeschlossen werden.

Räumliche Organisationen
bei Schulbauten

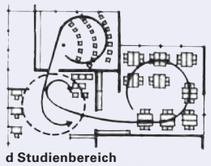


a Klassenraum
Starre, zur Tafel gerichtete Möbelaufstellung. Lehrer und Schüler werden konfrontiert.

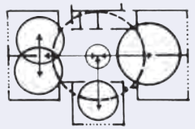
b Klassenraumeinheit
Variable Möbelaufstellung, Möglichkeiten zur Gruppenarbeit, Arbeitsgemeinschaft, Begegnung



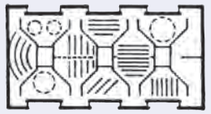
c Erweiterte Klassenraumeinheit
Klassenraum, Gruppenraum und Garderobe werden durch den abgeschirmten Freiluftunterrichtplatz ergänzt



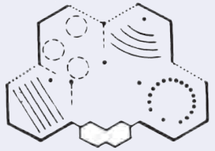
d Studienbereich
Unterschiedliche Anforderungen führen zum differenzierten Raumgefüge



e Raumgruppe
Fünf Klassen gruppieren sich um ein gemeinsames Zentrum. Die soziale Einheit ist die Stufe, nicht die Klasse



f Kompakte Einheit
Die Klassen werden in flexibler Aufteilung um drei technische Kerne gruppiert



g Großraum
Gemeinsame oder parallel laufende Nutzung für mehrere Klassen

Source: Freudenstein/Trauzettel: Entwicklungslinien im Schulbau. Deutsche Architektur, Heft 7/1987, Seite 399.

Trauzettel/Schrader:
Kleinkindereinrichtungen.
Entwicklungstendenzen.
In: Deutsche Architektur,
Heft 7/1987, Seite 431 ff.

2
Kindergarten in Rockenberg, Hessen
Architekt: Hans Köhler
Die verschiedenartige Stofflichkeit der Ausstattung kommt dem Entdeckungsdrang des Kindes besonders gut entgegen

3
Tagesablaufplan in Kinderkrippen. Am häufigsten wird die sanitäre Einheit benutzt

4
Funktionseinheit einer Gruppe von 16 Krippenkindern mit dem Wegeschema eines Kindes. Die sanitäre Einheit wurde zentral angeordnet

5
Die Körperabmessungen des Vorschulkindes, die der Projektierung von Kleinkindeinrichtungen zugrunde liegen

■ optimale Kapazitätsgrößen und strenge Trennung der Gruppeneinheiten.
■ günstige Voraussetzungen für einen häufigen Aufenthalt im Freien (Abb. 1 und 13).
■ günstige raumklimatische Voraussetzungen (leichte Temperaturregulierung, Luftfeuchte und -bewegung, warme Fußbodenoberfläche).
■ peinliche Sauberhaltung der Raumbereiche (der Aufwand dafür wird im wesentlichen durch die Qualität des Materials und die Durcharbeitung der Details bestimmt).
Neben diesen Gesichtspunkten, die der Einschränkung von Krankheiten dienen, sollen in weit größerem Maße diejenigen Beachtung finden, welche die Gesundheit fördern. Das sind vor allem die Faktoren, die den Tageslauf der Kinder optimal gestalten lassen. Für den Wechsel von Bewegung und Ruhe, Pflegemaßnahmen und Spiel, Mahlzeiten und Freiluftaufenthalt sind die räumlichen Voraussetzungen für das Gruppenleben wesentlich.
Der Tageslauf einer Krippengruppe (Abb. 3) veranschaulicht zum Beispiel, daß die Benutzung des Töpfchens und das anschließende Händewaschen siebenmal am Tage erfolgen. Die Erziehung zur Sauberkeit ist in diesem Alter ein wesentlicher Punkt im Tagesablauf. Der Grundriß in der Abbildung 4 ist ganz aus der zweckmäßigen Ordnung der Funktionen eines optimalen Tagesablaufes in räumlich-zeitlicher Überschneidung entwickelt. Der Weg eines Kindes vom Eintritt bis zum Verlassen der Krippe ist schematisch in den Grundriß eingestrichelt. Jede Minute, die durch eine Rationalisierung der Pflegemaßnahmen, durch günstige räumliche Voraussetzungen gewonnen wird, kann für den Freiluftaufenthalt genutzt werden.

Der Maßstab in Kleinkindeinrichtungen

„Das Milieu des Kindes wird hinsichtlich seelischer Gesundheit immer in erster Linie durch die ihm nahe verbundenen Menschen bestimmt; aber auch durch die Möglichkeit, sich ein Territorium der Aktivität aneignen zu können" (Mitscherlich).
Von der Umwelt, die wir den Kindern in ihrem kleinen Bereich bieten, hängt es ab, ob sie sich durch neue Entdeckungen ständig bereichern, durch ihre Flexibilität aktivieren oder nur betäuben. Dem Entdeckungsdrang des Kindes muß durch Stofflichkeit, Strukturen, durch eine kindgemäße Farbigkeit – vor allem aber durch eine maßstäbliche Gestaltung – entsprochen werden (Abb. 2).
Der Architekt muß wissen, welche Größen für das Kind optisch faßbar, welche Bereiche ihm überschaubar sind, welche Höhen es bedrücken und welche dem Raum die wohnliche Atmosphäre nehmen. Oft wird es versäumt, Maßbezogenheiten direkt vom Kinde abzuleiten (Abb. 5). Man mutet ihnen zu, bei hohen Fensterbrüstungen ohne Verbindung zur Außenwelt zu leben. Das Waschbecken ist so hoch angebracht, daß das Wasser im Ärmel hinabläuft. Das hohe Mützenfach, die zu hohen Garderobenhaken können die Kinder nicht ohne Hilfe des Erwachsenen benutzen. Jeder Handgriff vervielfältigt sich für die Erzieherin achtzehnmal. Das verlangt äußerste Zweckmäßigkeit für die Ausstattung.

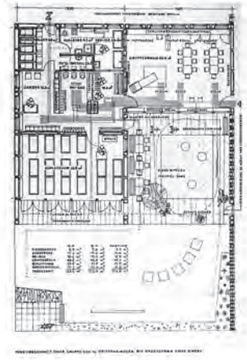
Internationale Tendenzen

Den besten internationalen Beispielen ist das Bemühen um eine gut gestaltete kindgemäße und wohnliche Atmosphäre gemeinsam. Dagegen ist die Anzahl der Kinder, die einen Raum belegen, in den einzelnen Ländern sehr unterschiedlich. Sie liegt in Kindergärten kapitalistischer Länder bei 25, oft zwischen 30 und 40 Kindern, für eine Betreuungseinheit in den sozialistischen Ländern günstig zwischen 18 und 25 Kindern. Vielen Kindergärten kapitalistischer Länder fehlen notwendige Funktionen eines ganztägigen Aufenthaltes, da sie oft nur einen Stundenbetrieb am Vor- und Nachmittag kennen, deshalb sind sie für uns nur zu einem Teil auswertbar.
Als Funktionsschema wird auf Abbildung 6 der in den funktionellen Zusammenhängen des Raumbereiches einer Gruppe sehr günstige Wiener Kindergarten der Architektin Schütte-Lihotzky gezeigt. Besonders gute Voraussetzungen für die gesundheitsfördernde Entwicklung der Kinder bieten auch

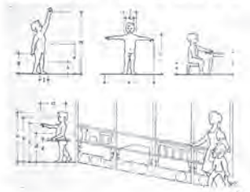
3

Zeit	Kleinkinder: Übergabe	Bad	Gruppe	Schlafr	Freiraum	Nebenr.
6.00						
6.30	Aus-					
7.00	ziehen		Spiel			
7.30	1 Pfl.	Waschen	1-2 Pfl.			
8.00	Reinigen	Topf-Wa.	Frühst.			Reinigen
8.30			Beschäft.			
9.00	Anzieh.	Reinigen				
9.30			Reinigen		Spiel o.	
10.00					Spazierg.	
10.30	Auszieh	Topf-Wa.	Mittag-	Reinigen		
11.00			essen			
11.30		Topf-Wa.	2 Pfl.			Reinigen
12.00				Schlaf		
12.30		Topf-Wa.		1 Pfl.		Schlaf
13.00						
13.30						Reinigen
14.00		Topf-Wa.	Vesper			
14.30	An-					
15.00	ziehen		Beschäft.			
15.30		1-2 Wo-	Spiel		Spiel	
16.00		chentl. Bä-				
16.30		der	Aufräum.			
17.00	1 Pfl.		1-2 Pfl.			
17.30						
18.00						
18.30						

4



Jahre	1	2	3	4	5	6	7
a Körpergröße	74	85	94	101	108	115	121
b Augenhöhe 9/10a	64	74	83	91	98	103	108
c Schulterhöhe 4/5a	54	63	72	79	85	90	95
d Hüftbeuge 3/5a	38	46	54	60	65	70	74
e Geländerhöhe	38	40	42	45	49	55	57
f Tischhöhe 3/7a+2,5	40	45	43	46	48	51	53
g Handmitte 2/5a	28	32	36	40	44	48	51
h Kniebeuge 1/4a	14	18	21	24	26	28	30
i Schulterbreite	19	20	22	24	26	27	29
k Schmalseite Kopf	13	13	14	14	15	16	16
l Fußgröße	11	13	14	15	17	19	21
m Reichhöhe 6/5a	99	100	112	123	129	136	142
n Armweite ⊠ a	85	77	89	97	104	110	116
o Reichweite a/2	30	36	42	48	52	57	61



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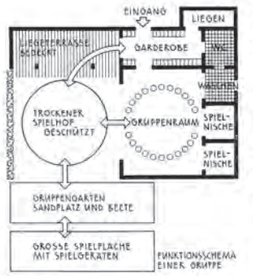


6

6
Kindergarten „Friedrich Fröbel", Wien
Architekt: Marg. Schütte-Lihotzky, 1931
Das Schema zeigt günstige funktionelle Verbindungen innerhalb des gegliederten Gruppenraumes und zu den Neben- und Freiflächen

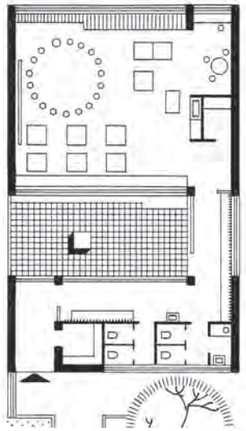
7
Die Gruppeneinheit (Abb. 8) wurde um ein ihr zugeordnetes kleines Atrium gelegt

8
Kindergarten der Primarschule in Zürich-Neubühl
Architekt: Walter Custer
Gutes Beispiel einer in ihrer Maßstäblichkeit und der Verbindung zwischen Innen- und Außenraum vorbildlichen Einrichtung

9
Kindergarten und Primarschule, Camberwell
Architekt: John Kay und David Medd
Die sehr kindgemäß gegliederte Anlage zeigt die in England bestehenden engen Beziehungen der Altersgruppen von 3½ bis 9 Jahren

7

die überdeckten Terrassen für das Spiel an Schlechtwettertagen und für den Mittagsschlaf im Freien als Übergangszone zu windgeschützten Freiräumen.
Eine maßstäblich glückliche – auch an windigen Tagen nutzbare – Außenfläche schließt der Schweizer Kindergarten Neubühl (Zürich) zwischen Spiel- und Nebenräumen ein (Abb. 7 und 8). Das überschaubare kleine Atrium bietet eine sehr nützliche Raumerweiterung. Die gute Überschaubarkeit des gesamten Verantwortungsbereiches einer Erzieherin ist ein wesentlicher Planungsgesichtspunkt. Dieses Schweizer Beispiel ist typisch für einen stundenweise genutzten Kindergarten. Waschmöglichkeiten sind sparsam bemessen, zum Mittagessen und -schlafen gehen die Kinder nach Hause. Die Schweizer Kindergärten werden baulich sehr oft mit der Schule verbunden.
In England sind die Nursery-schools obligatorisch in das Schulsystem einbezogen worden. Um kurze Wege zu den elterlichen Wohnungen einzuhalten, bleiben im allgemeinen die Primary-schools mit den Vorschuleinrichtungen dem Wohngebiet zugeordnet, während die Secondary-schools für größere Einzugsgebiete zusammengezogen werden und zugunsten einer hohen Qualität in der Gesamtausstattung längere Schulwege in Kauf genommen werden.
Das hier gezeigte Beispiel (Abb. 9) einer Einrichtung für Kinder von 3½ bis 9 Jahren mit zwei Kindergartengruppen (A und C) und sechs Unterstufenklassen läßt eine dieser Altersstufe entsprechende differenzierte Gliederung der Raumeinheiten besonders gut ablesen. Auch hier soll auf die unmittelbare Verbindung zu geschützten Freiraumbereichen hingewiesen werden.
Experimentalprojekte der Sowjetunion nehmen ebenfalls die Verwandtschaft des Tageslaufes der Kinder bis zu 9 Jahren zum Anlaß, neue Strukturen der Erziehungs- und Bildungseinrichtungen zu untersuchen. Einen beachtlichen, in vieler Hinsicht wegweisenden Schritt zeigt uns die letzte Veröffentlichung Tschaldymovs.
In einer Mehrzweckgruppensektion wurden die Raumprogramme von Tages- und Wocheneinrichtungen sowohl für Krippen als auch für Kindergärten vereint (Abb. 11). Die durch eine Faltenwand verbundenen Spiel- und Schlafräume ermöglichen das Überschneiden der Bereiche und gestatten eine Verminderung der erforderlichen Raumgrundflächen um 15 Prozent. Nachteilig ist, daß die beiden Räume raumklimatisch schwieriger zu trennen sind.
Diese einheitliche Raumzelle ist das Grundsegment für eine bei der Vergrößerung der Wohnkomplexe in ihrer Kapazität wachsende Kindereinrichtung. Es werden innerhalb von Wohngebieten mit 12 000 bis 20 000 Einwohner „Lehr- und Erziehungskomplexe" von 600 Kindern für jeweils 4000 Einwohner (80 Krippen-, 200 Kindergarten- und 320 Unterstufenkindern) oder von 900 Kindern für jeweils 6000 bis



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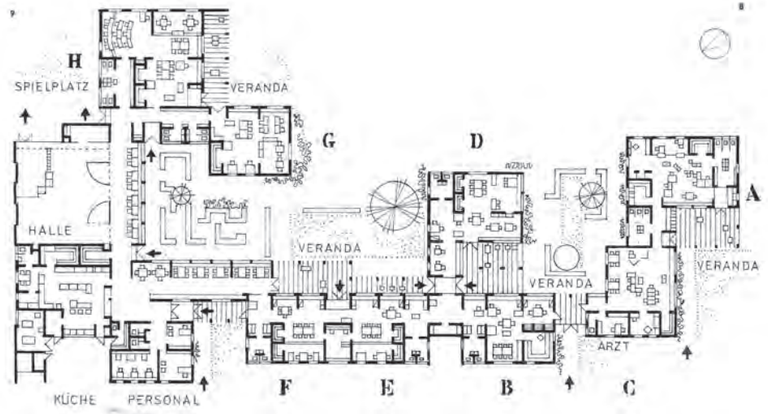

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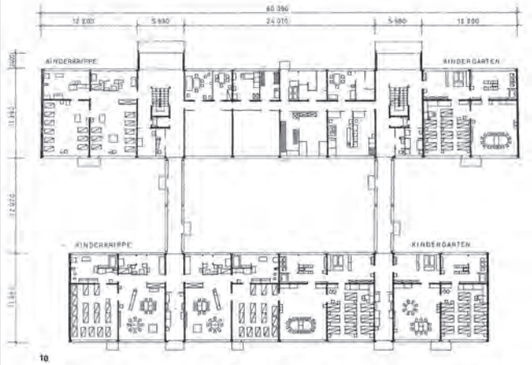

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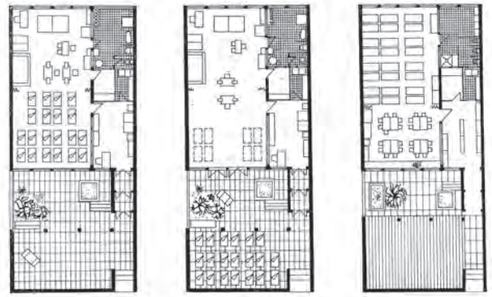

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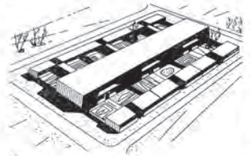

12

10 Kombinierte Kindereinrichtung KK 80/KG 180, Typenserie 66
Entwurf: VEB Typenprojektierung Berlin
11 Richtungweisende Entwicklung einer Mehrzweck-Gruppensektion, Sowjetunion
Architekt: A. Tschaldymow, 1966
12 Die Sektionen (Abb. 11) lassen unterschiedlichste städtebauliche Anordnungen zu
13 Kinderkrippe 64 Plätze, Dresden, Erich-Weinert-Straße
Architekt: Helmut Trauzettel, 1963
Windgeschützter Innenhof

13

7000 Einwohner (120 + 300 + 480) aus Krippe, Kindergarten und Unterstufenklassen gebildet. Diese Kleinkinderkomplexe bleiben den Wohngruppen nahe geordnet. Dem Zentrum des Gesamtwohnkomplexes wird das Schulgebäude mit den Klassen 5 bis 10 angegliedert.
Jede Gruppensektion ist eine selbständige „Wohnung", die von den anderen isoliert ist. Der Erziehungskomplex besitzt einen gemeinsamen Verwaltungs- und Wirtschaftsblock, der einen Versorgungsradius von 200 m hat. Das Essen wird zu den Gruppen in Thermoswagen gefahren und dort angerichtet. Das Sektionsprinzip erlaubt die verschiedenartigsten architektonisch-städtebaulichen Lösungen (Abb. 12).
Die Akademie für Pädagogik der RSFSR hält es für angebracht, dieses neue Anordnungsprinzip der Kinder- und Schulgebäude in vergrößerten Wohnkomplexen experimentell zu überprüfen, da damit der Übergang der Kinder von der Vorschul- zur Schulerziehung und die Organisation des Lehr- und Erziehungsbetriebes verbessert werden.
Die neuen Erziehungskomplexe werden 5 bis 15 Prozent weniger kosten als die heutigen Typenprojekte.
Diese weitgehende Rationalisierung durch die Kooperation der Funktionen sollte auch bei uns vorbereitet werden. In der zur Zeit verbindlichen Typenserie 66 (Abb. 10) unterscheiden sich die Gruppensektionen von Krippe und Kindergarten wesentlich. Eine einheitliche selbständige Gruppensektion für die verschiedenen Kindereinrichtungen und Altersgruppen wird es ermöglichen,
den Versorgungsgrad der Bevölkerung schneller zu erhöhen,
die Bau- und Betriebskosten zu senken,
die Infektionsgefahr bei großen Anlagen herabzusetzen,
die häufigen Ausfallzeiten der Mütter zu reduzieren,
den Wirtschaftsteil besser auszulasten,
wesentliche Personaleinsparungen zu erreichen,
die Größen der Einrichtungen auf das Einzugsgebiet abzustimmen,
bei Geburtenschwankungen Krippen- als auch Kindergartenkinder im gleichen Grundsegment unterzubringen,
die Komplexe nach Bedarf zu erweitern und
städtebaulich variationsfähige Gebäudekompositionen zu erhalten.

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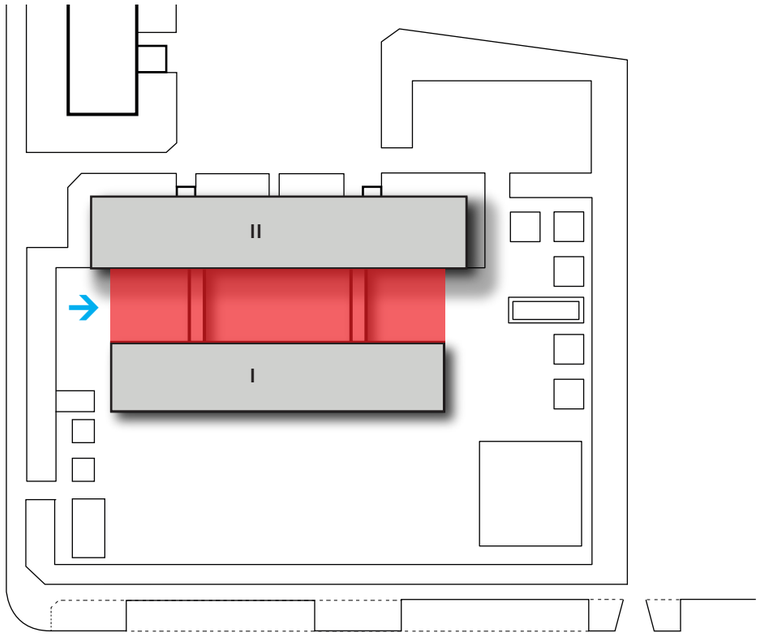
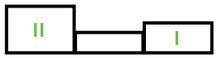
Existing building with new entrance and courtyard
Picture: Natascha Meuser

Design Task
Redefining the Courtyard



Site plan, scale 1:500
Execution plan (1972)

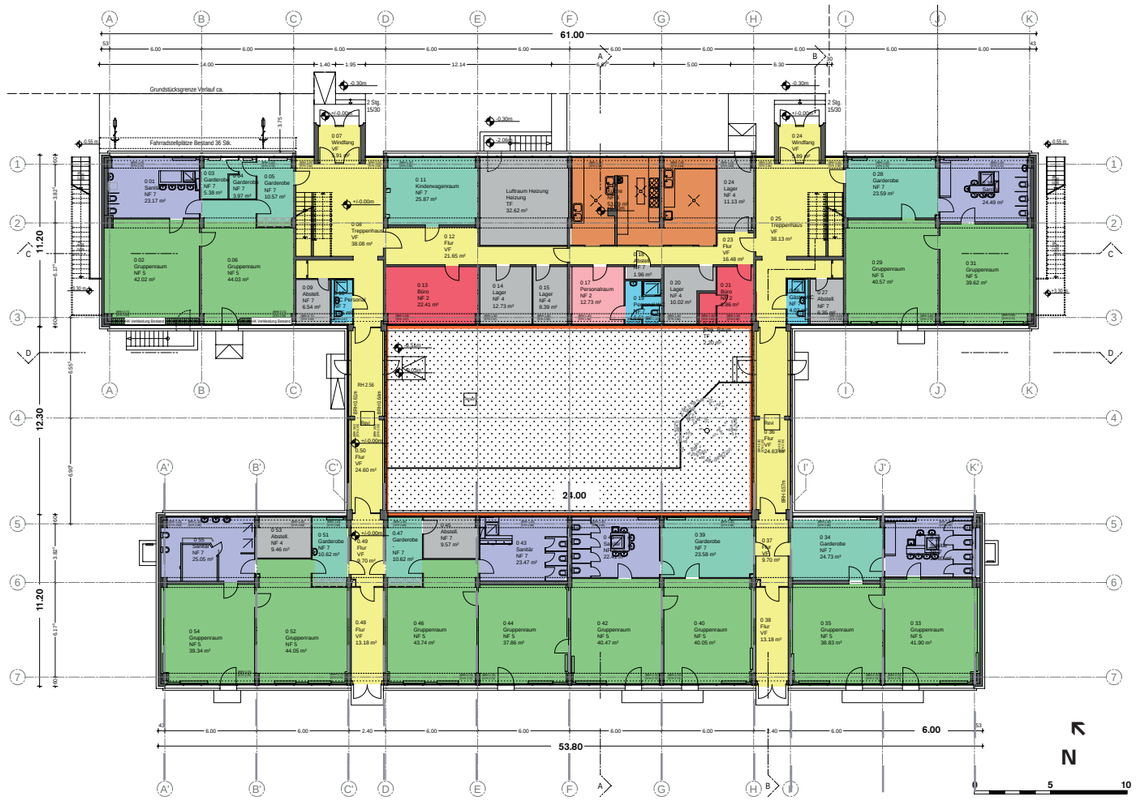


Section

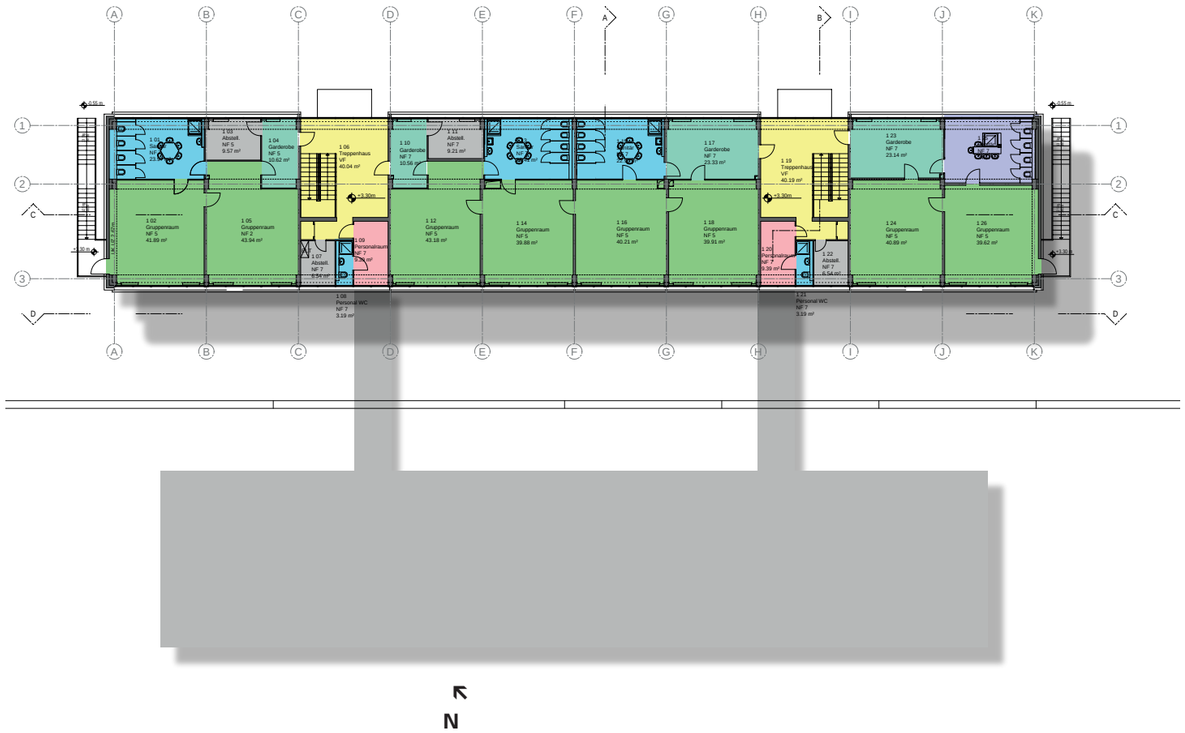
The original layout of the site and the position of the building on the site were chosen in such a way that there are good functional relationships within a uniform raster (129 cm).

Design tasks
- new entrance
- redefining the courtyard

Ground floor



First floor



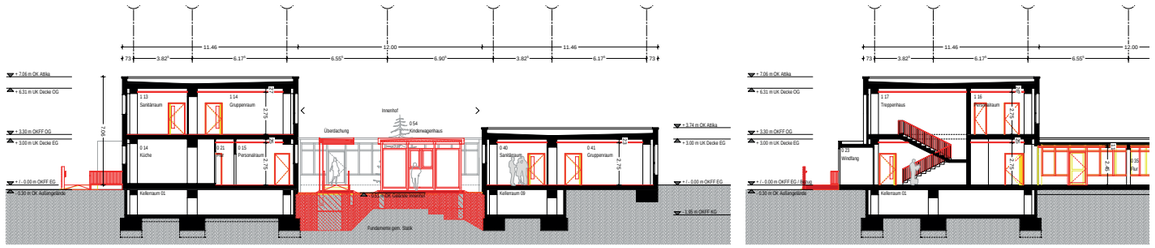
- Gruppenraum
- Sanitärraum
- Garderobe
- Nebenräume/Haustechnik
- Personalräume
- Verwaltung
- Küche
- Erschließung

Rohbau Bestand
Fundamente: Streifenfundamente in Ortbeton
Außenwände: geschosshohe Giebel-Wandelemente d=29 cm;
Längsseiten Brüstungs- und Schaftelemente d=29 cm;
Tragende Querwände und aussteifende Längswände d=19 cm
(2,0 Mp) und 150 mm (5,0 Mp).
Nichttragende Innenwände: (Trennwände) aus Gips, d=7 cm, geschosshoch/oberflächenfertig, und als Holz-Glas-Konstruktionen.
Decken: vorgespannte Vollbetondeckenplatten über max. 600 cm
Spannweite, d=14 cm. Deckenuntersicht oberflächenfertig.
Treppen: Nach TBE-Katalog 63 - 167 aus dem Wohnungsbau.
Steigungsverhältnis 30/17,5 cm.
Dach: Warmdach mit 2% Gefälle, innenliegender Entwässerung und umlaufender Dachwandplatte;Dachdeckung: bekiestes Pappdach
nach TGL 116 - 0881 mit 10 cm Lindowplatte als Wärmedämmung

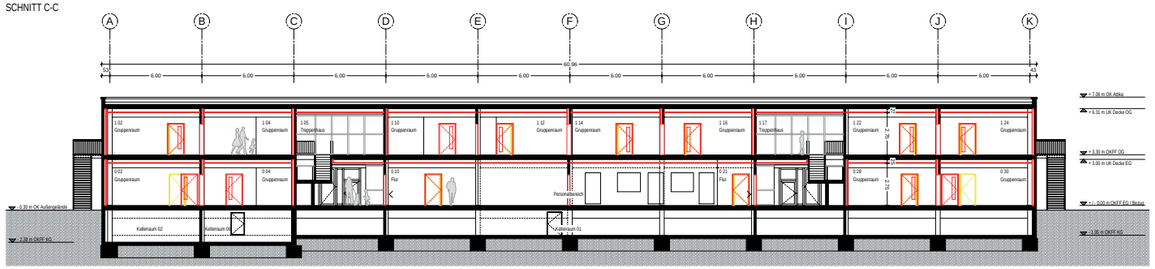
Ausbau Bestand
Fußböden: Konstruktionshöhe = 7.5 cm.
In den Naßräumen: Fliesen, Schutzbeton, Dichtung, Gefällebeton: Windfänge, Flure und Treppenhäuser: Kunststeinplatten
In allen anderen Räumen: Trockenfußboden: PVC-Belag, Feinausgleich-und Hartschicht, Fußbodendämmplatten (Schalldämmung bzw. Wärmedämmung) Schlacke-Grobausgleichschicht.
Fenster: Holzverbundfenster nach TGL 8471, Blatt 3 (Entwurf) als Kippflügelfenster und Drehflügelfenster. Sonnenschutzmarkisen an den Südseiten. In den Windfängen und Verbindungsgängen Stahlleichtbaukonstruktionen mit einfacher Verglasung.
Türen: Innentüren nach TGL 8471, Blatt 3 (Entwurf) mit Stahlzarge.
Nebeneingangstüren als Holzverbundkonstruktionen
Küchen: Gasbeheizte Küchenblockgeräte, mechanische Entlüftung durch Schraubenentlüfter in den Spülen.

Picture: Natascha Meuser

Sections and Elevations



SCHNITT C-C



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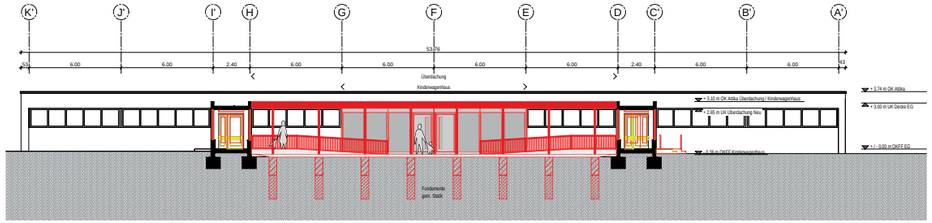


Traumzauberbaum Kita, Berlin-Mitte
Design planning (2017)
Architects: bmh architekten- und ingenieurgesellschaft mbH

Pictures
Existing Building






Pictures: Natascha Meuser

Functional Programme

children

- creativity
- role-playing games
- perception and senses
- music
- theatre, mime, dance
- exercise and sports
- science
- playing areas
- individual promotion
- language/literature
- project area

- children WC
- bath/shower

- cribs/cots
- baby diaper
- rest and sleep

- multi-functional area
- dinning
- transition zones
- media

- entrance

parents

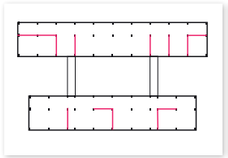
- meetings and communication
- changing room

staff

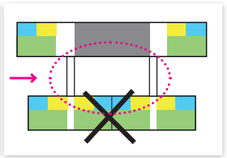
- materials and preparation
- cleaning staff (barrier-free)
- offices and lounges

- changing room
- storage
- cleaning
- cooking
- mobility zones
- elevator

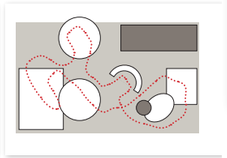
Design Tasks
From childcare centre to place of development



Consider structural aspects of the respective building



Define design tasks, and formulate quality standards



Develop organisational models and present in a design of your own

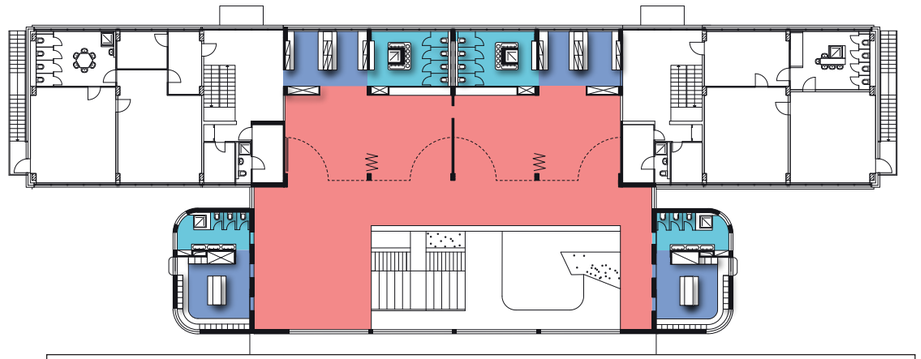
Richtwerte der Sanitäreinrichtung
in Schulen

Raum-bezeichnung	Sanitäreinrichtung
Toilettenräume für Jungen	1 Ausgussbecken 1 WC für 20 Jungen 1 Urinal für 10 Jungen 1 Handwaschbecken oder 1 Waschtisch für 40 Jungen
Toilettenräume für Mädchen	1 Ausgussbecken 1 WC für 10 Mädchen 1 Handwaschbecken oder 1 Waschtisch für 40 Mädchen

Pictures: Natascha Meuser

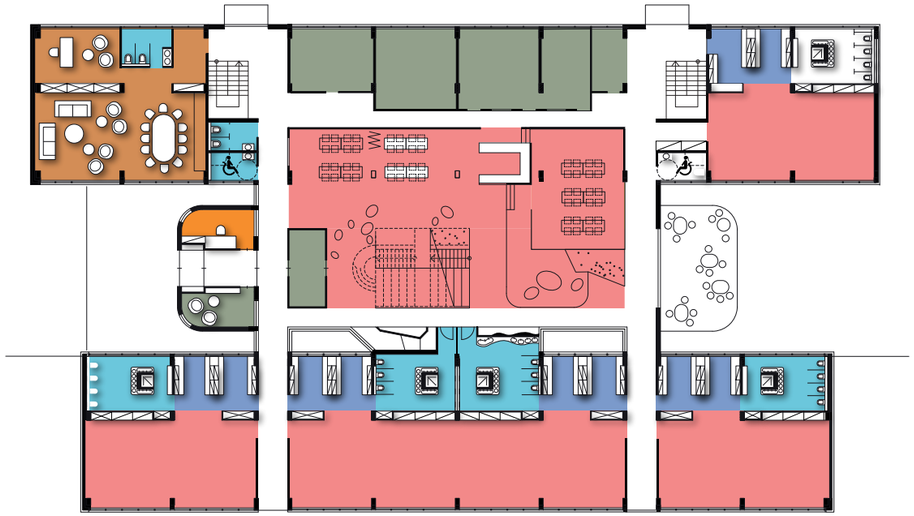
Functional programmes were used to describe the requirements that a kindergarten building must satisfy in order to support and enhance human activities. During the design process, they were referred to as the architectural programmes, the owner's statement of requirements, and the space-needs assessment.
Pictures: Hochschule Anhalt

Functional Programme



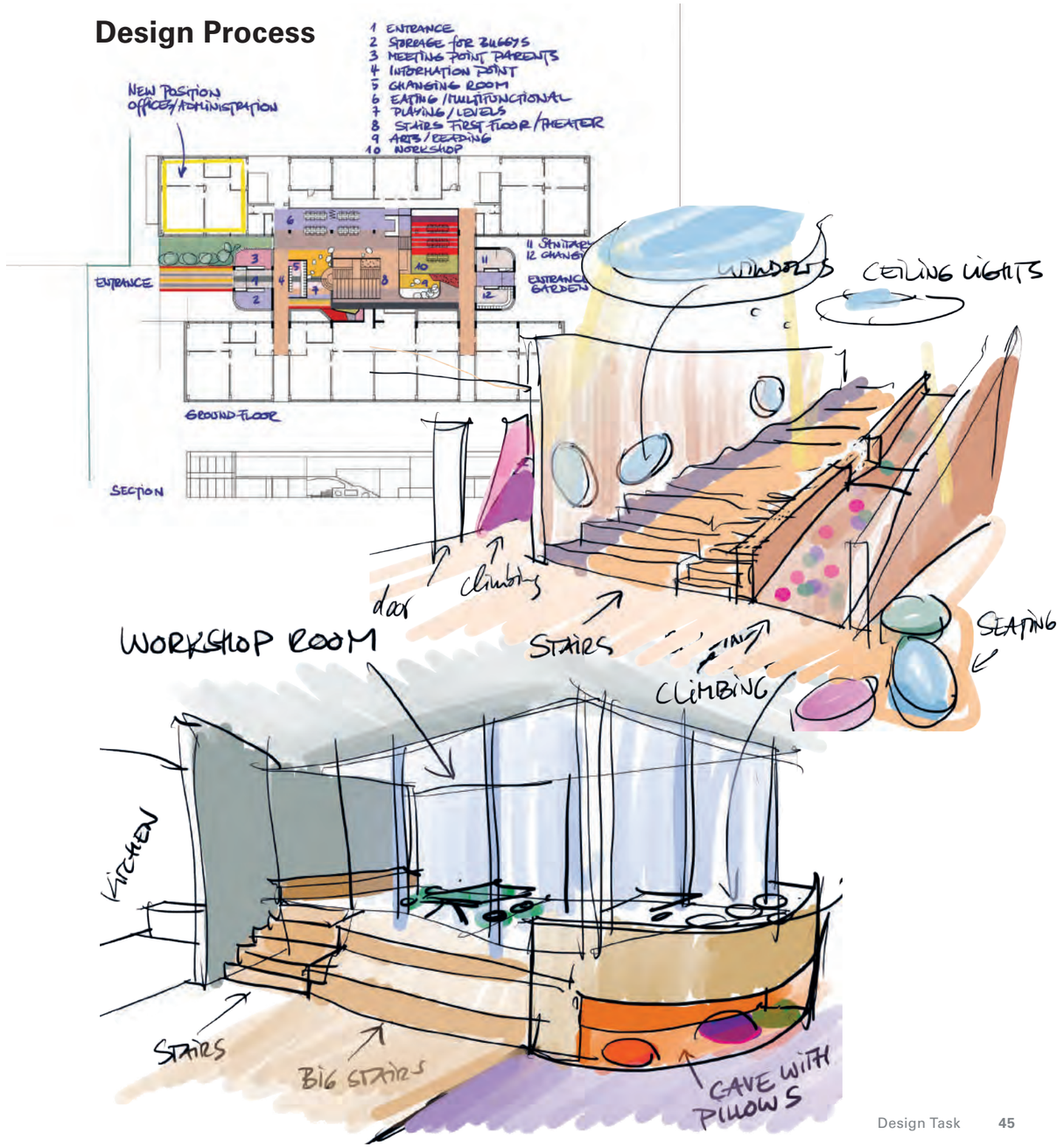
children
changing room
sanitary room
parents
facilities
staff

- 0 to 3-year-old children: 84
- 3 to 6-year-old children: 149
- educational usable area: 4,5m²/per child
- changing room: 0,4m²/per child
- washroom: 0,6m²/per child
- sanitary facilities: toilet/washbasin: per 10 children: 1 each
- crèche area: changing chests requested in bathrooms
- mats for sleeping: under three years: one mat/per child
  older children need about 0,5 mats/per child

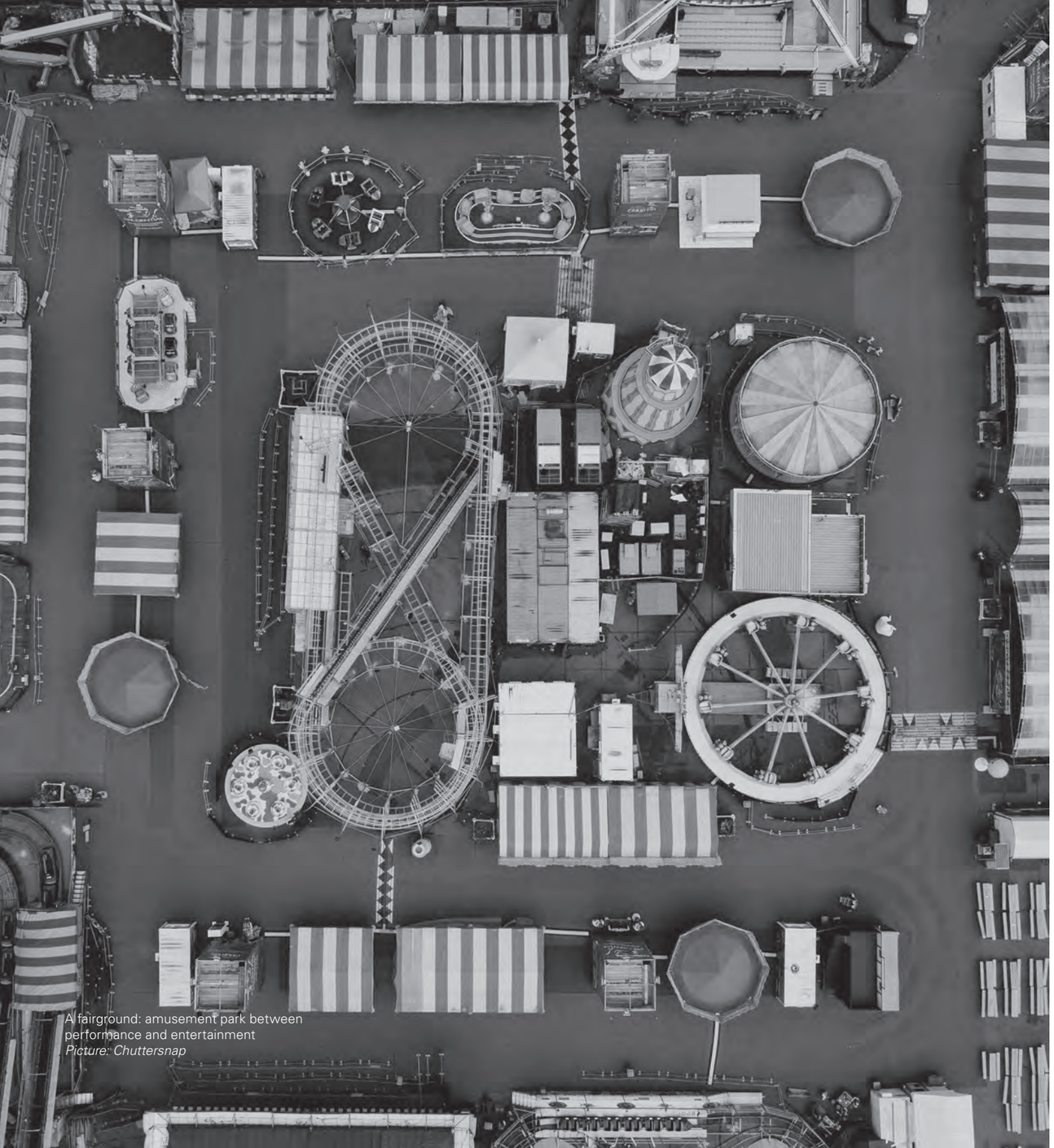


Pictures: Natascha Meuser

Design Process



The Basics of the Design
Ten Parameters



A fairground: amusement park between performance and entertainment
Picture: Chuttersnap

The Basics of the Design
Ten Parameters

Natascha Meuser

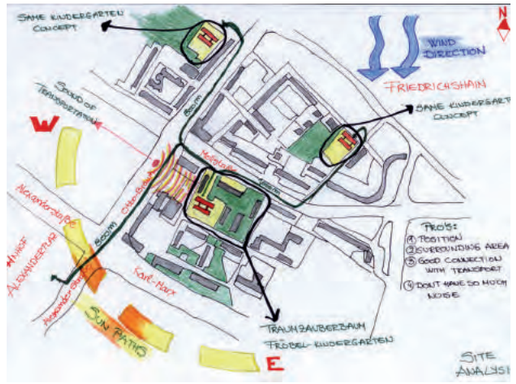
Formulating design parameters for buildings for children is a challenge. Only a few other building typologies offer such a broad spectrum of multifunctional design parameters: serving as a second home, playground, garden, classroom, gymnasium, restaurant, music hall, laboratory, workroom, office, theatre, and much more. What are the outlines of the generally valid aspects for a design and space programme? From the analysis of contemporary buildings and a detailed evaluation of historical buildings from the GDR period, regularities and trends can be discerned, which may be relevant for future designs. Although this ten-part list by no means claims to be complete, by observation of these parameters the design and planning of a kindergarten can be carried out. The section that follows is intended to serve as a planning aid for the development of a design. It can also be used as a communication platform if all parties involved in planning and construction want to agree on an optimal building concept including architects, specialist planners, pedagogues and educators, building sponsors, and users. Only if the architect from the beginning creates a collaboration with specialist planners for building technology and the surrounding grounds, can a design emerge that successfully reflects the needs of the children, their educators, the parents and visitors, and thereby the kindergarten.

View: Courtyard towards Alexanderplatz, Berlin-Mitte
Picture: Natascha Meuser

Urban Context

The urban context in which the kindergarten is located

Location is important. Two opposing aspects emerge in the urban context: on the one hand, the institution of the kindergarten is dependent on an inner city or a proximate urban location in order to guarantee accessibility for visitors. On the other hand, a densely settled urban location may limit the kindergarten's expansion possibilities or size of outdoor facilities. The facilities treated in this investigation can be classified in three categories that characterise the urban context. First of all, there is the suburban location in the vicinity of other significant urban facilities. As a consequence, there are enough parking opportunities nearby. In addition, there is the category of the inner city facilities, like the *Traumzauberbaum* kindergarten (this investigation is based on this building). Although kindergartens are sometimes lacking space for expansion, they are convenient to reach by public transportation. In the third category, choosing between new construction and renovation old in an existing fabric plays an important role in evaluating a possible site. Finding a suitable space for a specific number of children is the starting point.



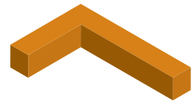
Site analysis around the *Traumzauberbaum* kindergarten in Berlin-Mitte
Source: Learta Stavileci

Do kindergarten buildings need symbolic impact?
Picture: Natascha Meuser

Building Shape
How the building presents itself architecturally

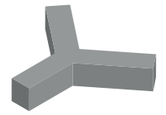
The list of design parameters for kindergarten buildings would be incomplete without addressing the architecture as a point of identification. The idea that striking buildings contribute to the image of a kindergarten may seem far-fetched at first. But a closer look will show that kindergartens do not need symbolic impact. It is more or less an interior design world, although kindergartens successfully use architecture for their public and marketing image. Architecture is also used for identifying reasons. Children will recognise the building as their new home. This underscores the value that outside parties attach to the kindergarten as an institution and its architectural impact. Contemporary kindergartens are differentiated from each other by the programmes they offer (art, music, nature e.g.), or simply by the increase in attraction in the form of unusual buildings. Since the majority of planning contracts today are issued through public competitions, the increased quality of the buildings and the heightened public awareness of architecture also have an effect on kindergartens. This new focus can only contribute greatly to their general benefit.

Linear structure
with linear distribution

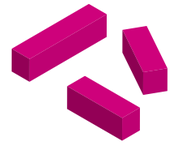


Angular building structure
with linear distribution

H-shaped structure
with linear distribution
and central area

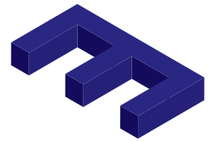


Winged structure with
central distribution

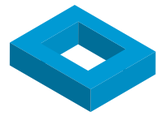


Individual building units
with traffic routes that pass
through outside facilities

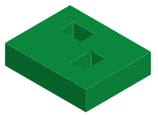
U-shaped structure
with U-shaped distribution



U-shaped structure with
U-shaped distribution



Atrium with ring-shaped
access to the inner courtyard
or to the outside



Compact structure
with predominantly vertical
distribution

Handrails on different heights for small and big humans.
Picture: Natascha Meuser

Interior Design
What is the role of interior design in educational settings?

Buildings designed for children must epitomise safety, security and comfort. It is only in a very few typologies that these tenets will be taken more literally. To this end an abundance of individual factors have to be borne in mind which ultimately play an important role in the development of the children, the manageability of the areas involved and the occupants' sense of being at ease with their surroundings too. Practically all structural factors – such as acoustics, temperature, ventilation and aspects of shape – are therefore significant for the design of communal and/or recreational areas, with particular regard to the following:

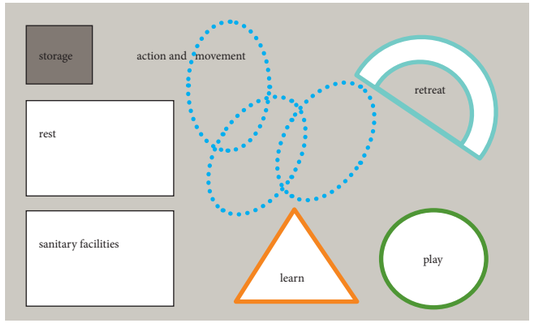
Architecture must respond to the needs and abilities of children under the age of three in terms of sensory and physical motor skills as well as those of older children. There must be adequate space within rooms for quiet areas, places which encourage movement, learning spaces and play areas which meet the following general planning requirements of 2.5 to 4.5 m^2 (requirements may vary per location depending on the individual German state involved). A ceiling height of at least 2.5 m is required as well as natural light, dimmable lighting to lend a homely atmosphere and functional lighting. Swivel windows and tilting windows made of safety glass (up to a height of 2.0 m) and doors with glass panels and exterior sunscreens are just as much a part of the minimum criteria for fitting out premises as are acoustic measures, in-house accident-prevention technical installations and the provision of sleeping facilities. Fully enclosed rooms are not permitted. Varied floor levels are supposed to act as a stimulant for children when playing, with an entrance at ground level leading directly out on to the outdoor area. Hygiene and safety-related factors together with ergonomics also play a significant role in planning design. Anti-skid and easy-to-clean surfaces are just as important as sufficient heat and ventilation.

- *The Design of Spaces*: consider materials, colours, and light
- *The Perception of Spaces*: consider perspective and mood
- *The Creation of Spaces*: consider the body of and floors within a building
- *The Structure of Space*s: consider form and order
- *The Sequence of Spaces*: consider location and layout of passageways
- *The Ambience of Spaces*: consider special touches and their desired effects
- *The Dimensions of Spaces:* consider proportion and scale

Picture: Istock

Staging Space
How children feel and see the world

Even in their chosen discipline, architects have no claim to design freedom. An architect designs a kindergarten for grown-ups and small humans at the same time. What is pleasant for a visitor may be very harmful for a child. Some trends can be observed in newer kindergarten buildings: in addition to common class rooms, there are often spatial sequences with surprise effects. For instance active zones and rest areas must be coordinated with each other. Architecturally staged levels and views can serve to enhance this enjoyment of space, from vantage points; from above, a level perspective, or below. By means of a hole in the floor or wall, the design elements can also provide a different view and experience for the children, for example with the aid of a display window. The exploration of space also depends on the layout of the pathways. While the children activities occur most of the daytime indoor, the outdoor territory is as important to them. Nature provides a modicum of freedom and a certain autonomy. Do children actually move differently in nature than in an architecturally designed space?

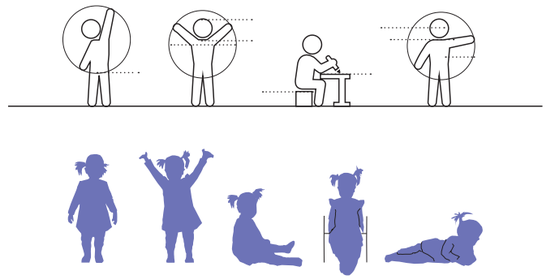


The architecture must respond to the needs and abilities of the respective age groups in the form of differentiated spatial offers and functions.

Picture: Istock

Little Humans
How to design for children

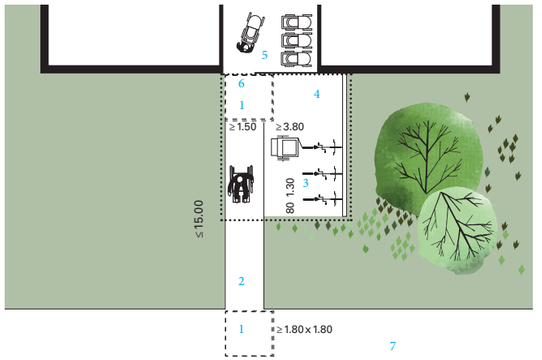
»Seen as an innocent figure, the child represented hope in a better future, for today's children would be tomorrow's society. This change of attitude toward childhood will therefore be evident in both practical and theoretical forms of architecture and urban planning, ranging from the large scale of the city, to the intimate scale of domestic space. Spaces for play, such as playgrounds and playrooms; the walking distance at which a school is placed from home and, inside the dwelling, spaces for social interaction and introspection – these all consist of evidence of how childhood started integrating the discourse of modern society and, thus, of architecture. By looking into the work of architects from this period – like Ernst May's *Siedlungen* in Frankfurt, Ernö Goldfinger and his exhibitions, Aldo Van Eyck and his playgrounds in Amsterdam, to name a few, one can unveil the various interpretations of childhood in architecture, never forgetting that the architect who thinks the city also designs the home, the latter being regarded as the very centre of town planning concerns and the focal point of all measures.« by *Rita Monteiro Vieira*



Pictures: Natascha Meuser

Entrance area
How to design a welcoming distribution area

Arrival and departure, or entering and leaving, are particularly marked by the overcoming of boundaries and conflicting environments. Upon entering a building the entranceway is a key element – it acts as the first visible welcoming gesture whilst at the same time being a layer of security that visitors must face. Admission checks are carried out by means of a doorbell, intercom or doorman. Following initial entry the next threshold to be negotiated entails getting one's bearings, exchanging greetings, checking in at reception and handing in coats etc at the cloakroom. It is here that the ritual gestures of saying hello or goodbye to children begin, as well as various communications among the children, the people in charge, and parents. Architectural elements, such as doors, porches, balustrades, ramps, plants, and lighting are intended to illustrate from afar the important role of the entrance within the framework of the entire façade, and they should be designed to be both safe and accessible. The provision of information and announcements as well as the presentation of educational work rank among the fundamental tasks of the entrance area in the course of daily encounters.



1 Wheelchair movement area: 1.80 x 1.80 m
2 Width of walkway: 1.50 m width to 15 m length;
shunting area 1.80 x 1.80 m
1.20 m width to 6 m in length, without changing direction;
shunting area 1.50 x 1.50 m
3 Bicycle parking spaces with trailer: width ≥3.80 m
Distance between bicycle stands ≥1.30 m
4 Roofing
5 Pram parking area
6 The entrance door should have contrasting elements or have visually detectable frames.
7 Pathway

Sicherheits- und Schutzmaße für Kinder über 3 Jahre

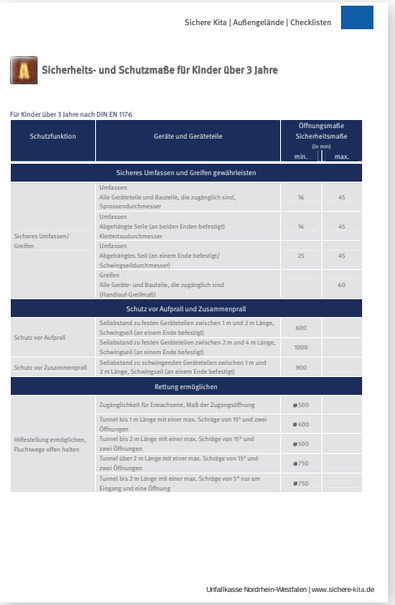
Für Kinder über 3 Jahre nach DIN EN 1176

Schutzfunktion	Geräte und Geräteteile	Öffnungsmaße Sicherheitsmaße (in mm) min.	max.
Sturzfolgen mildern und vermeiden			
Sturzfolgen mildern	Freie Fallhöhe, an allen Geräten und Bauteilen, die zugänglich sind		3000
	Mindestfallraum	1500	
Gleichgewichtshilfe	Handläufe z. B. an Treppen, Leitern, Rampen	600	850
Absturzsicherung	Geländerhöhe Geländer für Podeste, Plattformen über 1 m bis 2 m freie Fallhöhe	600	850
	Brüstungshöhe Brüstung für Podeste und Plattformen über 2 m bis max. 3 m freie Fallhöhe	700	
Fangstellen für Finger vermeiden			
Finger passt nicht in Öffnung	Fangstelle für Finger Insbesondere bei Geräten, wo der Körper in einer vorgegebenen Bewegung ist und bleibt, z. B. rutschen, schwingen, fallen		8
	Fangstellen für Finger an Kettengliedern		8,6
Finger kann aus Öffnung herausgezogen werden	Fangstelle für Finger Bei allen Geräten	25	
Fingerquetschstellen vermeiden	Verbindungsteile von Ketten, bei Spalten und Geräteteilen, deren Maß sich während der Gerätenutzung verändert	12	
Fangstellen für Fuß und Bein vermeiden			
Vermeidung gefährlicher Situationen	Spalten in Laufrichtung bei Oberflächen mit einer Schräge bis 45°		30
Fangstellen für den Körper vermeiden			
Schutz vor Einklemmen	Bodenfreiheit unterhalb von Nestschaukeln, Einpunktschaukeln	Zum Boden 400	
	Spitze Winkel (Winkel in abwärts gerichtete Richtung)		60°
Fangstellen für den Kopf und Hals vermeiden			
Kopf passt nicht hindurch	Alle Geräte und Bauteile, die zugänglich sind und über 60 cm der Aufenthaltsfläche des Nutzers liegen		89
Kopf und Körper passen durch die Öffnung	Alle Geräte und Bauteile, die zugänglich sind und über 60 cm der Aufenthaltsfläche des Nutzers liegen	230	

Source: Unfallkasse Nordrhein-Westfalen

Safety and Security
How to protect children

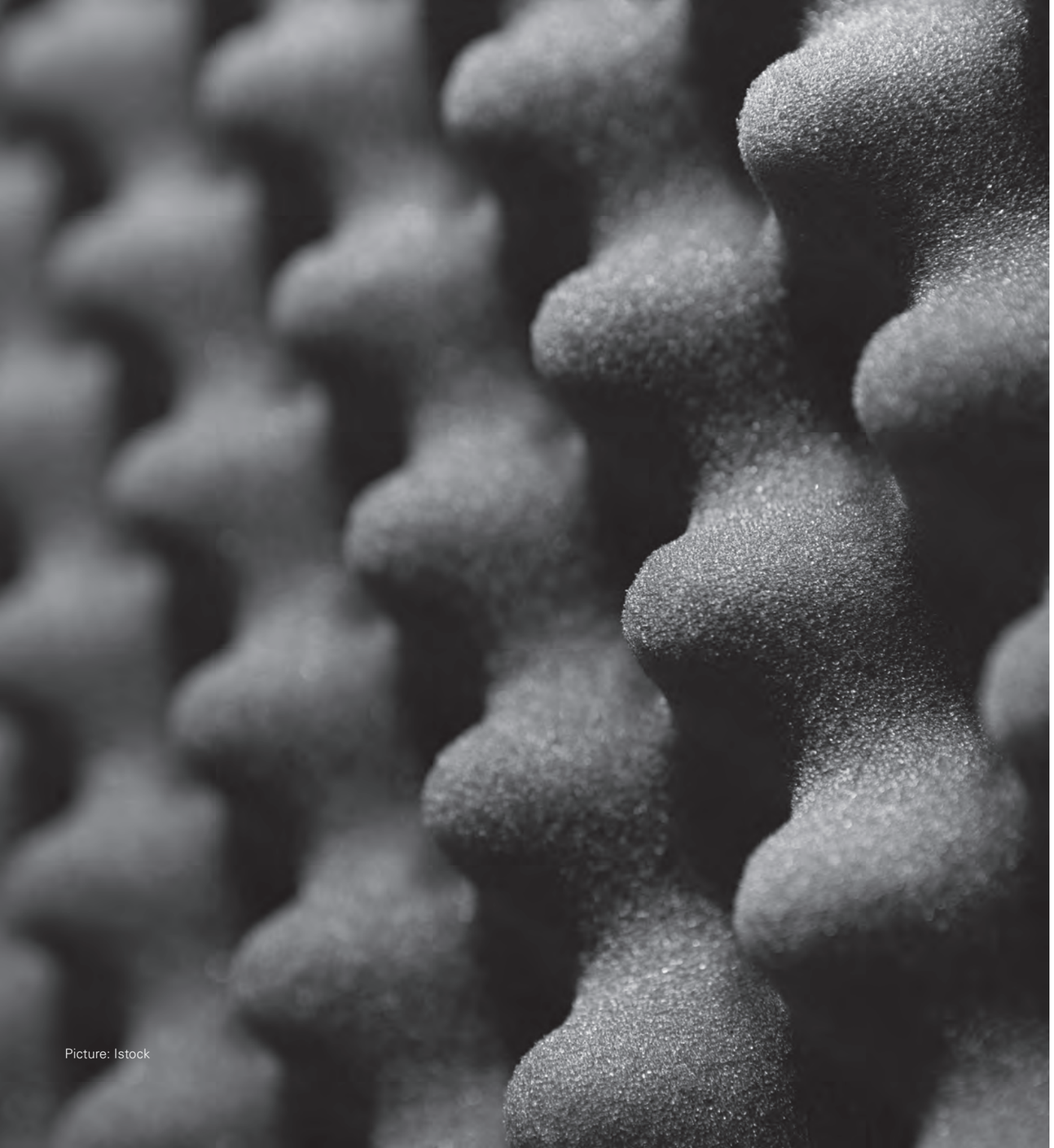
Safety management is without a doubt one of the most complex tasks of a kindergarten. This starts out from the usual building code requirements (fire prevention, for example) and extends to special regulations as well as evacuation and escape procedures for the entire facility. When we speak of material security in kindergartens architectural elements such as banister rails, doors and furnishings have all to be taken into equal consideration. This is closely bound with preventing accidents, by responding to the physical dimensions of children. Furthermore, steps must be taken to ensure that there are access control systems for entrances and exits to given areas as well as primarily to the building itself. Open doors as we know them from our own childhood have long since disappeared from kindergartens. Different educational approaches also call for appropriate spatial layouts. Differing requirements in terms of security are placed on forest kindergartens than, for example, on inner-city kindergartens. Just as spatial and functional programmes differ, so too must planners' responses differ accordingly.



Designing Children's Safety
Source: Unfallkasse Nordrhein-Westfalen

Open Space
How space and activities can interact in a flexible way

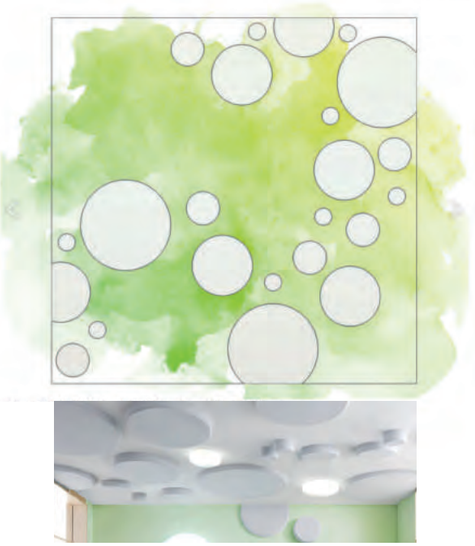
Picture: Istock



Picture: Istock

Acoustics Standards
The impact acoustics have on how children learn

The fact that nursery groups are noisy is a given – yet stress among skilled employees and children, experienced through noise, is proportionately influenced by acoustics. It is only when acoustic aspects are considered from the outset that these can then be tweaked and can be seen as a pertinent component of integral and detailed planning and design, particularly because they are set within the context of structural, physical, architectural, and organisational aspects. New educational concepts envisaging multi-functional rooms must therefore be seen to operate well within buildings and also from the point of view of the physical design of buildings. Above all, measures taken in respect of interior fittings can help to lend a good acoustic ambience – e.g. by avoiding reverberating hard surfaces and furnishings. Soft furnishings and drapery can also help to absorb a great deal of noise emissions. These measures pursue the objective of channelling away the reflection of sounds and preventing, containing or improving the effects of the propagation of noise generally.



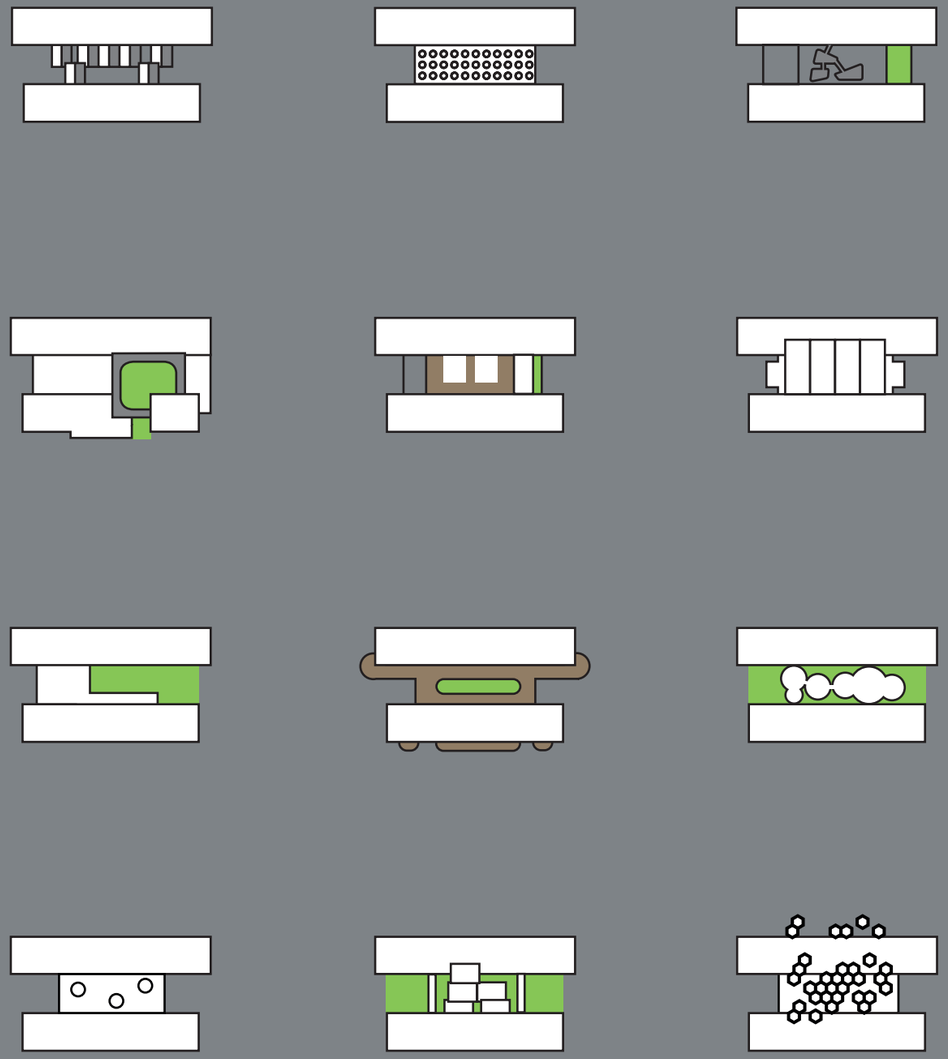
Sound insulation elements primarily serve to reduce noise levels. Mounted on the ceiling or wall, they fit naturally into the overall interior concept. Pictures: Wehrfritz

Picture: Istock

Signage and Didactics
How information reaches its addressees

Similar to information systems, these measures can also reach addressees. A good control system comes with few or even no signs. In the latter, the architecture must speak very graphically for itself. The realisation that signage – the conception and design of guidance and orientation systems – is an independent design task, is increasingly gaining acceptance with kindergarten administrations. For the designing architect, this means involving a specialist at an early stage. Important in the conception and design is the sequence of departure, guidance, and destination points, all of which exist in the complex development system of a kindergarten. Signage should, if possible, be consistent with the didactic concept and branding of the kindergarten itself. This offers an opportunity to develop a barrier-free visitor guidance system alongside a modern didactic method aimed at a public effective overall concept. In a further step, the different information media can be defined editorially and creatively. It is advisable not to forego analogue information, as digital media must be maintained and updated constantly. In addition to the conventional information panel on the origin and characteristics of each child age, didactic display boards are very popular (for example for identifying the different activity or sanitary rooms). However, the same principle applies to both didactics and signage: less is more!

Guidance system
Kids Docs dental practice, Berlin
Design: 3 für Formgebung,
Stefanie Jotzo-Neuenhuys, Britta Weisser



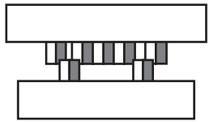
Projects

3D model of the existing building
and new design.
Picture: Fanguan Zhang

Children's Playhouse

How fine architectural values are becoming human values

Fangyuan Zhang

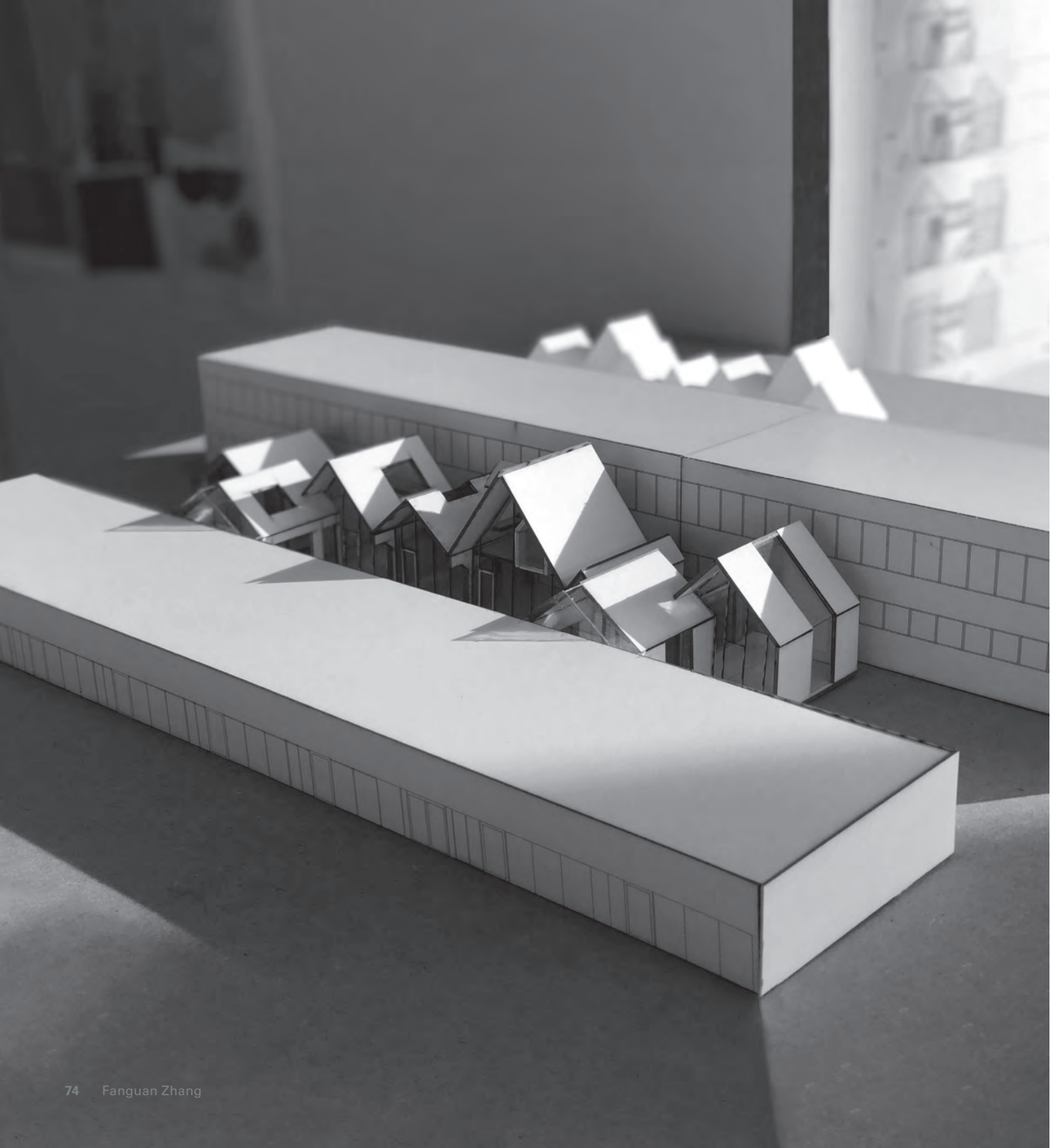


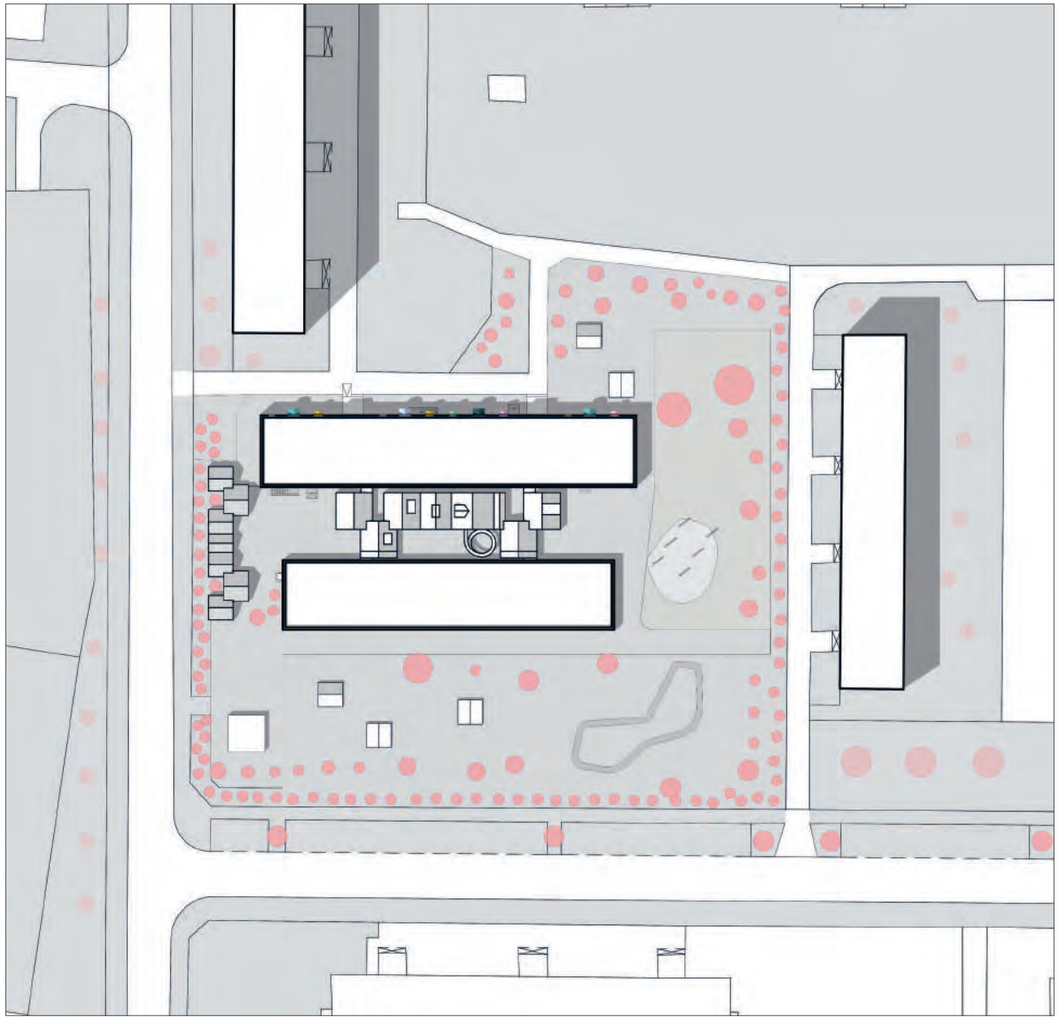
Modular architecture
The design concept was to create children's playhouses and stroller storage as modular architectural components. The units will be prefabricated at a factory and then put together on the construction site. Speedier construction, less material waste, more standardised production processes and recyclable materials, conducive to protecting the environment, are the overarching priorities. The idea of varying individual units and combining them in a chain-like manner gives the kindergarten a strong, identifiable branding.

Diversity in Typology
As you can see, elements of different sizes and materials are strewn across the kindergarten. They may look the same, but they have different functions. The house in the courtyard centre includes a resting area, an exhibition area, and a multifunctional area. The houses next to the road are designed for stroller storage. Design elements also take the form of a broad variation of tiny houses in the interior, i.e. a playhouse, sanitary booths, child healthcare spaces, and the sauna area.

Concatenation + Rhythm
New corridors and staircases were remodelled according to the existing buildings. The corridor becomes an important distributor of diverse functions such as multi-functional rooms, a kitchen, a resting area for parents or teachers, and much more. The corridor itself is a well-designed open space, important for circulation, and offers plenty of design elements, such as storage spaces, seating possibilities, drafting boards, and more. As Goethe once said: »architecture is frozen music«. The different heights of the housing units form a rhythm; the new roofs are 'dancing' in front of the old building shapes, just like children.

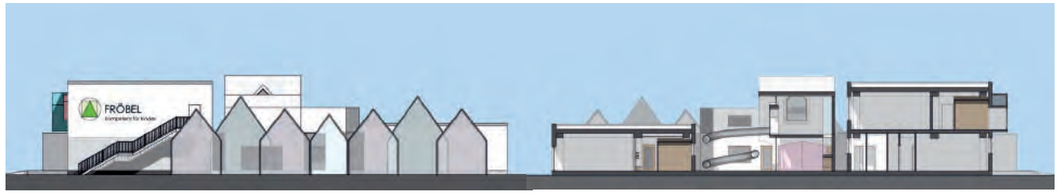
Modular architecture · Diversity in Typology · Concatenation + Rhythm





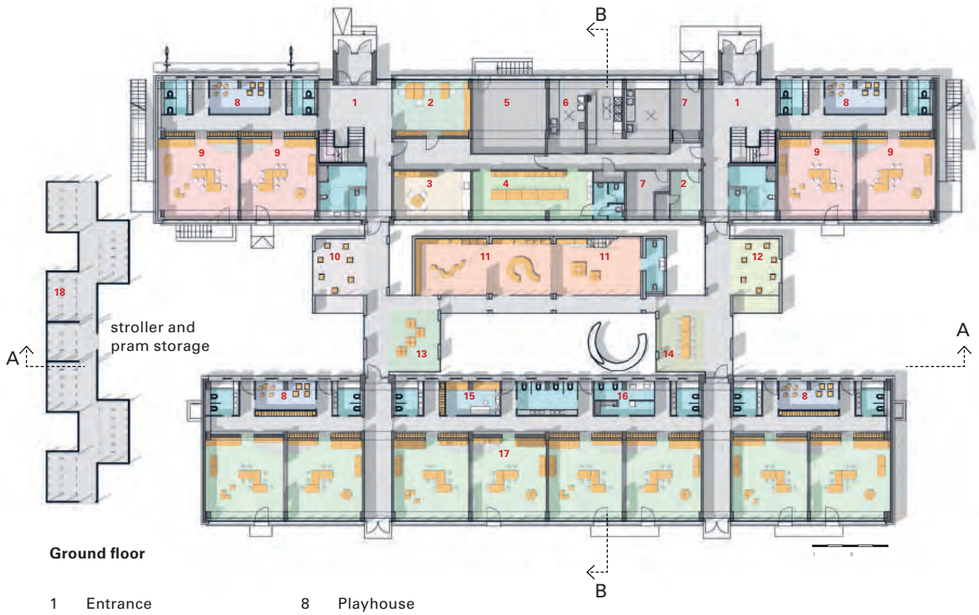
Site plan, scale 1:1,000

North elevation



West elevation

Section BB

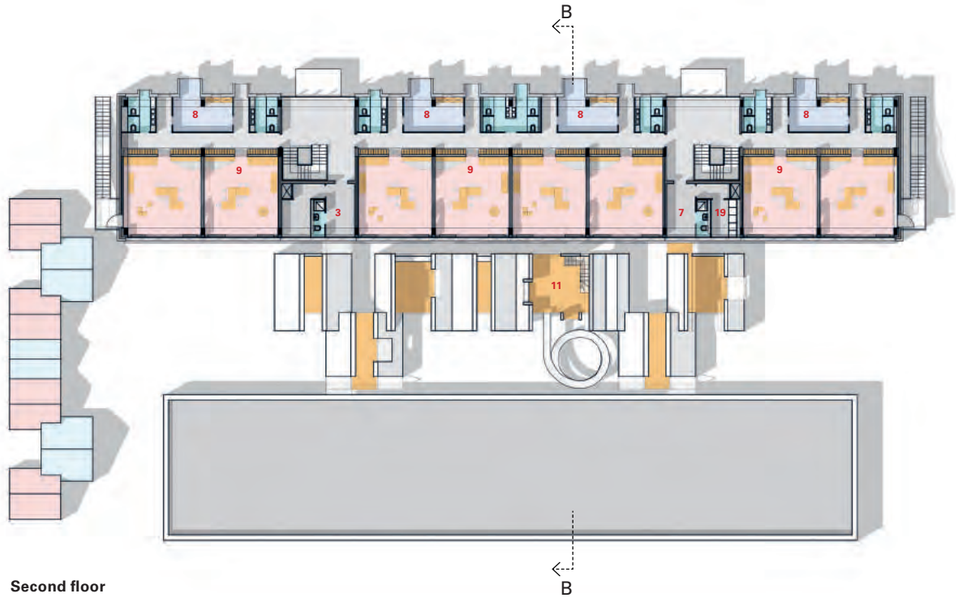


Ground floor

1 Entrance
2 Office
3 Staff room
4 Dining area
5 Equipment room
6 Kitchen
7 Store
8 Playhouse
9 Group room kindergarten
10 Parents area
11 Multipurpose space
12 Staff area
13 Gallery
14 Workshop
15 Child health care
16 Sauna
17 Group room crèche
18 Stroller and pram storage

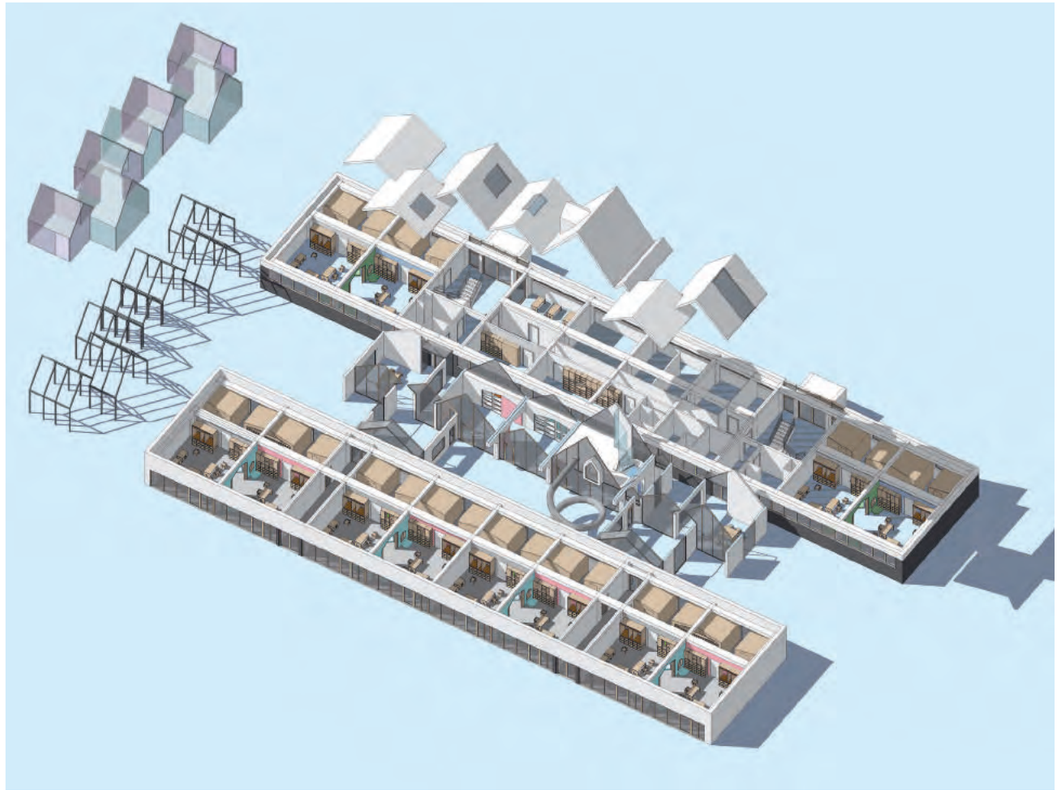
South elevation

Section AA



Second floor

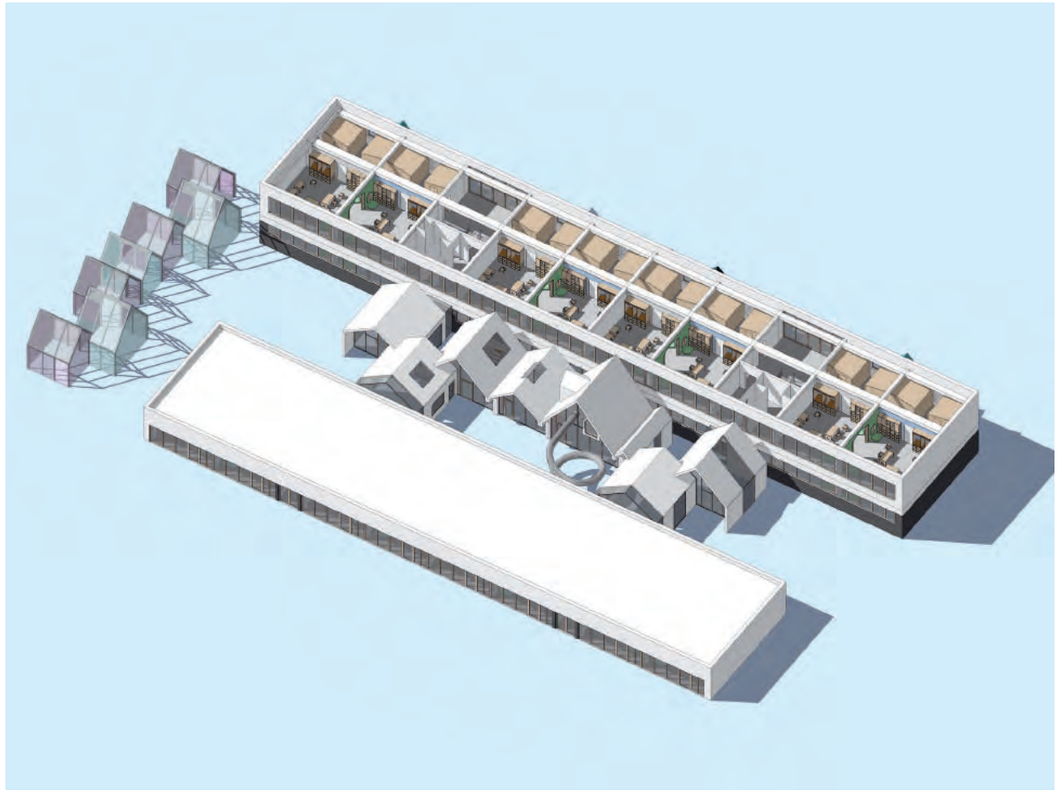
3 Staff room
7 Store
8 Playhouse
9 Group room kindergarten
11 Multipurpose space
19 Tea kitchen



Key Rooms

Pram store:
Size: 110 m^2
Pram capacity: 64
Material :
Square tube - 80 mm x 80 mm
Multi-skin sheet - 16 mm, polycarbonate, light-transmitting,
structure of 3x + x

Multipurpose room
Thickness: 240 mm
Material:
Roofing - Metal Standing Seam 40 mm
Softwood, Lumber, with EPS-insulation 140 mm
Wood - panelling, 50 mm
Gypsum Wall Board 12 mm

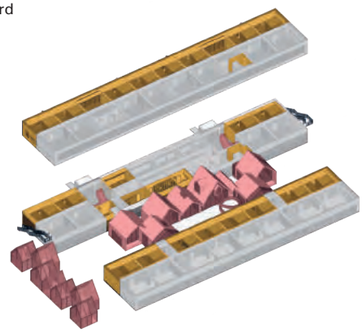


Key Data

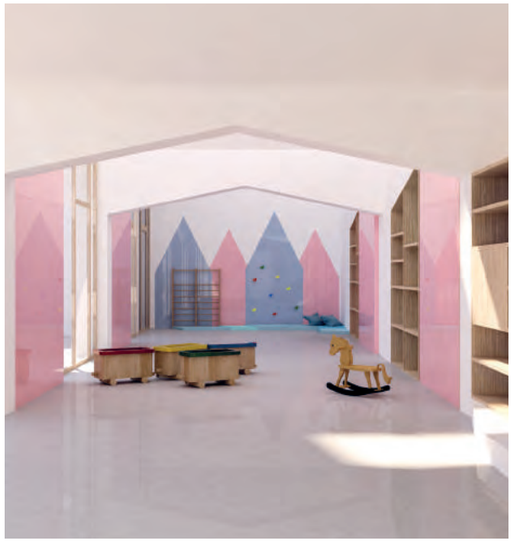
No. of children: 220
(132 in kindergarten + 88 in crèche)
Ages:
4 months to 3 years;
3 years to 6 years
No. of children in kindergarten: 12
No. of children in crèche: 8

Areas
Gross floor area: 2130 m^2
Size of kindergarten: 50 m^2
Size of crèche: 50 m^2
Outdoor area: 5,605 m^2

Courtyard



Corridor



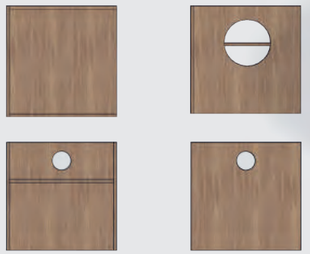
Activity room

Stairway

Group room

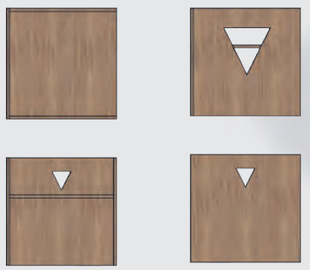
Froebel Design Guide

Play stool



Type-1

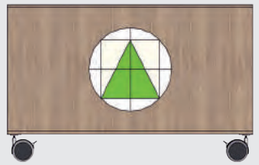
Type-2

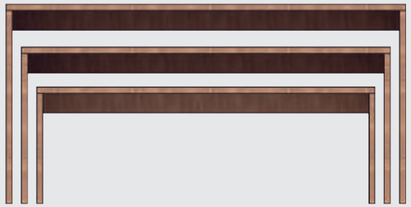


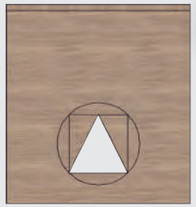
Type-3

Kids Sit and Play Furniture
Material: beech full wood, variant with clear lacquer and colour
Design elements: circles, squares and triangles
Seat heights: each play stool has three different seat heights
- seat height 130 mm: children 0-1 years (suitable for tables)
- seat height 230 mm: children 1-3 years (suitable for medium tables)
- seat height 360 mm: children 3-6 years and educator (suitable for common tables)

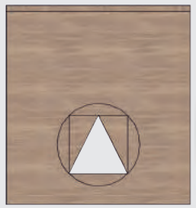
Material trolleys + crates

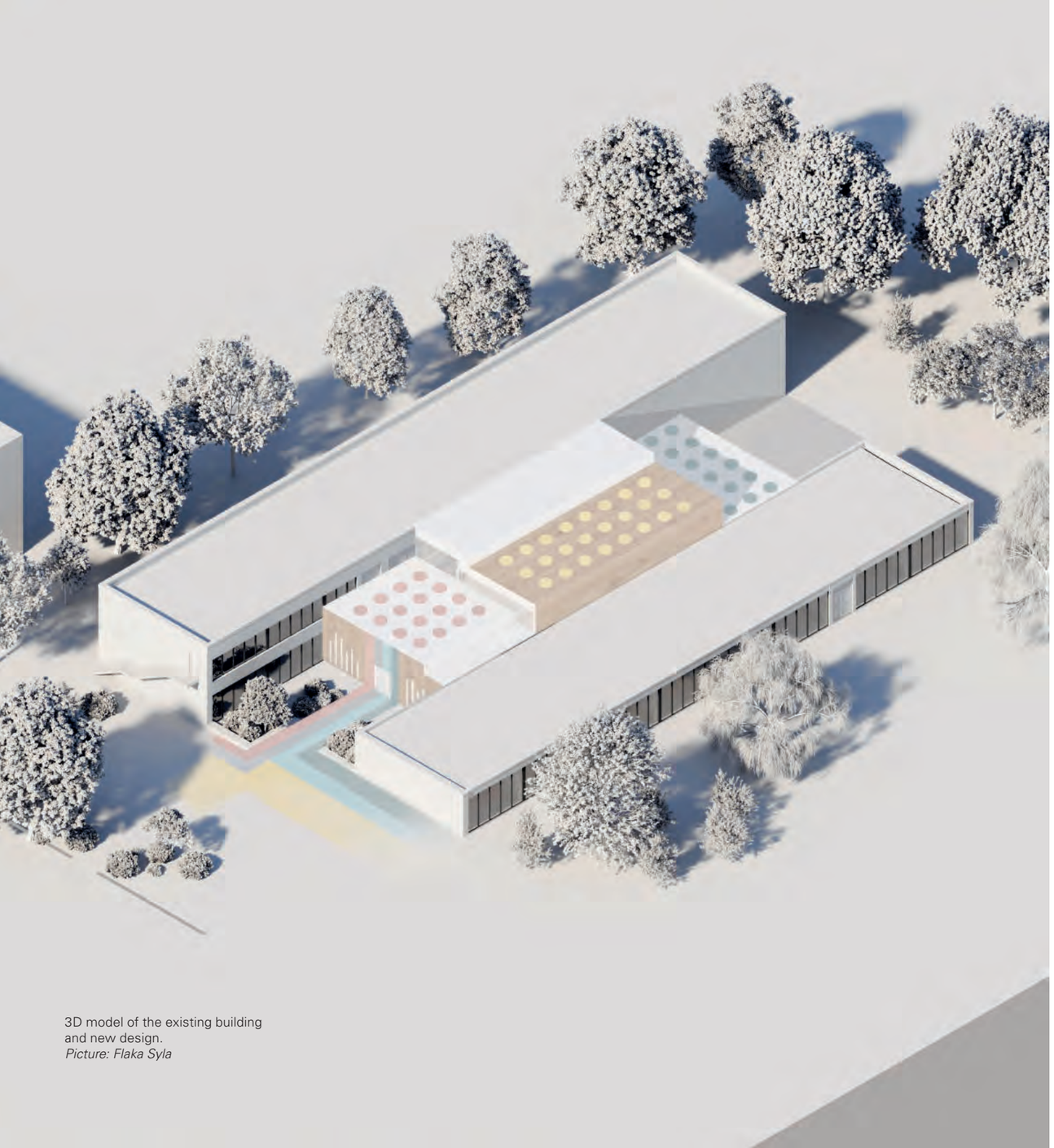






Gambling table set

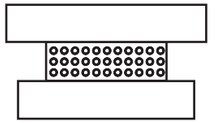




3D model of the existing building
and new design.
Picture: Flaka Syla

Bricks 4 Kidz
How spaces behave and interact with children

Flaka Syla



Design Parameters
Combining the old with the new, the main goal of this design is to adapt an existing building to additional uses. This design strategy enables the building to enrich its neighbourhood aesthetically, economically, and historically. Adaptive reuse should act as a tool for both preserving and modernising buildings. A former GDR kindergarten (Typenserie 66) serves as an example.

Modular Architecture
The killing or fostering of creativity in children can also be a matter of architecture. »Children develop creativity not when you tell them to, but when you show them.« Therefore, ***Lego***, one of the most popular games worldwide, can also indicate, architecturally, the flexibility and opportunities that may be derived from differently-sized units, depending on the choice of the user.

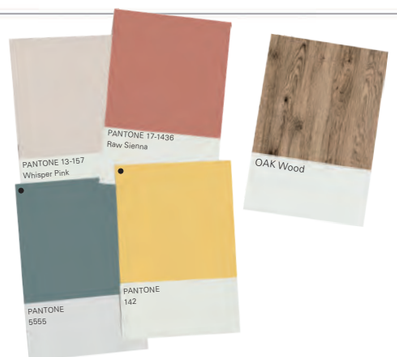
Creating a Good Place for Interaction
»Community« derives from the Latin »communis«, meaning common. We need to help children cultivate friendship, sharing, respectfulness, truthfulness, and caring. The main design goal here is to allow children to make their own choices, whether this relates to where and with whom they wish to play or learn. In this respect, interior spaces offer a variety of flexible possibilities.

Section AA

Section BB

Ground floor

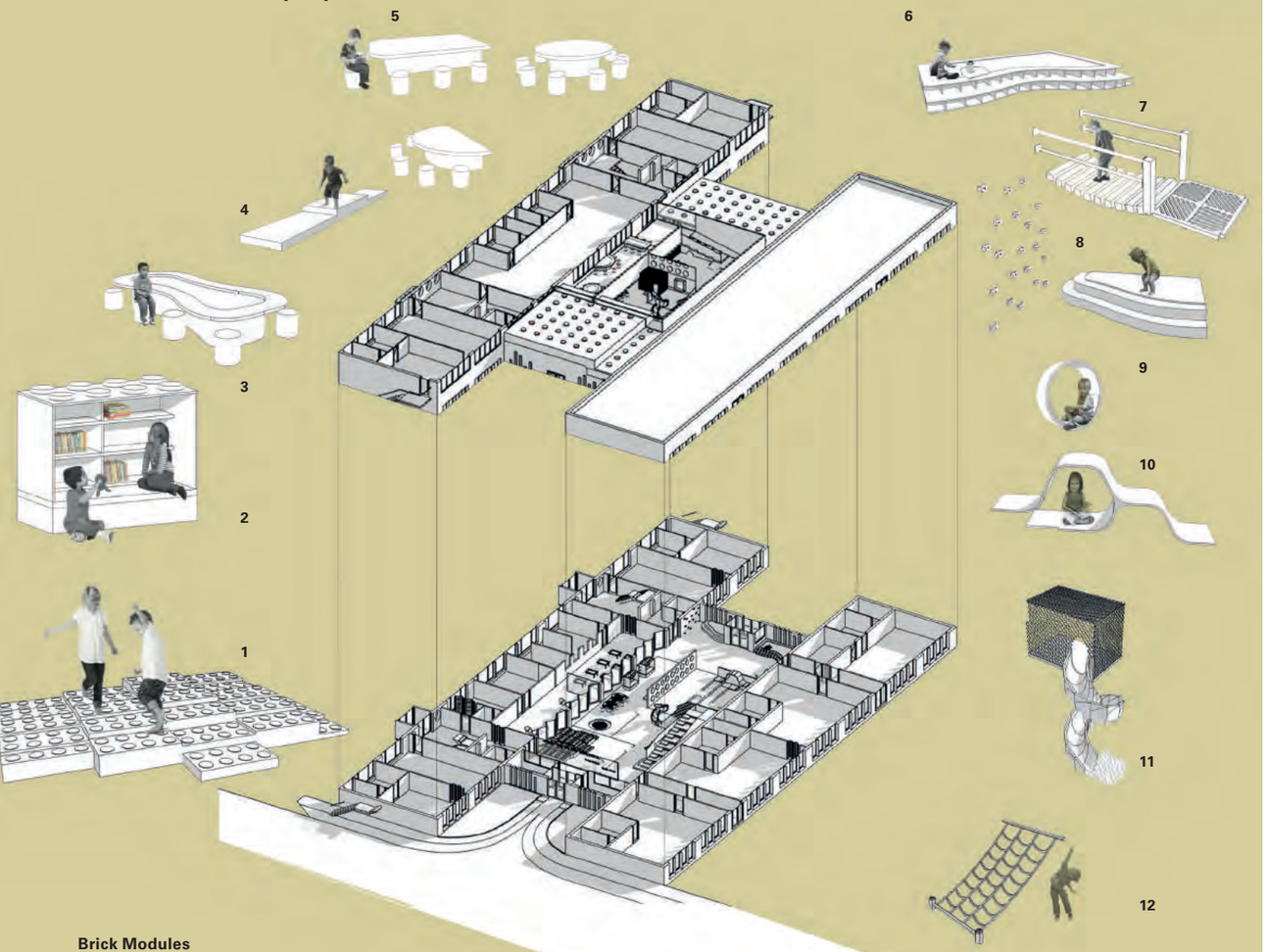
First floor



1 10

1 Entrance
2 Parents meeting point
3 Storage for strollers
4 Stairs & slider
5 Performing on Levels
6 Playing area
7 Story telling
8 Playing with LEGO
9 Reading space
10 Climbing wall
11 Entrance from garden
12 Playing with sand
13 Group room (0–3)
14 Changing room
15 Children WC
16 Barrier-free WC
17 Lounge Area
18 Mensa
19 Services entrance
20 Storage
21 Kitchen
22 Heating system
23 Staffroom
24 Staff entrance
25 Resting and playing
26 Gallery
27 Workshop space

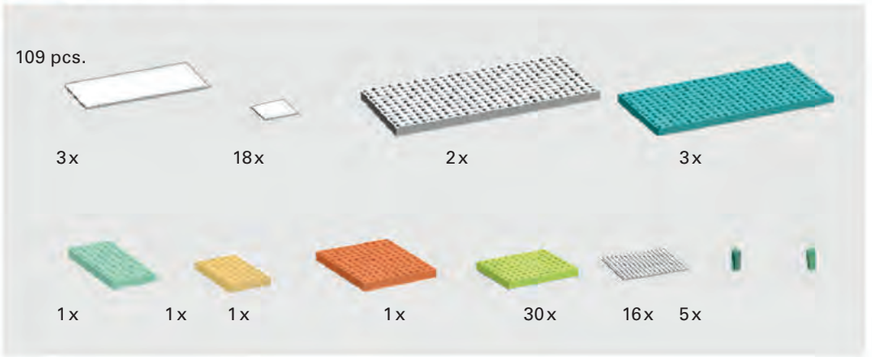
Furniture and Activity Toys

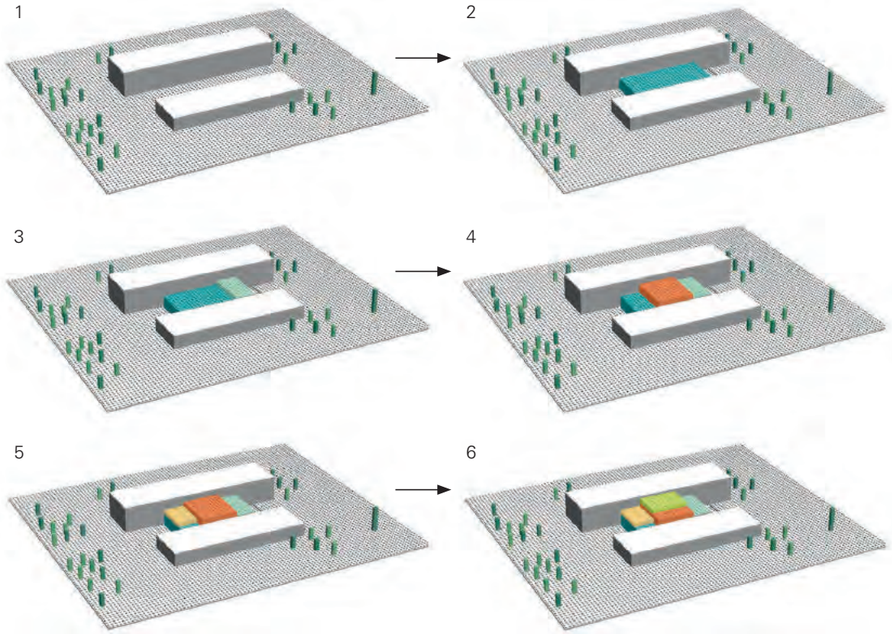


Brick Modules

1 Tumbling Mats: practicing acrobatic skills
2 Library and Shelves: storing and arranging order
3 Games Table: creative activities
4 Playing Levels: heights and planes
5 Tables and Chairs: dining and learning
6 Cabinet and Storage: sorting things
7 Bridges: variation of the paths
9 Activity Toys: sports equipment
10 Reading Spaces: tables to learn and hide
11 Playing Equipment: change of level by sliding
12 Climbing Nets: climb other levels

SYLA CREATOR

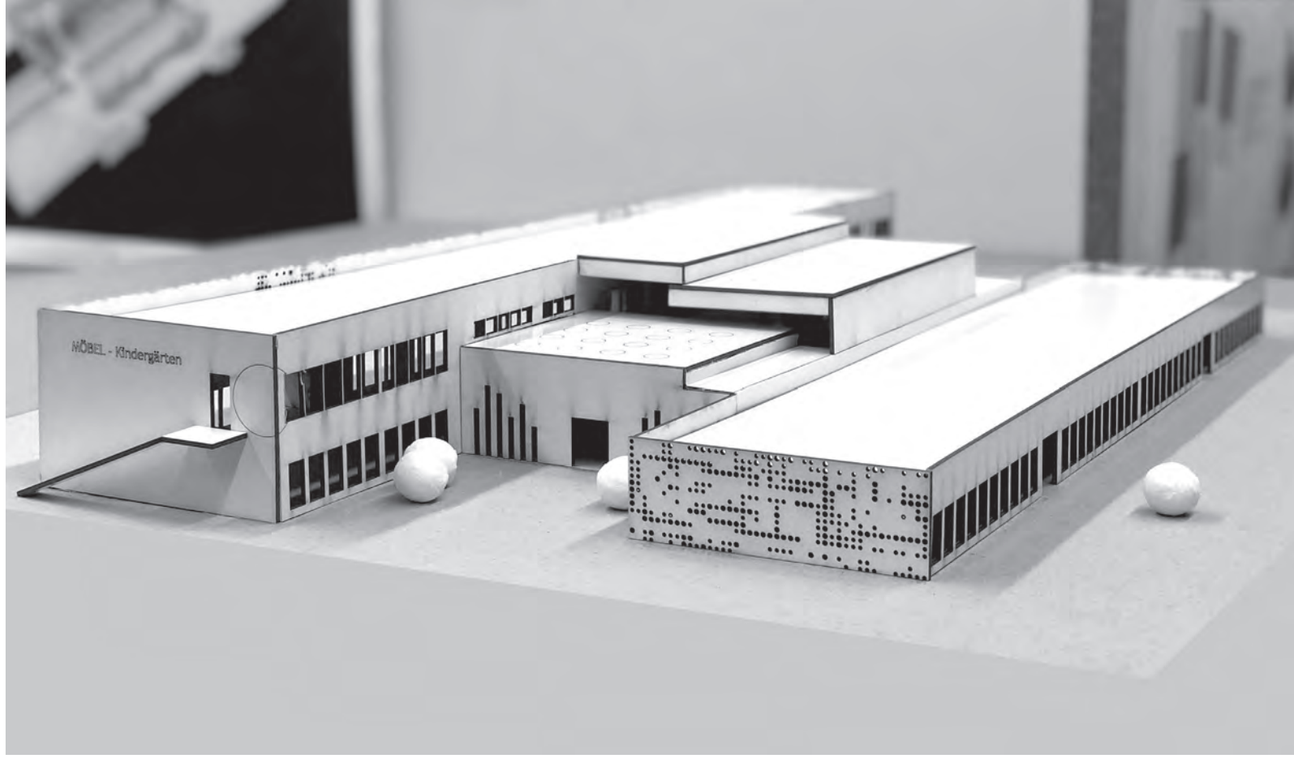




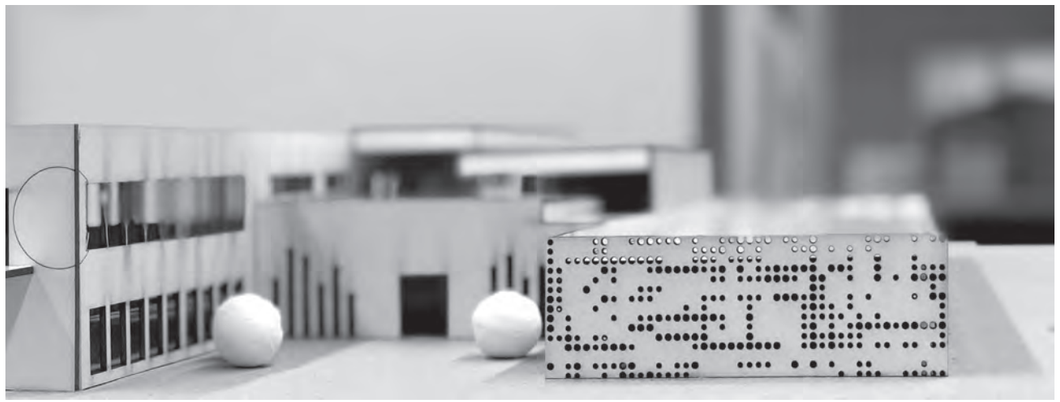
East and west elevation

Entrance area

The *Lego* theme is also continued in the façade. Selected surfaces are perforated. The openings at irregular intervals provide a varied play of light and shadow. For the children, there are insights and views at different viewing heights.



Model



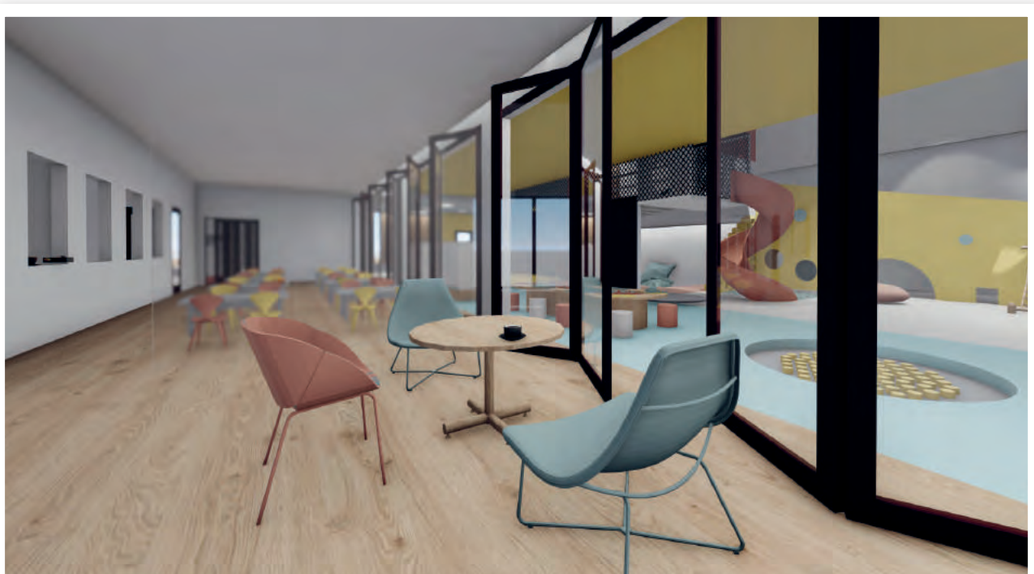
Ground floor: multifunctional playroom

Ground floor: mirror and play room

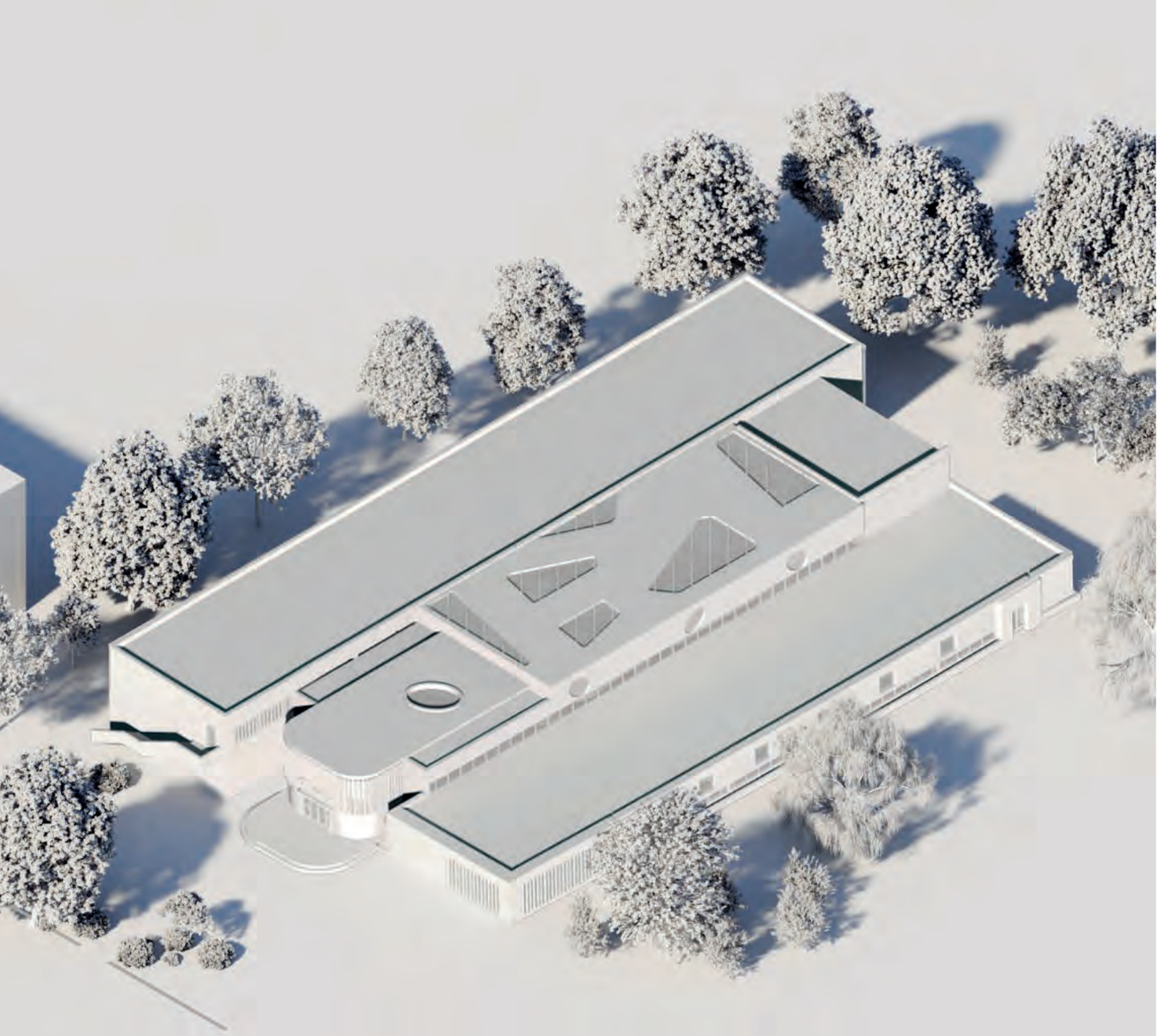
Ground floor: reading cubicles

Ground floor: sand area

Ground floor: activity and Lego room



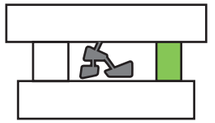
Ground floor: dining area and parents' meeting space



3D model of the existing building and new design.
Picture: Randell Campell

Heartbeat

Why it is important to integrate the child's perspective into architecture



Randell Campbell

Dynamic Circulation

Circulation space is sometimes seen as wasted space; however, when designed and integrated with users in mind, creative solutions can be attained. Circulation within this kindergarten is a very important parameter and the aim is for it to be dynamic, by being exposed in some places while concealed in others, with learning spaces. Creating a dynamic circulation system that leads children from pathways to activity spaces and communal rooms encourages interaction among children of various ages. It also offers children the ability to move freely in continuous motion without being forced to turn back to get from their initial starting point to any desired location within the facility.

Seamless Connections

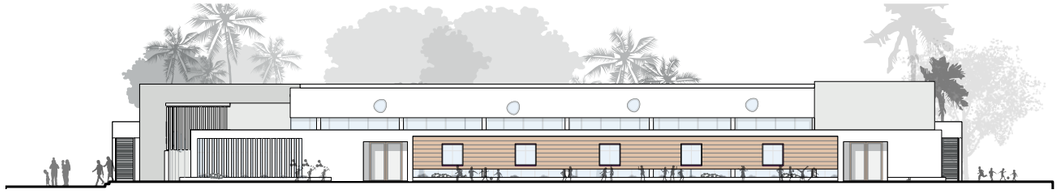
Creating a connection that seamlessly bridges the gap between the two main structures initially erected is one main goal of this design. The courtyard is the central focus of the two structures, a space around which everything revolves – the heart that connects all spaces and brings them together. A clear connection is established at the entrance foyer in the form of the eating area, which seamlessly ties both buildings together. The end result is a holistic space to be enjoyed and used as one optimally integrated facility, in such a way that energy would be allowed to float freely.

Openness

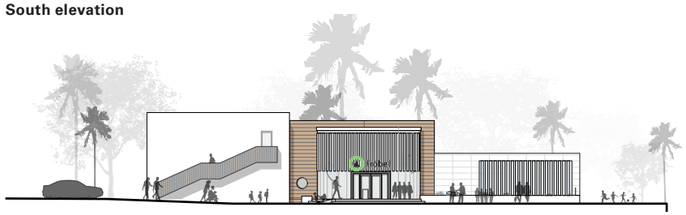
Creating a space with minimum use of walls present in learning spaces, as well as large sliding doors to delineate zones associated with different types of group or individual interactions, allows students to move items and furniture around, dictating and influencing their own surroundings. This will give them the ability to contribute to the selection and arrangement of elements in these spaces. This openness of space also provides good sight lines for both teachers and children alike, which is important for maintaining attention as well as visual connections at all times. Architecture can be seen as a means to create magnificent spaces that evoke a sense of unity between the occupants and the space itself. My vision for this project is nothing less than realising the full potential of the existing edifice, transforming it into one that encourages children to meet and greet each other – thus creating meaningful learning experiences for each child within its doors. The main intent here is to create a space that helps bring the children closer together, a space that will also create a seamless connection between the two existing buildings, establishing smooth transitions between spaces. Moreover, the kindergarten is organised around a central space that acts as the very heartbeat of the kindergarten's anatomy and is intended to be used throughout all seasons – whether this entails sun, rain, snow, or hail.

Section BB

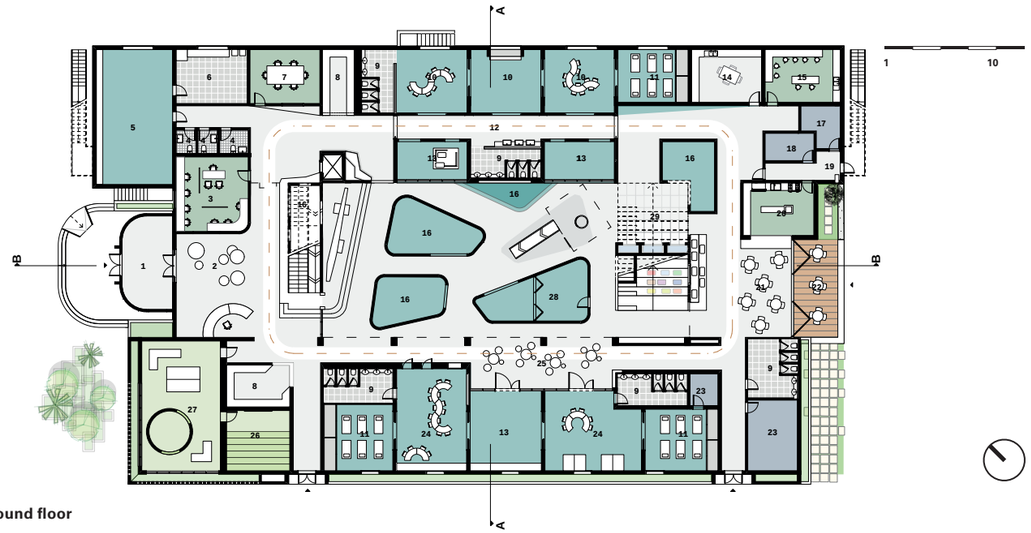
Section AA - ground floor



South elevation

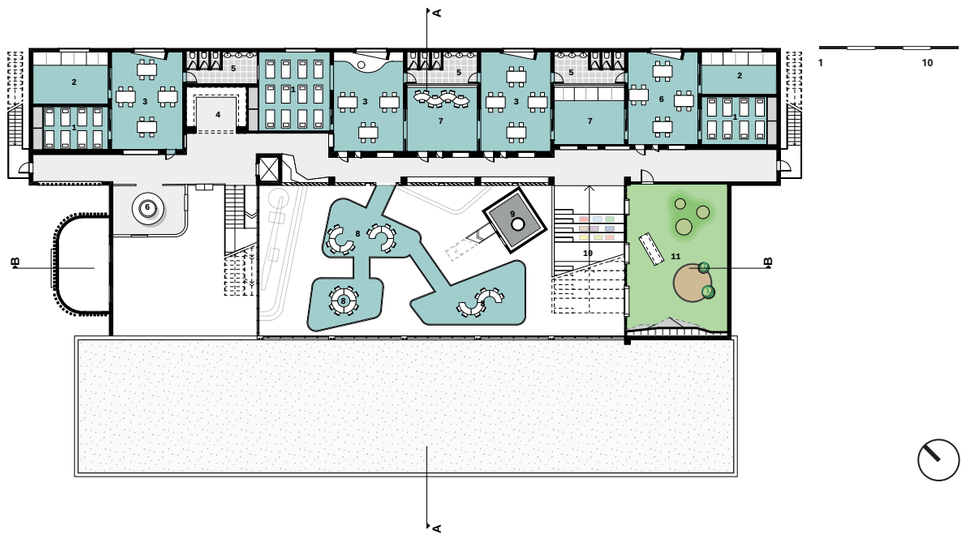


Section AA - first floor



Ground floor

1 Entry Vestibule/ Pram Room
2 Waiting room/Reception
3 Office
4 Staff WC | WC
5 0-1 Nursery
6 Changing/Toilet
7 Parents Meeting Space
8 Changing room
9 WC
10 Infant Nursery
11 Activity/ Nap Room
12 Play Corridor
13 Activity Room
14 Art Room
15 Staff Lounge
16 Play Room/Area
17 Kitchen Storage
18 Cook's Room
19 Service Entrance
20 Kitchen
21 Dining Area
22 Outdoor Eating
23 Store Room
24 Group Room
25 Multipurpose Area
26 Media Room
27 Library
28 Performance Prep/Play Room
29 Play Zone



First floor

1 Activity/Nap Area
2 Special Activities Room
3 Group Room
4 Changing Room
5 WC
6 Seating Area
7 Activity Room
8 Open/Individual Teaching
9 Play House
10 Performance Stairs
11 Green Play Room

Section BB

Entrance with waiting room

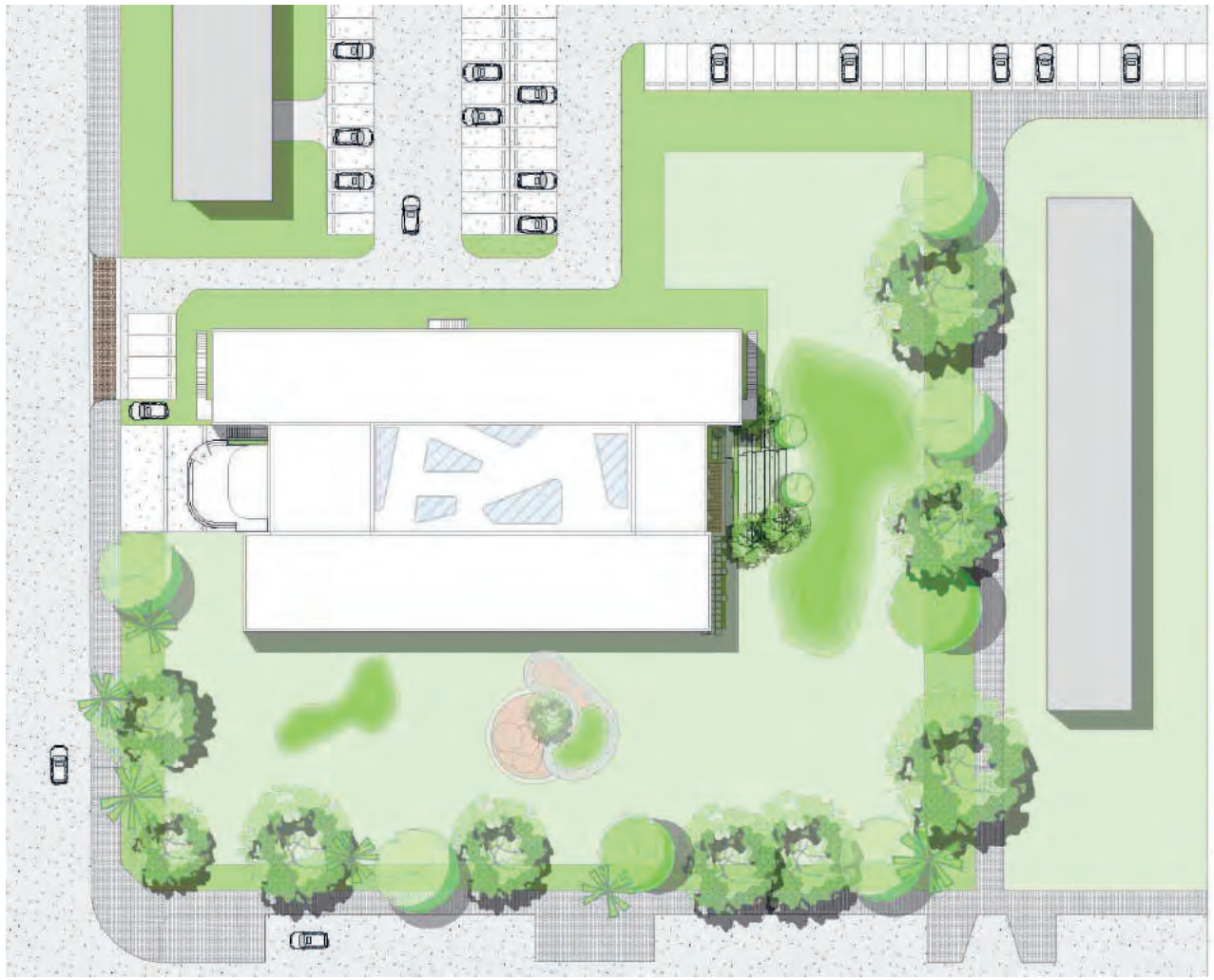
Performance stairs

First floor: green play room

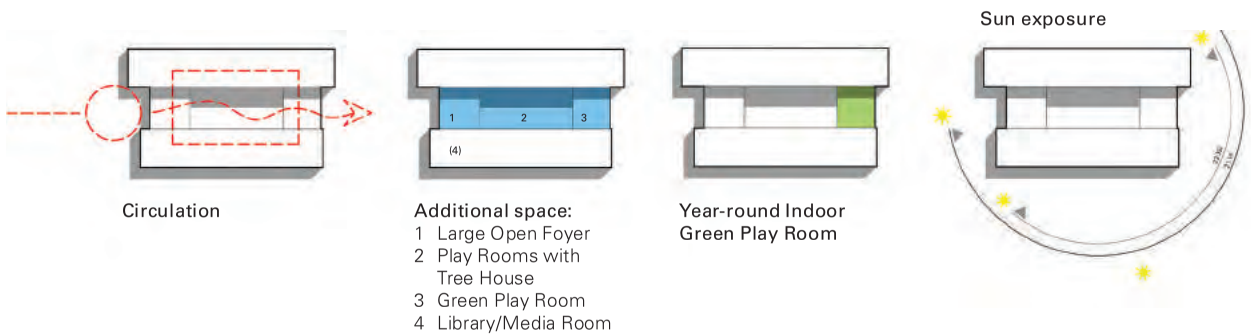
Architecture can be seen as a means to create magnificent spaces that evoke a sense of unity between the users and the space. My vision for this project is nothing less than realising the full potential of the existing edifice, which uses the separation between the two entities to turn it into one single element, that allowing the children to meet and greet each other, thus creating meaningful learning experiences for every child within its doors.

Ground floor: view from dining room towards play area

The main intent is to create a space that helps bring the children of the kindergarten closer together and create a seamless connection within the two existing buildings, thereby establishing seamless transitions between spaces. Moreover, the kindergarten is organised around a central space which acts as the 'heart beat' of the kindergarten's anatomy, which is intended to be used throughout the year.



Site plan and diagrams

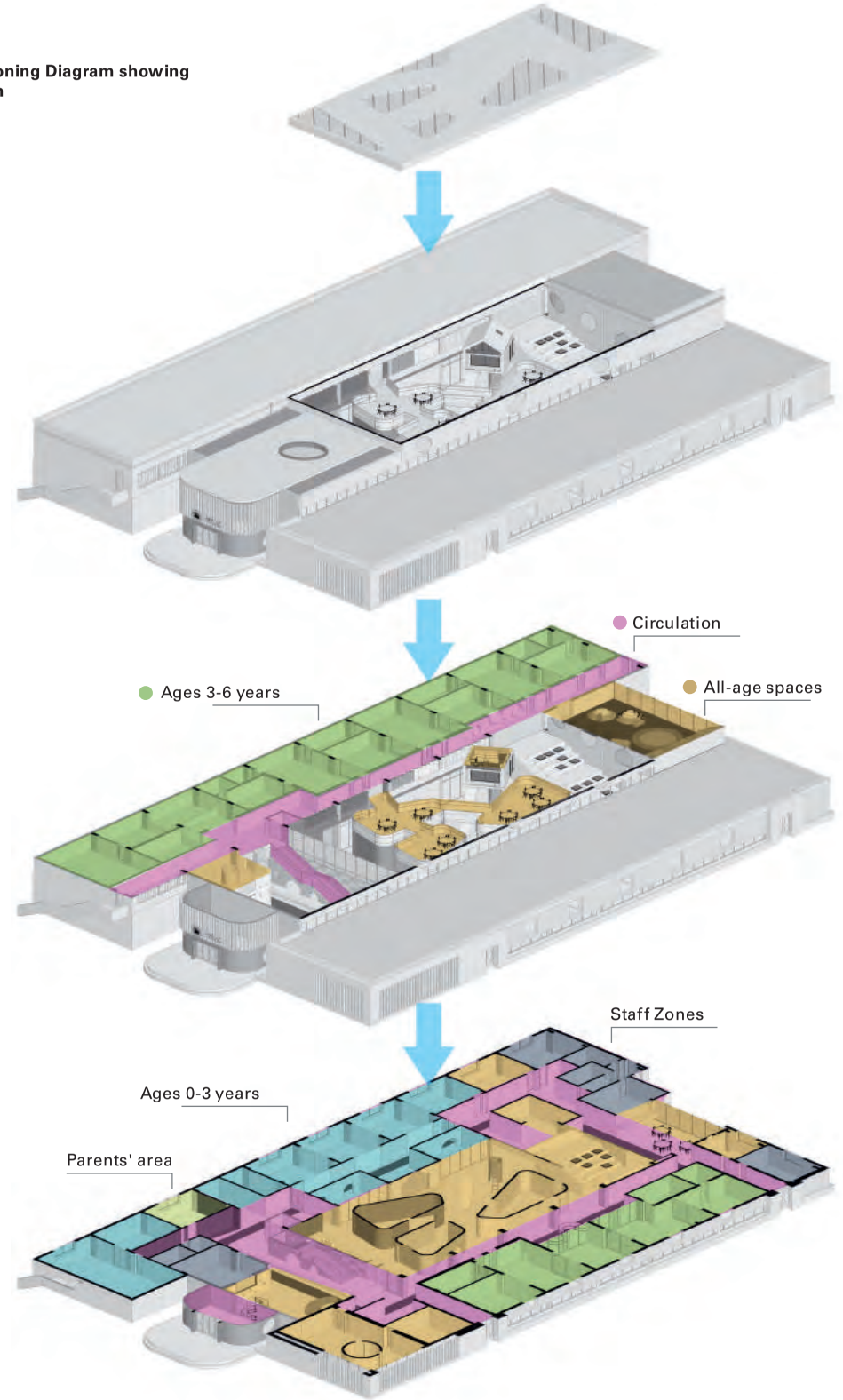


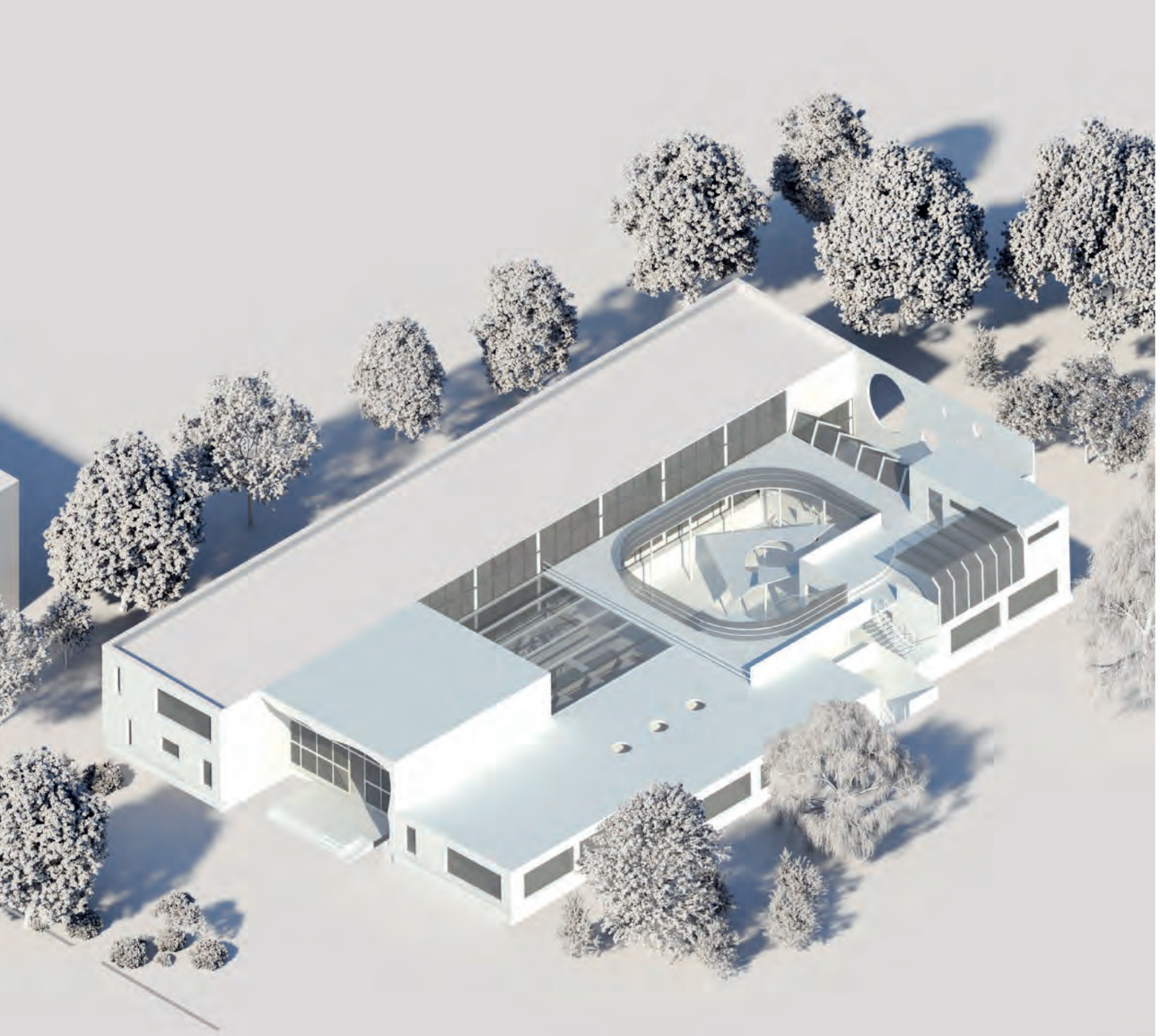
Circulation

Additional space:
1 Large Open Foyer
2 Play Rooms with Tree House
3 Green Play Room
4 Library/Media Room

Year-round Indoor Green Play Room

Axonometric Zoning Diagram showing clear circulation

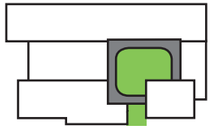




3D model of the existing building and new design.
Picture: Nivesh Gaur

Play Box

How architecture enhances creativity and satisfies children's needs

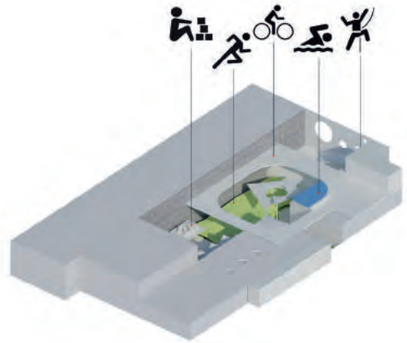


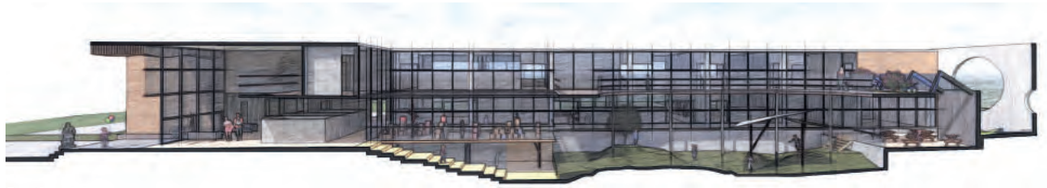
Nivesh Gaur

FORM: Extending Greenery to the Building
There is a major gap between the existing building block and a very essential component, which is Nature. The existing courtyard appears detached from the playground since it is wrapped around two solid blocks. This intervention attempts to extend the use of greenery into the building in order to develop new and more playful connections with the playground, creating a whole circulatory system around the central courtyard.

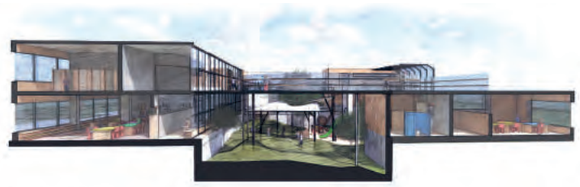
LAYOUT: Child-oriented and Clear Circulation
The former layout of the school lacked a child-oriented circulation system, consisting rather of monotonous corridors and uninspiring spaces. Group spaces were segregated and lacked interactive areas. This intervention attempts to provide a child-conscious, clear circulation route with various points of interaction and upgraded group spaces, in order to encourage pedagogical development among children. Transparency has been key in keeping the environment inside the building more open and free for children and teachers alike.

PROGRAMME: Harnessing Children's Activities to Enhance Creativity
Theatre, mime, dance, and sports revolve around one central idea: creativity. The attempt here is to fulfil these needs by consciously providing various activities and spaces that enhance creativity such as modular decks, facilities for climbing, cycling, and running, and integrating the different levels and the connection to water.



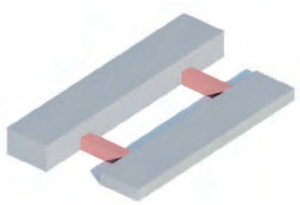


Section AA

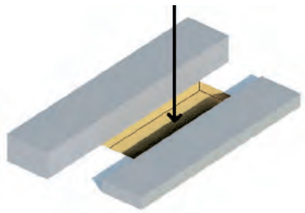


Section BB

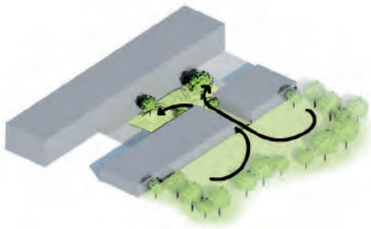
West elevation



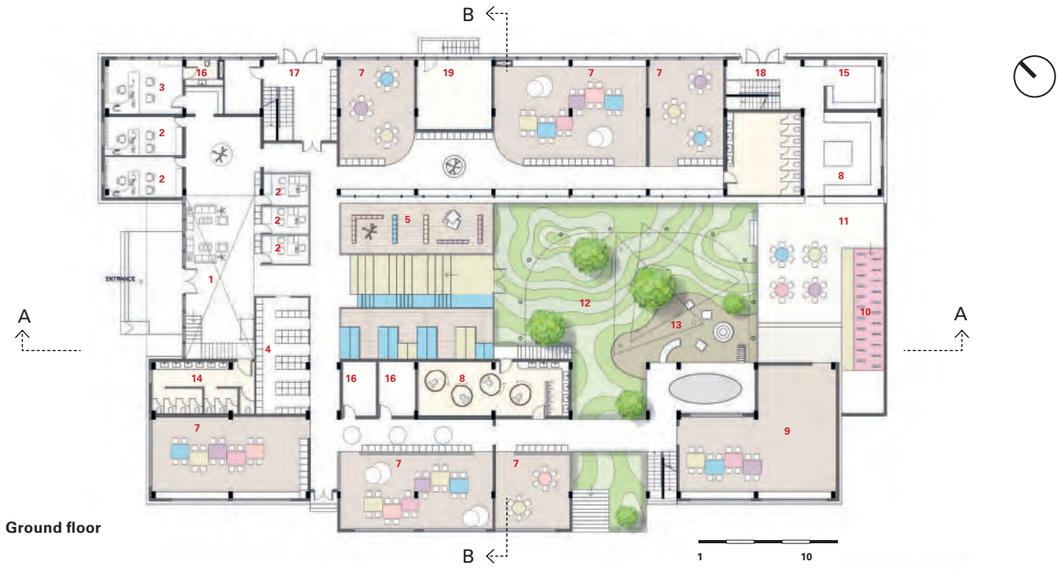
Removal of the existing connections



Creating a new level

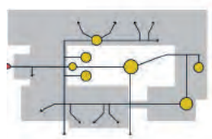


Extending greenery into the building



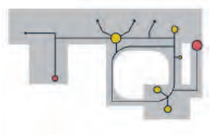
Ground floor

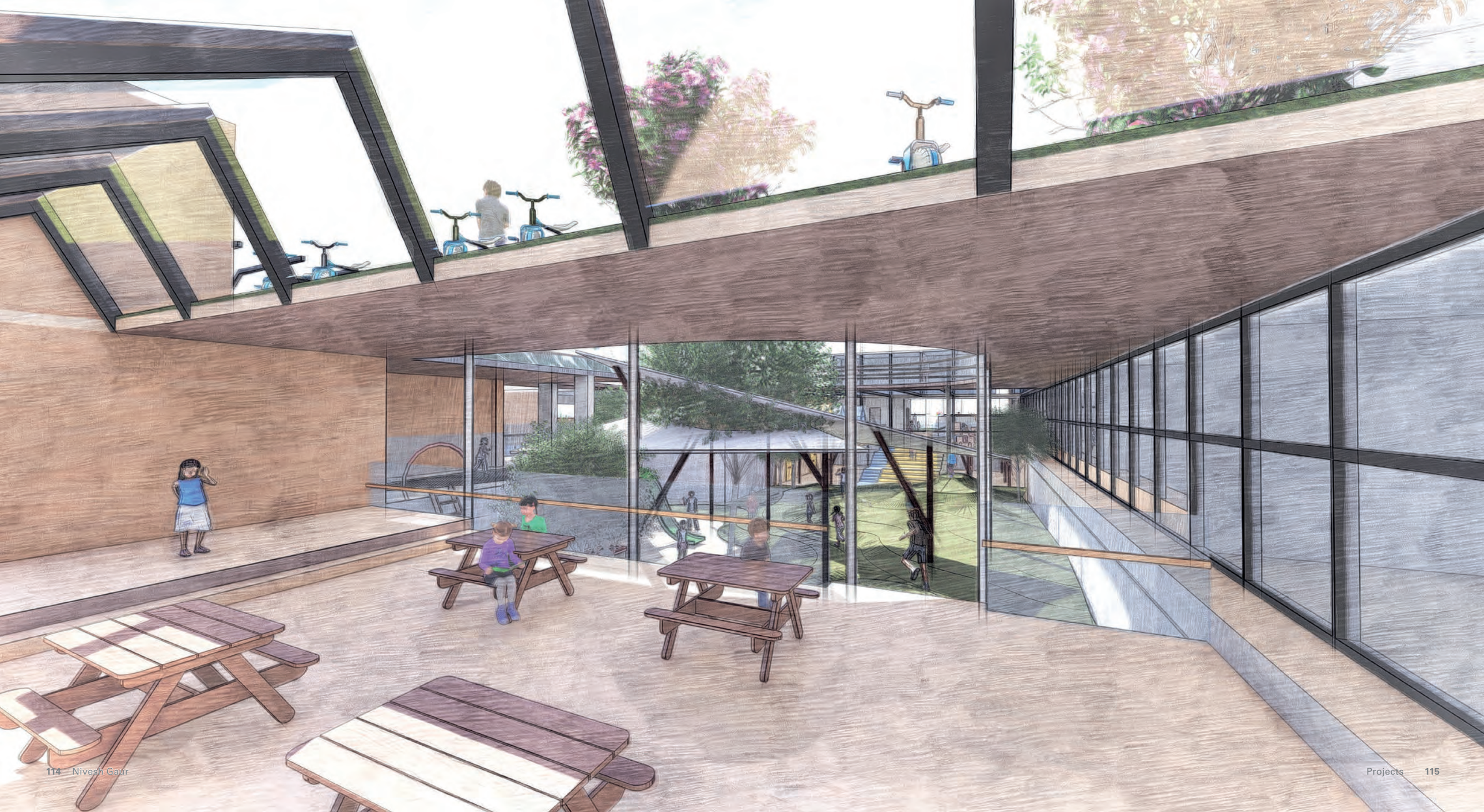
1 Drop-off Space
2 Staff Rooms
3 Director's Office
4 Changing Room
5 Modular Deck
6 Reading Deck
7 Group Spaces
8 Children's WC
9 Music/Dance Room
10 Performance Stage
11 Dining/Auditorium
12 Green Courtyard
13 Sand Pit Area
14 Staff/Parents' WC
15 Kitchen/Pantry
16 Material Store
17 Staff Entrance
18 Service Entrance
19 Air Handling Unit
Play Areas
Entrances



Second floor

1 Toddlers' Room
2 Group Spaces
3 Parents' Lounge
4 Teachers' Lounge
5 Toddlers' WC
6 Children's WC
7 Cycling Deck
8 Splash Pool
9 Changing Room
10 Viewing Deck
11 Material Storage
Play Areas
Entrances

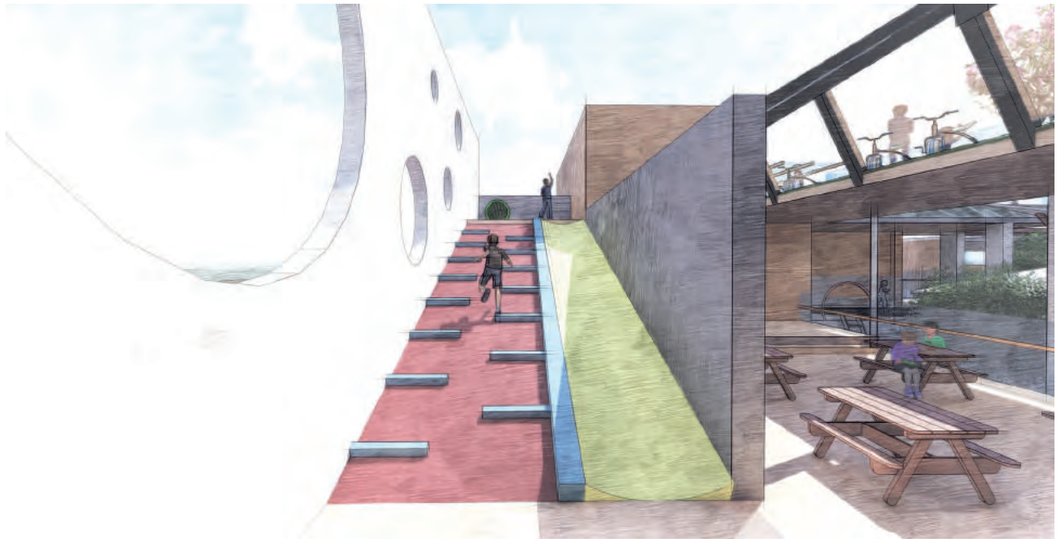




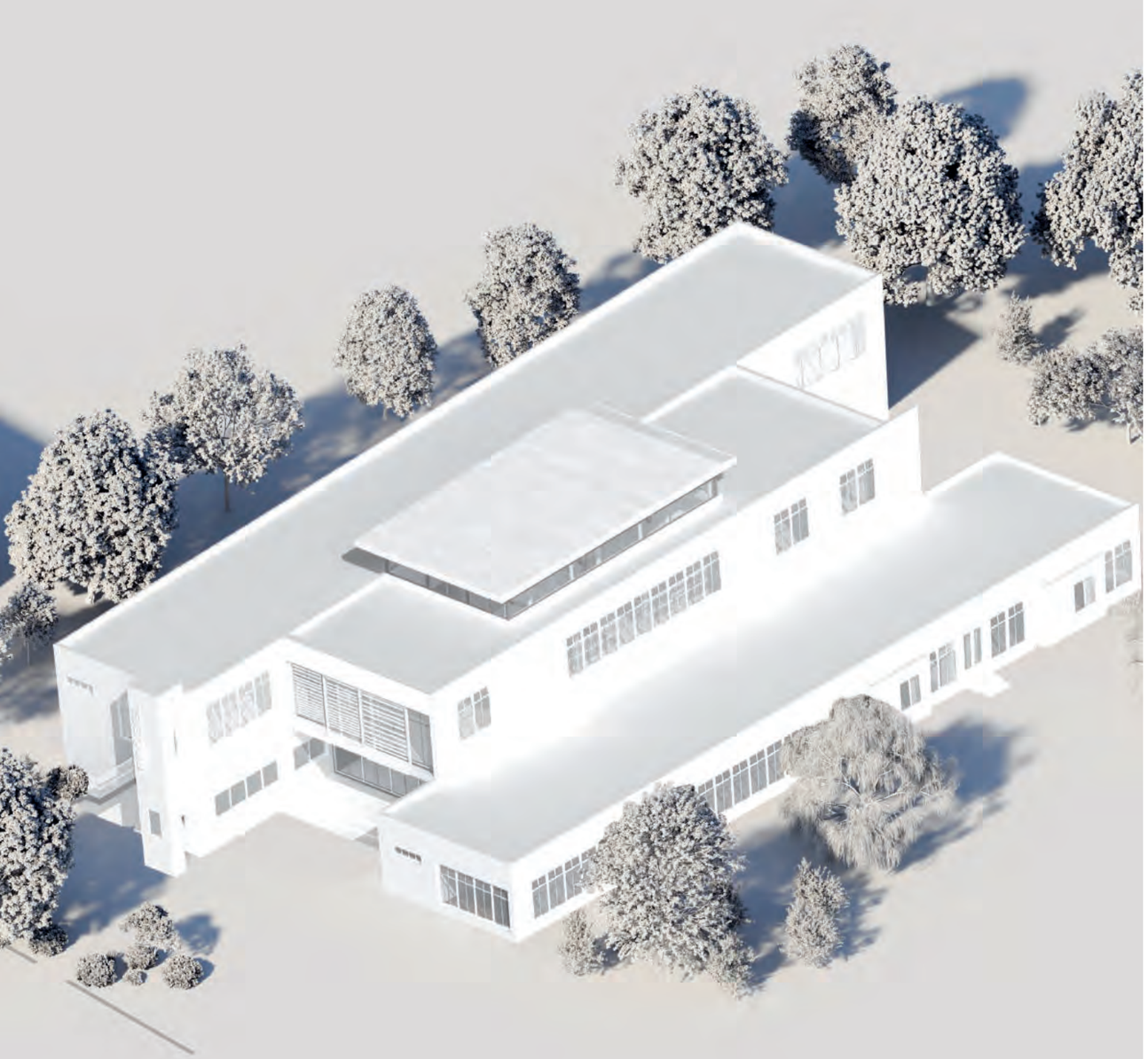
Level – 1: garden
Flexible spaces to enhance creativity

Interior spaces
Low walls allow for views and insights

Level 1: roof garden
A free cycling/running court to encourage physical activity



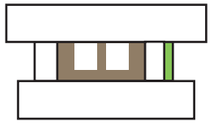
Level 1: first floor
Integration of hiking activity to enhance self-confidence



3D model of the existing building and new design.
Picture: Suzanne Lawrence

Journey

Why children's understanding of themselves and the world always develops in a spatial context

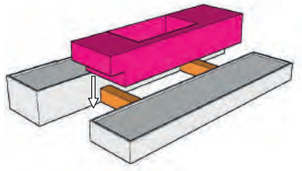


Suzanne Lawrence

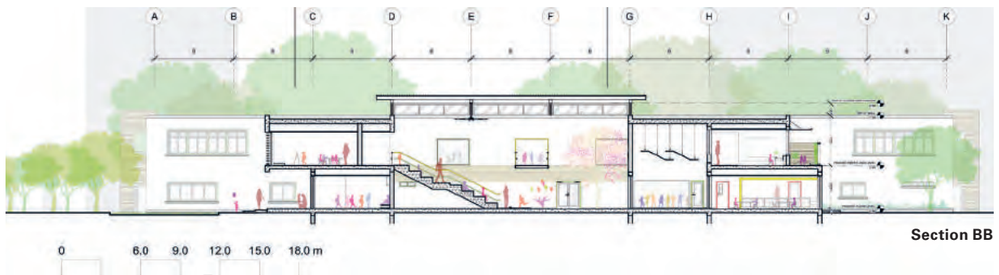
Concept
Learning can come in many shapes and forms, and the route to acquiring knowledge differs for everyone, which can best be expressed through a building's form. Taking the concept that a child should be free to mark its own path in its pursuit of knowledge, along with the impact that socialising has on that path, I aim here to create a form that houses a hub of experiences, connected by a network of defined but diverse routes.

Intent
I have explored the creation of a new major axis through the existing courtyard, subsequently causing this to become a key space for circulation throughout the building. This will allow for a grander entrance and also enable the courtyard to be repurposed in order to serve as a more functional space. Additional spaces such as a dining area, a science space, an art room and a library have also been integrated.

Structure
Precast concrete forms will be used to create most of the additional spaces, except for the bridge located on the first floor that will have a steel frame. Columns located within the courtyard will also be made from steel. The roof system, for the most part, will be a solid concrete slab – except for the section in the courtyard that will be a steel frame roof atop clerestory windows, with an industrial profile sheeting.

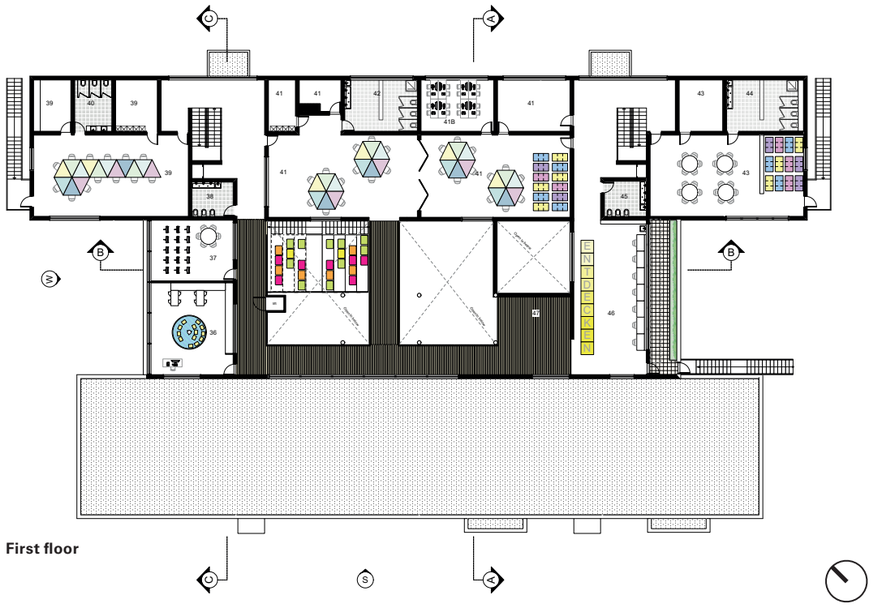


Ground floor

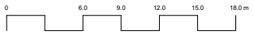


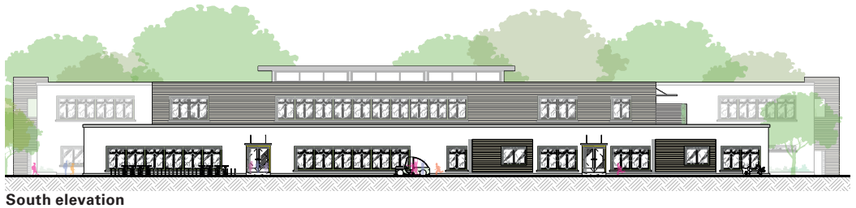
Section BB

1 Entry Hallway
2 Visitors' WC
3 Staff Lounge
4 Staffroom (workstations)
5 Changing room - Staff
6 Staff WC
7 Parent Consultation
8 Private Entrance - Staff
9 Infant Sleeping Room
10 Infant WC
11 Changing room - Infants
12 Group Space - Infants
13 Storage
14 Private Entrance/Services
15 Kitchen Storage
16 Staff WC and changing room
17 Utilities and storage
18 Kitchen
19 WC for Dining Area
20 Changing Room
21 Music Room
22 Storage
23 Office B (Sick Bay)
24 Office A - Administration
25 Multipurpose Hall
25B Indoor games area
25C) Performance stage
26 Multipurpose Hall WC
27 Dining Area
28 Outdoor court and Garden
29 Group B Cluster
30 Group B WC
31 Group C Cluster
32 Group C WC
33 Group D Cluster
34 Group D WC
35 Outdoor Playground

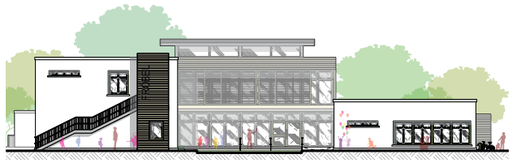


First floor





South elevation



West elevation

36 Library
37 Arts and Crafts Room
38 WC
39 Group E Cluster
40 Group E WC
41 Group F Cluster
41B Tech Lab
42 Group F WC
43 Group G Cluster
44 Group G WC
45 WC
46 Science Room
47 Viewing Deck

Before/After

Courtyard: additional space

Group rooms: better spatial connection and light

Courtyard:
Additional space

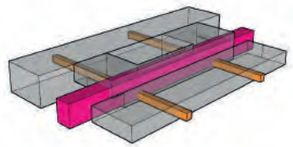
Rooms
Better Spatial Connection and Light

Analysis

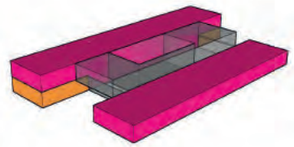
- Children and staff
- Staff
- Staff and parents/visitors

- Circulation

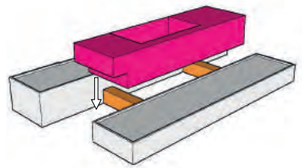
- Existing structure
- Proposed structure



Axis
- Minor Axis
- Major Axis
- Structure



Zoning
- Private (Staff)
- Major Axis
- Structure



Form
- Subtraction
- Addition
- Existing Structure

Access

Children
free access

Children
with supervision

Staff
only – or emergency

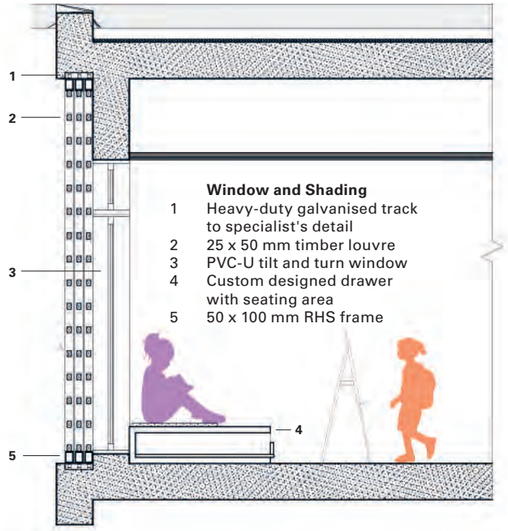
Project Information
Covered Space

Entry Hallway	69,0	m²
Multipurpose area	287,0	m²
Canteen	98,0	m²
Total Ground Floor	*454,0*	m²
Science area	71,0	m²
Arts and Crafts room	30,0	m²
Library	46,0	m²
Total First Floor	*146,0*	m²
Total Additional Area	***600***	***m²***

New entrance on the west elevation

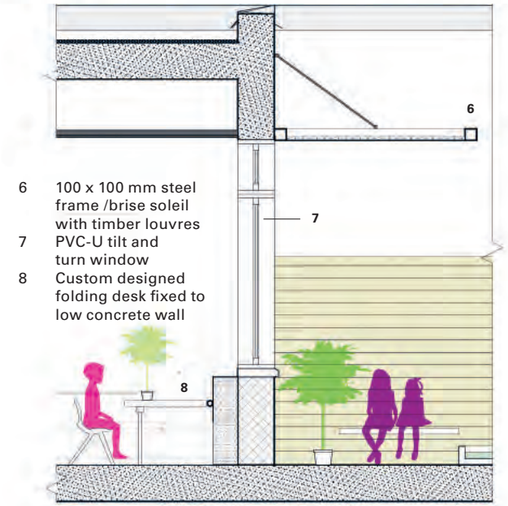
New entrance on the west elevation

Exterior Details and Interior Finishing

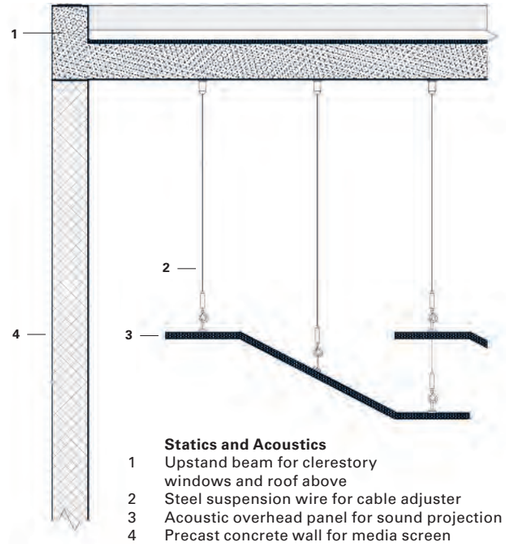


Window and Shading

1 Heavy-duty galvanised track to specialist's detail
2 25 x 50 mm timber louvre
3 PVC-U tilt and turn window
4 Custom designed drawer with seating area
5 50 x 100 mm RHS frame

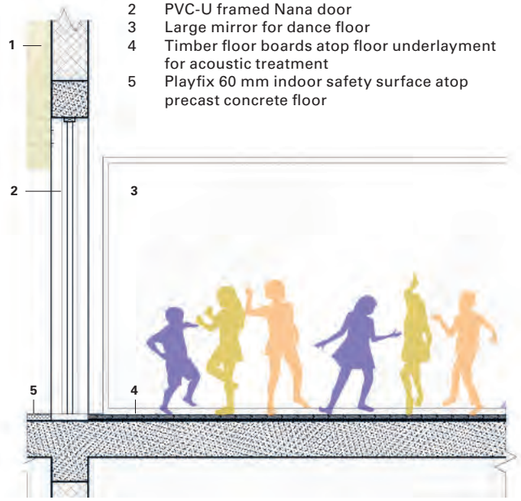


6 100 x 100 mm steel frame /brise soleil with timber louvres
7 PVC-U tilt and turn window
8 Custom designed folding desk fixed to low concrete wall



Statics and Acoustics

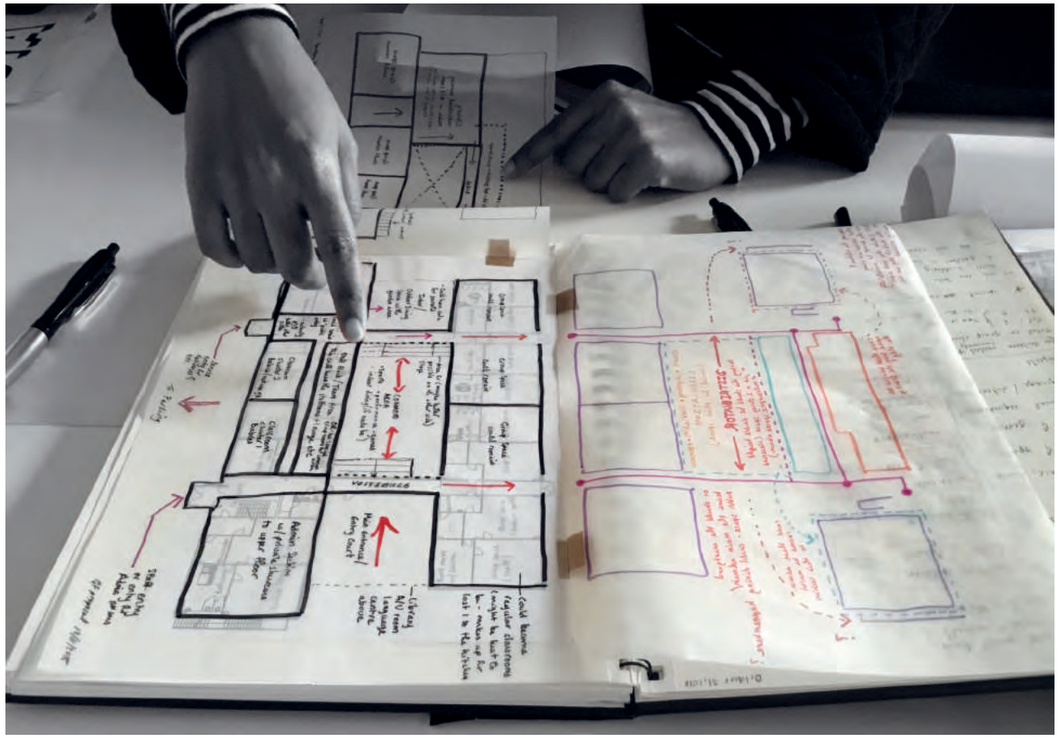
1 Upstand beam for clerestory windows and roof above
2 Steel suspension wire for cable adjuster
3 Acoustic overhead panel for sound projection
4 Precast concrete wall for media screen



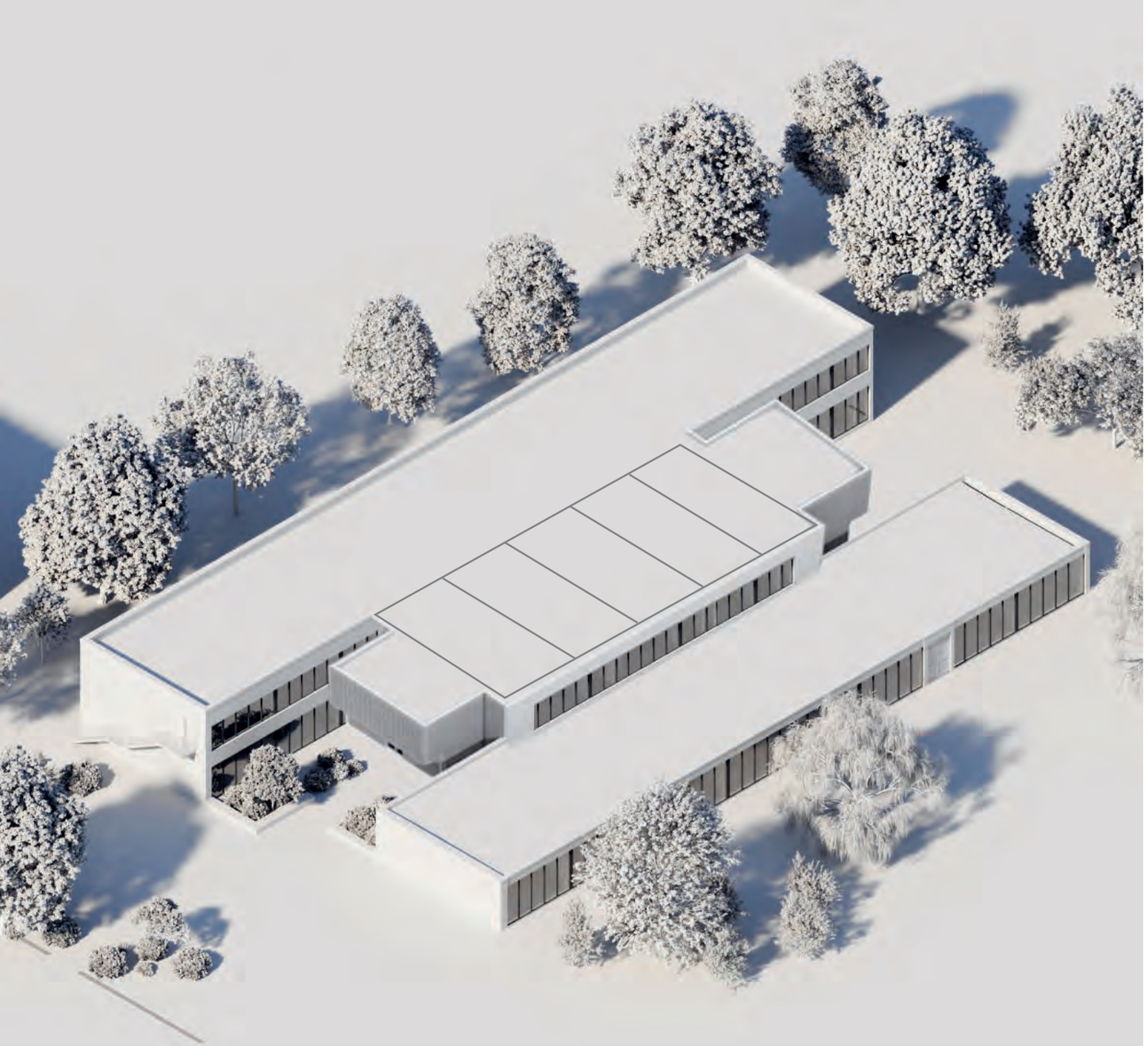
Finishings

1 Precast concrete wall for media screen
2 PVC-U framed Nana door
3 Large mirror for dance floor
4 Timber floor boards atop floor underlayment for acoustic treatment
5 Playfix 60 mm indoor safety surface atop precast concrete floor

Model



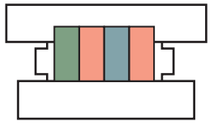
The sketching phase and models lead to the synthesis phase, where the design comes together. At this stage, the logistics of the building and site, the construction, the form and materials etc. become united into one entity.



3D model of the existing building and new design.
Picture: Driton Begisholli

Kindergarten: a second home and a nest

Why a neutral architecture requires greater pedagogic commitment

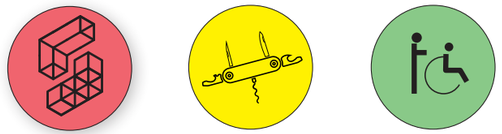


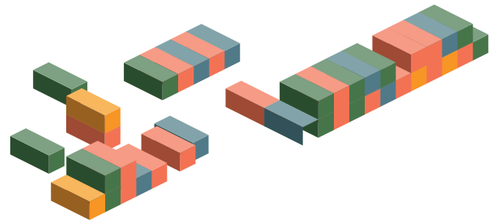
Driton Begisholli

Modular Architecture
The goal of this design is to provide an existing building with additional space by inserting separate components that can be linked together. The beauty of modular architecture is that it is possible to replace and add modules without affecting the rest of the system. Moreover, modular architecture can be built quickly and efficiently.

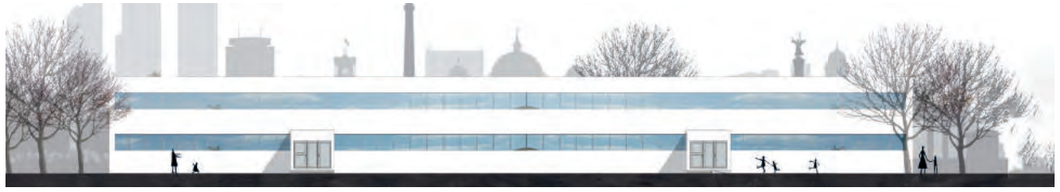
Multifunctional Space
When designing complex buildings such as kindergartens, and especially when designing for children, it is essential to think about more than just creating space, but rather about multifunctional space. The reason for this is that the dynamics and activities associated with children require vast spaces, something which is more easily achieved through multifunctional space.

Barrier-free Architecture
Safety and security are important parameters when planning kindergartens, which should also meet the needs of disabled children. Key elements to consider include building entrances, changes in floor height, vertical circulation structures, sanitary rooms, activity rooms, outdoor circulation, signage, handrails and railings, amongst others.





North elevation



North elevation

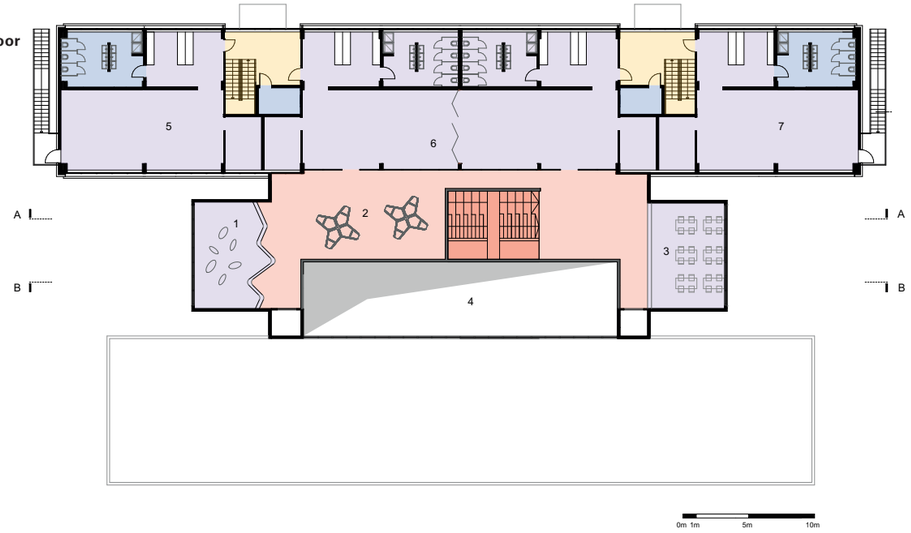
Ground floor

1 New entrance
2 Meeting space
3 Space for parents
4 Eating/Flexible space
5 Performing/Playing Stage
6 Play area
7 Kitchen
8 Storage
9 Stair/Auditorium
10 Painting/Modelling area
11 Entrance from garden
10 Painting/Modelling area
11 Sanitary facilities
12 Entrance from garden
13 Teachers' room
14 Teachers' eating and break time space

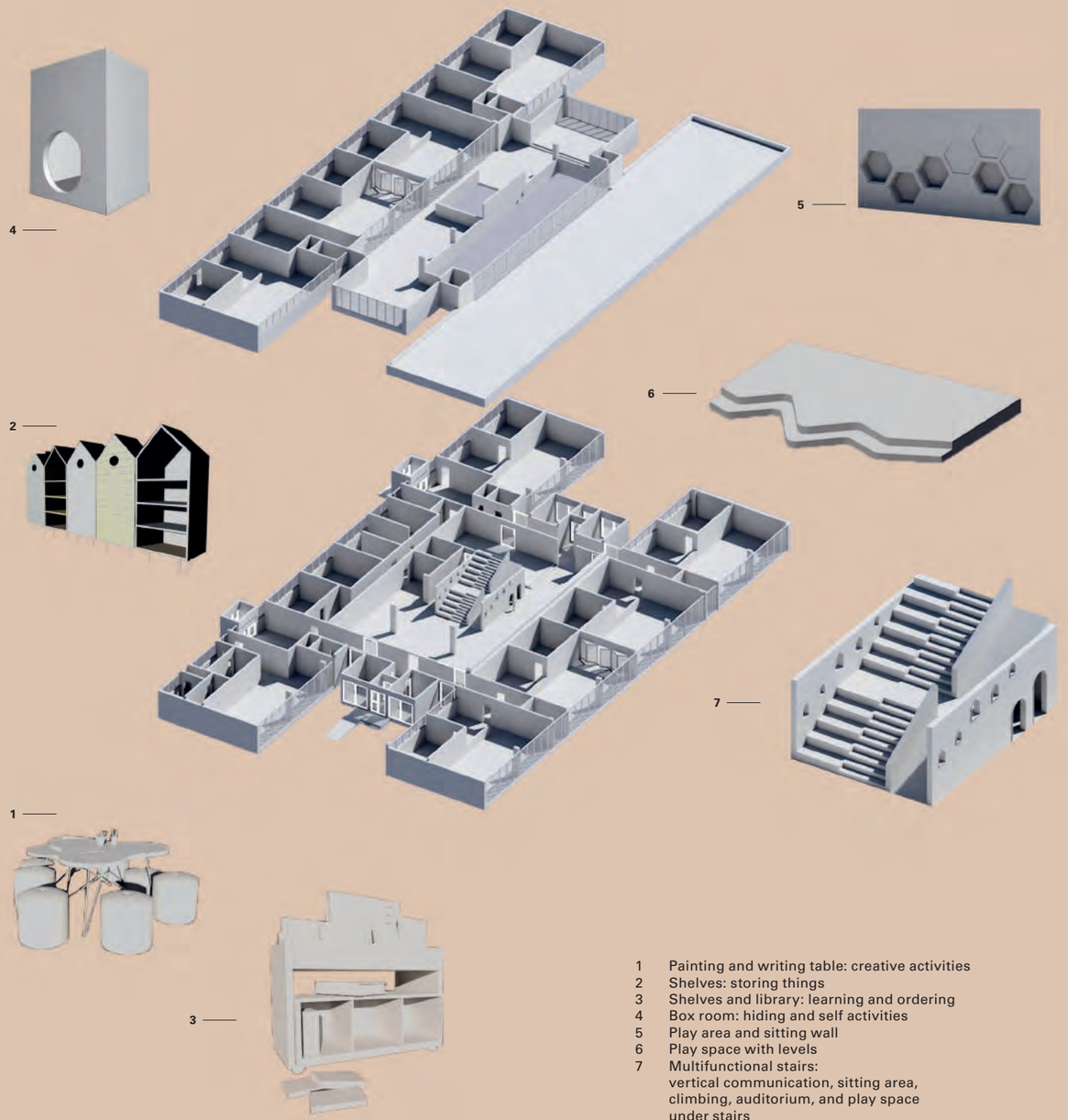
North elevation

North elevation

First floor



1 Playing area
2 Corridor and playing area
3 Workshop Area
4 Atrium
5 Group room
6 Group/Flexible
7 Group room

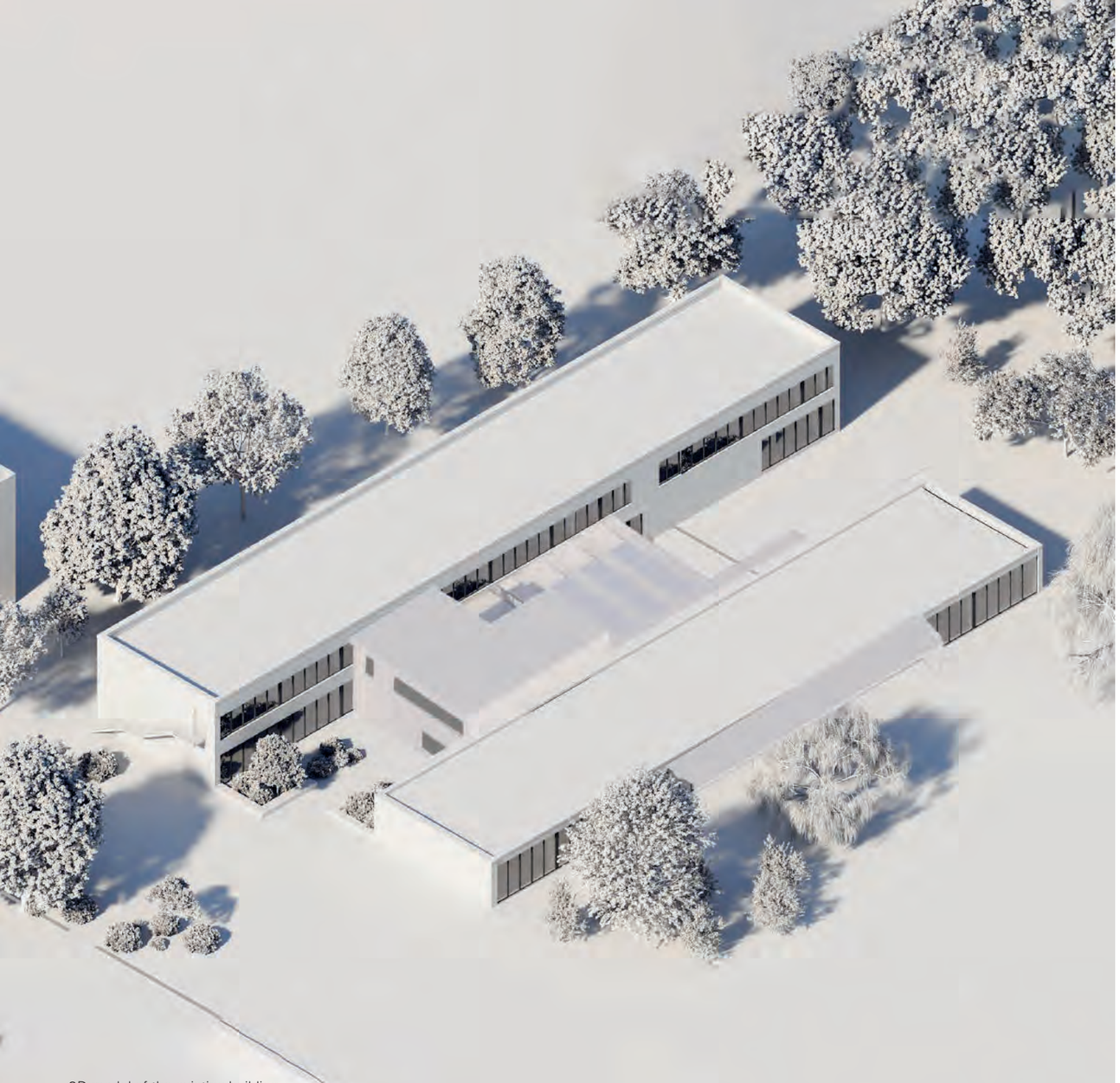


1 Painting and writing table: creative activities
2 Shelves: storing things
3 Shelves and library: learning and ordering
4 Box room: hiding and self activities
5 Play area and sitting wall
6 Play space with levels
7 Multifunctional stairs:
vertical communication, sitting area,
climbing, auditorium, and play space
under stairs

The former courtyard as multifunctional space.

Space, Adaptability, and Communication

Laozi, the ancient Chinese philosopher, referred in his text *Dao De Jing* to the fact that »when making a vessel by clay, what we really need is the emptiness formed by the vessel. Although windows and doors on walls shape a room, what we really need is the emptiness in the room.« A broad range of materials are used to enclose a space and accommodate its functions. When it comes to buildings, function represents content, whereas space delineates form. There is a mutual synergy between both factors since content determines form, and form impacts upon content. Adaptability is the ability for a system to harmonise with its environment, i.e. the potential of elements within the space to be altered in response to the changing environment. When designing a kindergarten, multifunctional architecture seeks to establish spaces capable of provoking an emotional impact. One method of achieving this is by marrying the aesthetics of the construction with elements of emotive value.

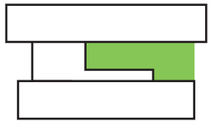


3D model of the existing building and new design.
Picture: Gulyuzbonu Ruziboeva

Nature and Balance

How architecture can relate to environmental knowledge and connectedness to nature

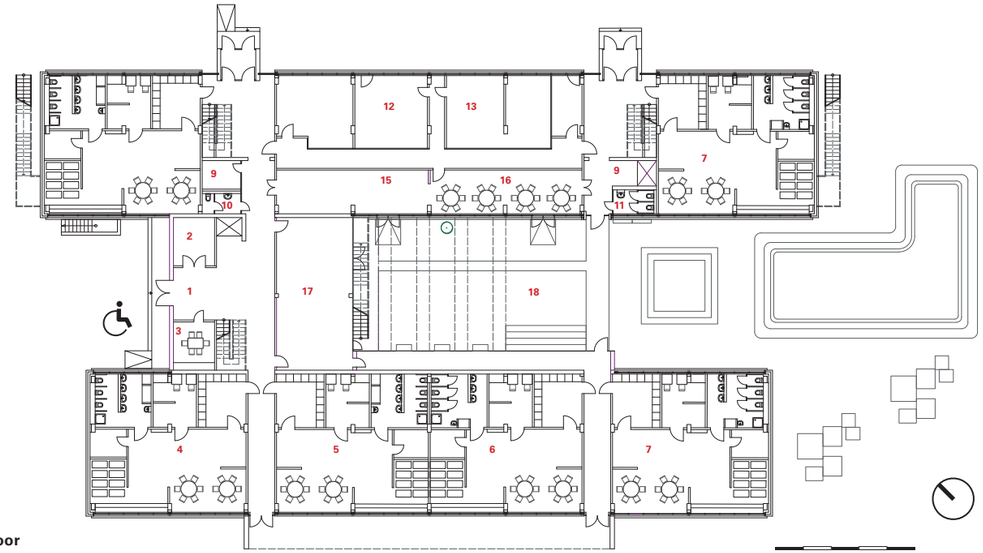
Gulyuzbonu Ruziboeva



Botanical School
The idea of a garden stems from the German word »Kindergarten«, coined by Friedrich Froebel in the mid-19th century. A courtyard's demands to serve an educational purpose are easily fulfilled by making it into a botanical garden. Children have the opportunity to observe the horticultural world when planting various flowers and trees, and caring for them. In special corners rabbits, squirrels, and hamsters can also be cared for.

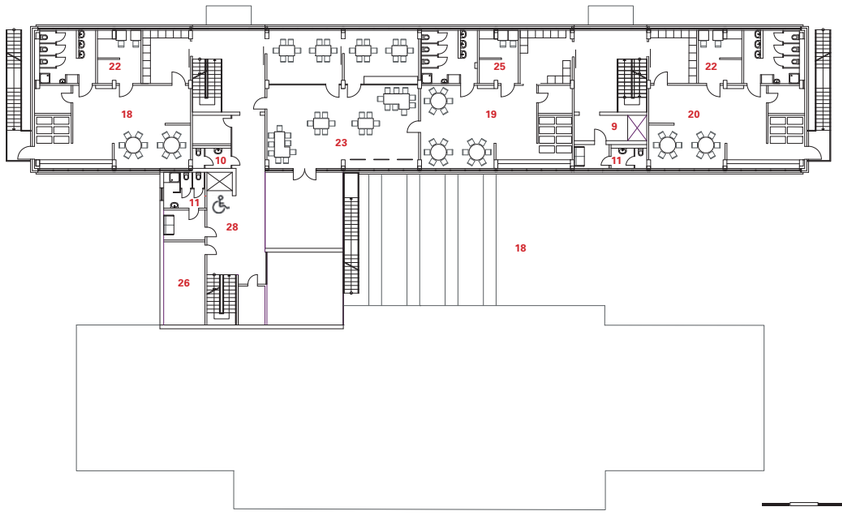
Air Circulation
The main problem of the courtyard was bad air circulation, due to the block-like shape of the building. Getting rid of one of these shapes provided ample opportunity for air to be well circulated between the two buildings since both are low-rise. The presence of trees and plants in the intervening area improves the quality of air by enriching it with oxygen. The issue of connections between buildings can be reviewed.

Control over Sunlight
To make the courtyard the best possible place for children, it has to offer comfortable conditions for those who play, run, rest, learn, interact, and work both individually and in teams here. According to the orientation of the building the courtyard is extremely sunny and hot during the daytime, especially in summer. Blocking the western sunlight by means of a new building and adding sunshades presented the solution.



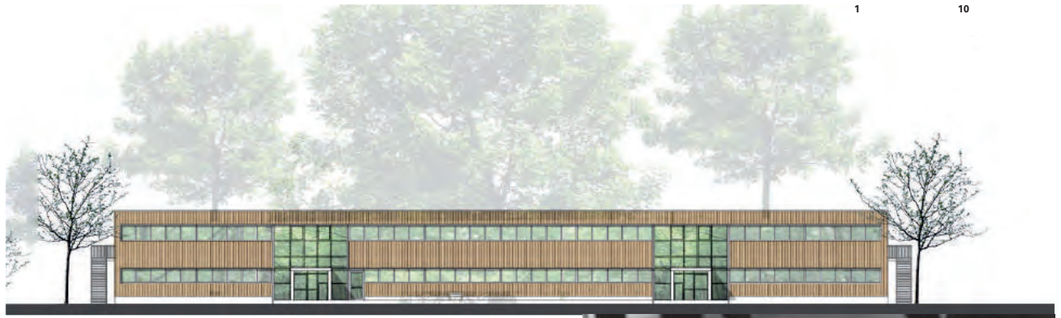
Ground floor

1 10

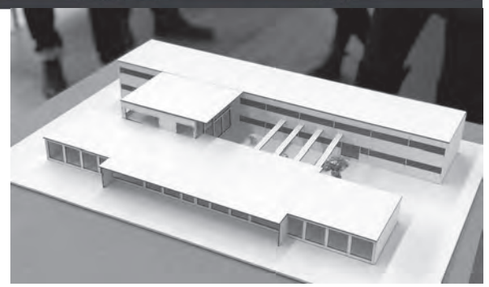


First floor

1 10



Elevation AD

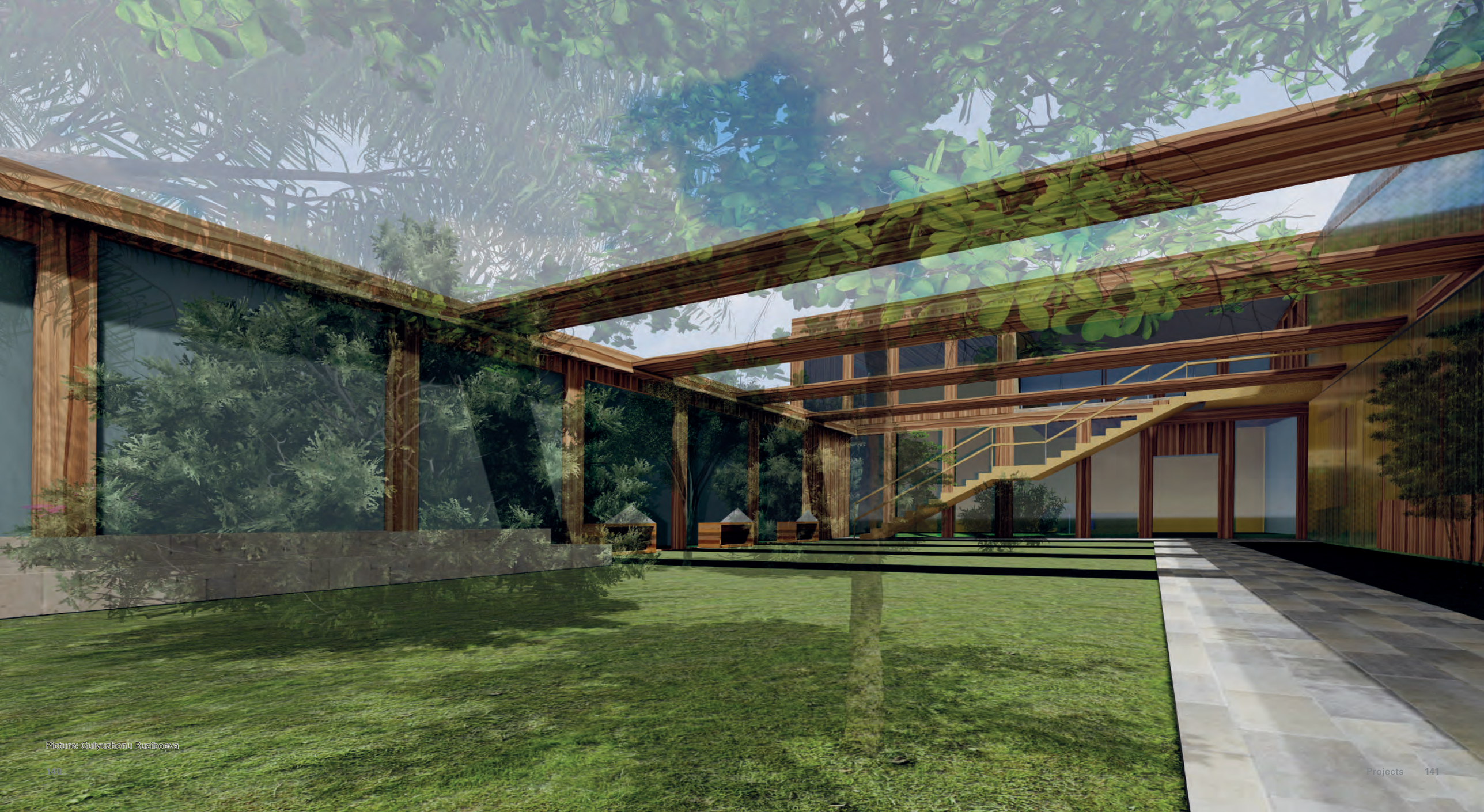


Elevation BC

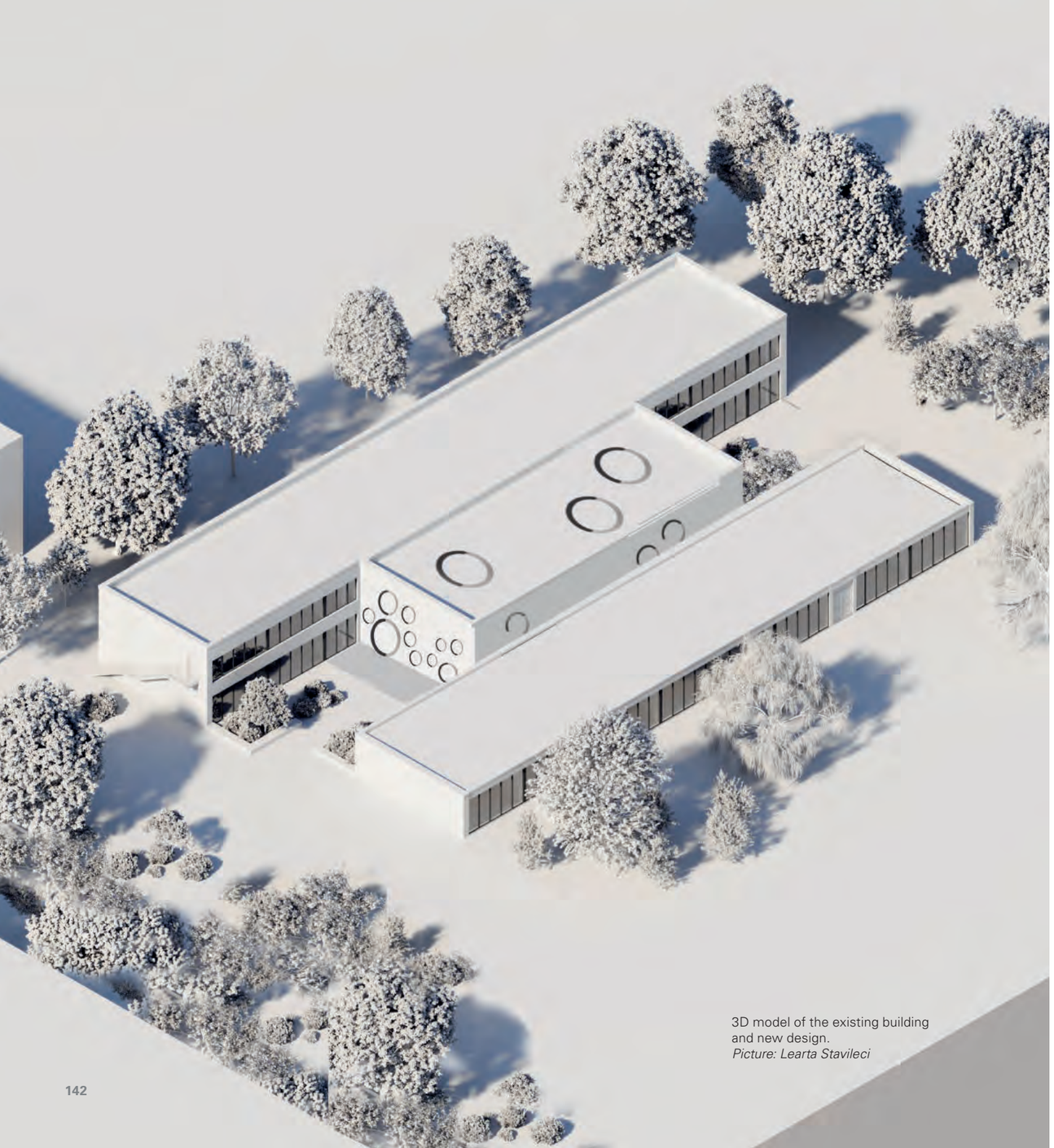
Elevation BC

1 Entrance
2 Pram room
3 Office
4 Cluster A
5 Cluster B
6 Cluster C
7 Cluster D
8 Cluster E
9 Storage
10 Guest WC
11 Staff WC
12 Heating room
13 Kitchen
14 Music and theatre
15 Learning area
16 Dining area
17 Movement room
18 Botanical garden

18 Cluster F
19 Cluster G
20 Cluster H
21 Library
22 Individual learning
23 Arts and crafts
25 Medical help
26 Staff lounge
27 Staff room
28 Interaction with parents
29 Office



Picture: Gulyuzbonu Ruziboeva

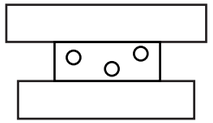


3D model of the existing building and new design.
Picture: Learta Stavileci

Circular Tree House

How organic spaces activate children's natural desire to learn

Learta Stavileci

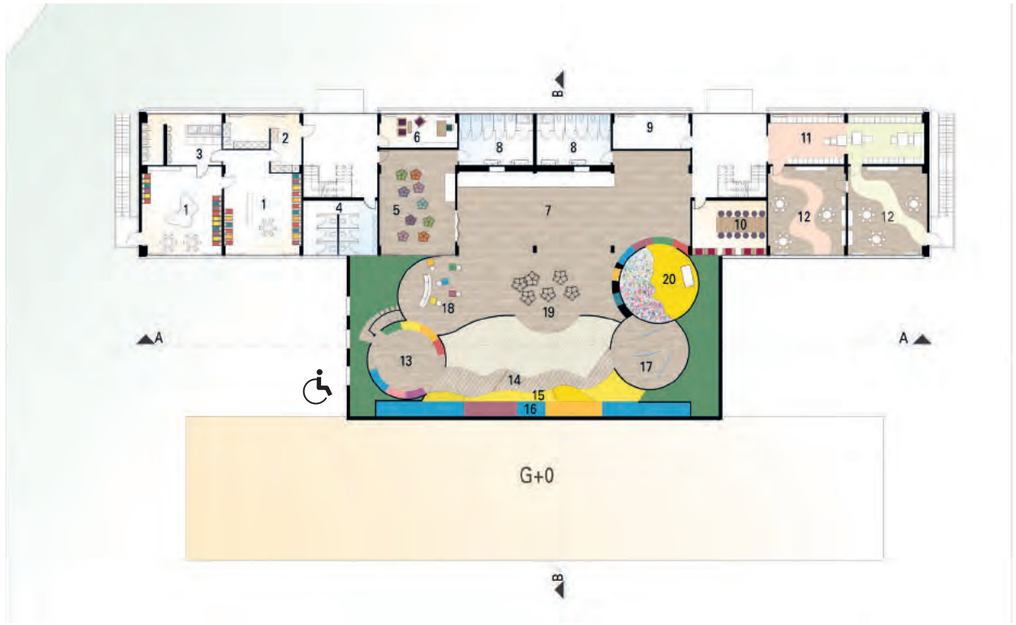


Interior Landscape
The interior becomes an transmutable endless landscape defined by functions, pedagogic concepts, and objects. The programme of a domestic space is defined by the content of this space rather than its shell. It has to be understood as a networked space that can be expanded and decreased according to children needs.

Spatial Diversity
The spatial diversity and flow created by the overlapping and intersecting activity areas are heightened by the contrasting colours and textures of walls, floors, and ceiling. The preferred interiors for children combine the need for space, freedom, a place to relax, rest, or play. This approach stresses a wide freedom and creativity for children.

Varying of Levels
Playing with the varying levels of circular tree houses invites the children to experience and discover what each point of the site has to offer. It promotes a more conscious visit of the place through its vistas, spots, and of course the overall big picture: a huge playhouse. Terraces, platforms, and toys provide softness and a very simple but effective way of playing with varying heights.

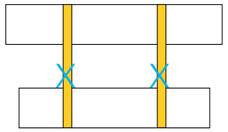
Ground floor



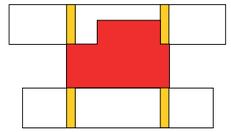
Second floor

Section AA

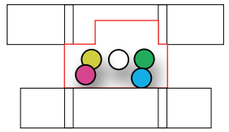
Section BB



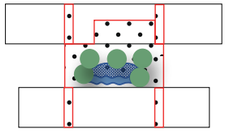
Break up the paths
Find a new circulation



Extension of space
Connect paths



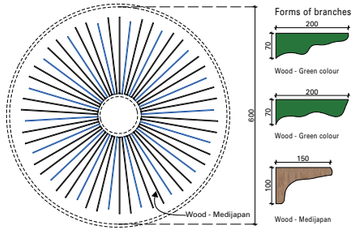
Adding levels
Expand vistas and spots



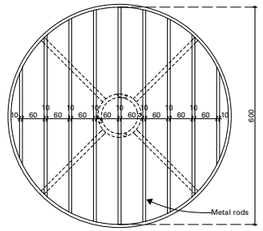
Continuous use of space
integrating paths and entrances

1 Entrance
2 Baby room
3 Changing room
4 WC – crèche area
5 Staff WC
6 Administration
7 Teacher – Parent room
8 Service entrance
9 Dinning/Mixed-use
10 WC, barrier-free
11 Storage
12 Tree houses
13 Changing rooms
14 WC for children
15 Rooms for children
16 Cube: relaxing area
17 Music room
18 Gymnastics room
19 Sauna – WC
20 Storage

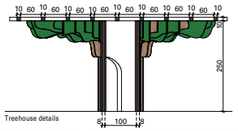
1 Baby room
2 Changing room
3 Toilets crèches area
4 WC for staff
5 Cinema room
6 Psychologist room
7 Playing area
8 WC for children
9 Storage
10 Technology room
11 Changing room
12 Rooms for children
13 Lego room
14 Bridge
15 Stairs
16 Wall games
17 Mirror room
18 Painting wall
19 Relaxing space
20 Climbing and jumping



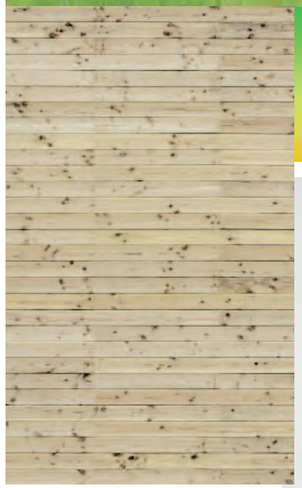
The order of the shapes of the branches



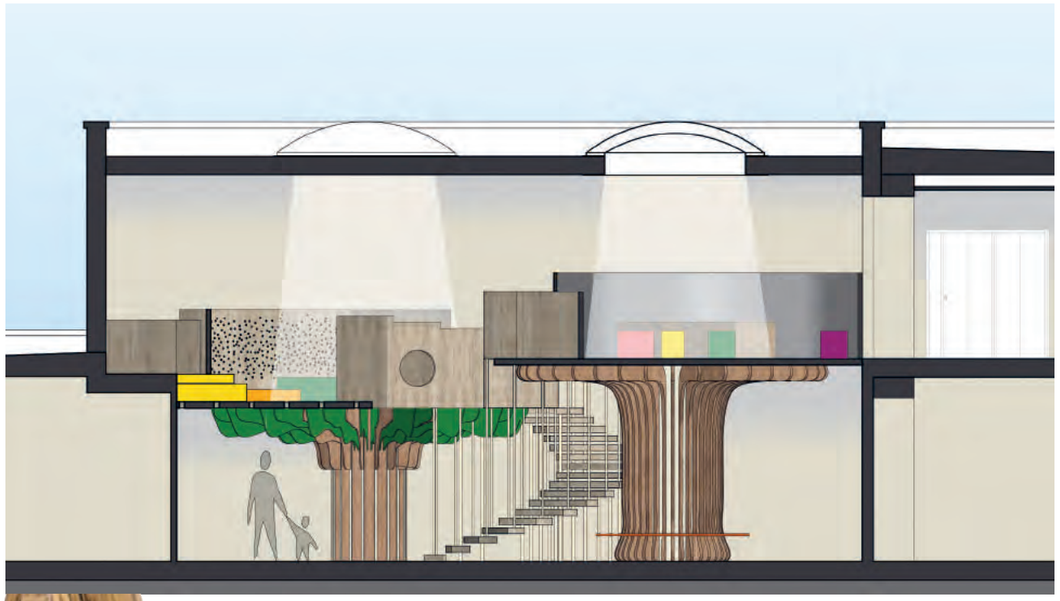
Metal construksion



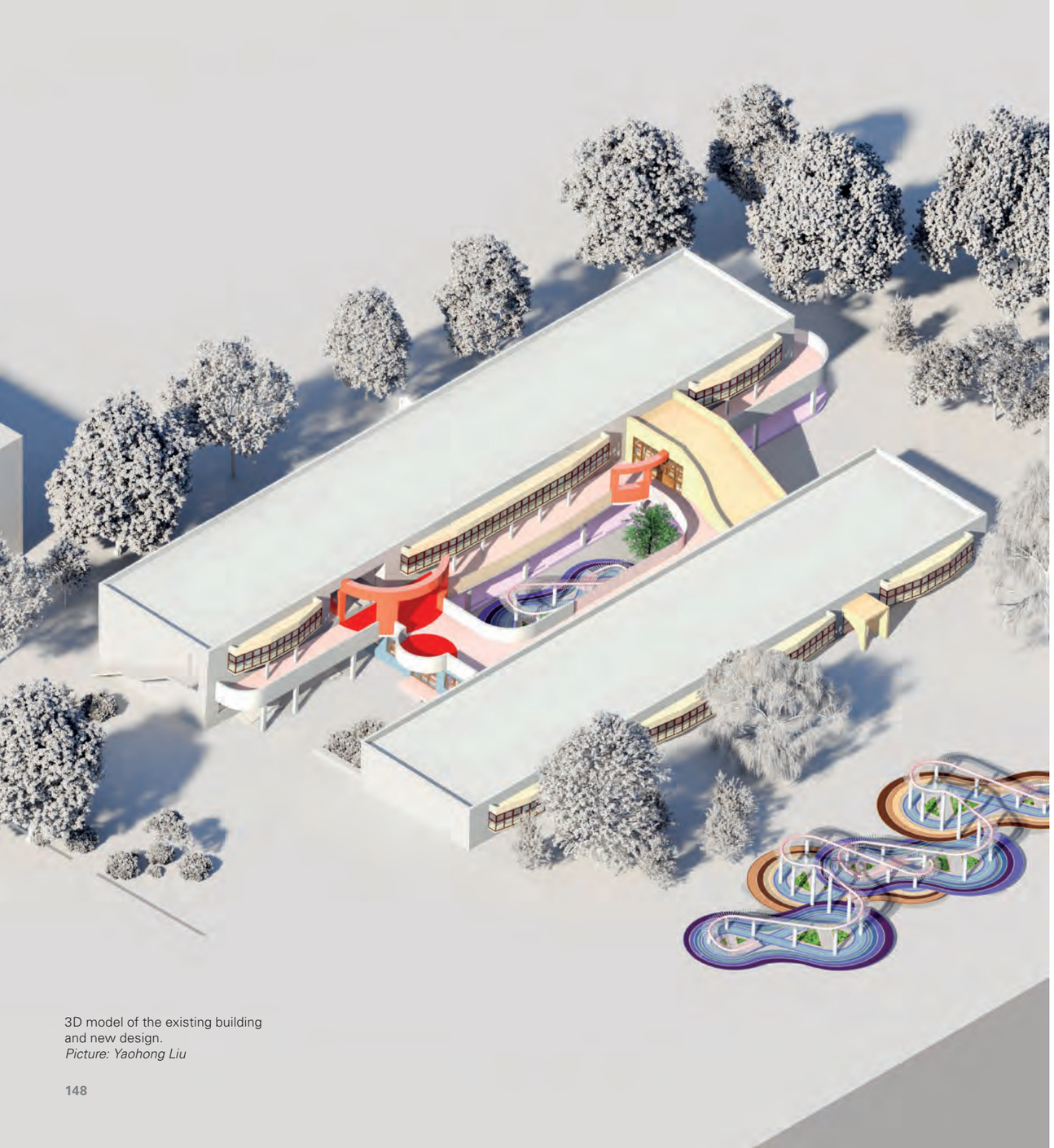
Treehouse details



Floors: wood
Walls and furniture: linoleum
Source: Forbo Flooring Systems



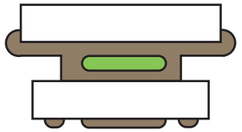
Tree houses
Building tree platforms or nests as a shelter on the ground is a habit of all the great apes, and may have been inherited by humans. Climbing possibilities, hideaways and niches are distributed throughout the building, on different levels and in different sizes.



3D model of the existing building and new design.
Picture: Yaohong Liu

Liliput in Motion
How architecture creates a community of learners

Yaohong Liu



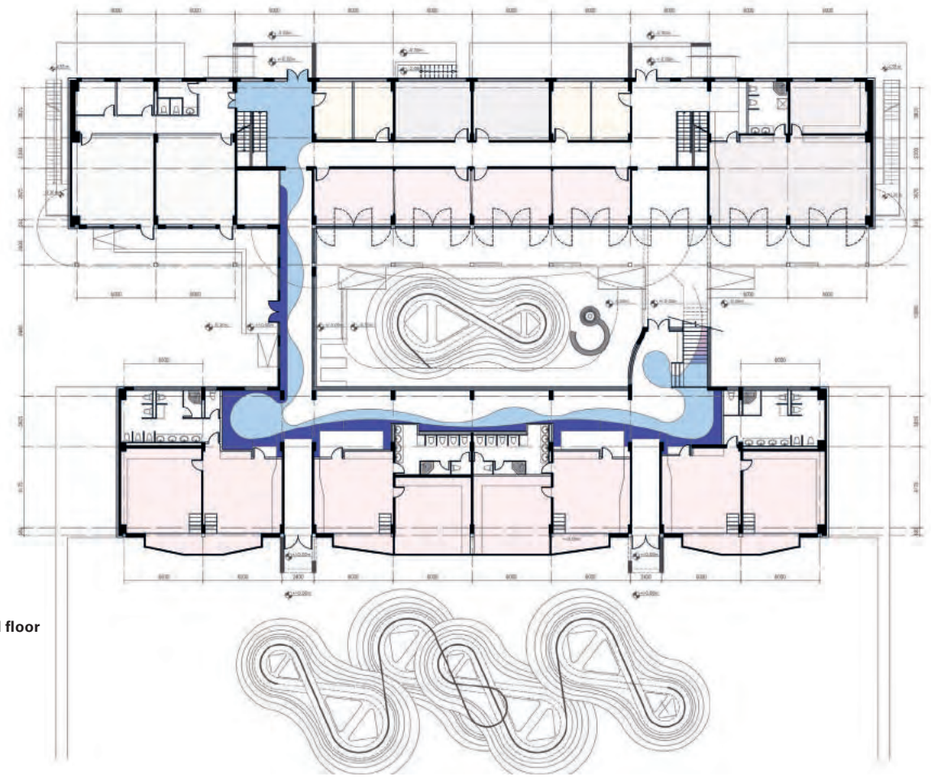
Way-finding and Orientation
While many people immediately think of signage and graphics, when way-finding is discussed as a concept, architectural and interior design components are just as important. Well-designed architecture will have cues inherent within the kindergarten's design that can subconsciously guide children towards zones, down paths, towards landmarks or markers, nodes etc.

Layout of Space and Circulation
Spatial planning involves identifying, grouping, and linking spaces. Planning a layout involves the identification of spatial units and understanding their purpose, function, and relationships to other units. Based on these relationships and functions, units can be grouped into zones of common function/identity.

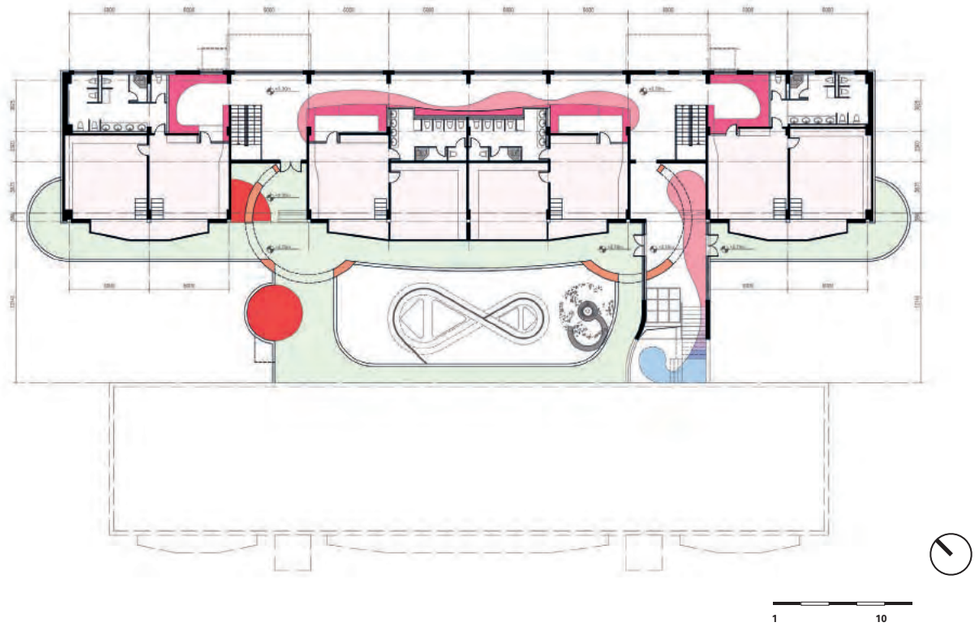
Entrances and Exits
It is important to ensure that the main kindergarten entrances are legible to children and visitors from various angles of approach. Each entrance will have a different architectural language that may be used to help children differentiate between them and ensure that exit points are distinguishable from the main circulation points.

South elevation

Section



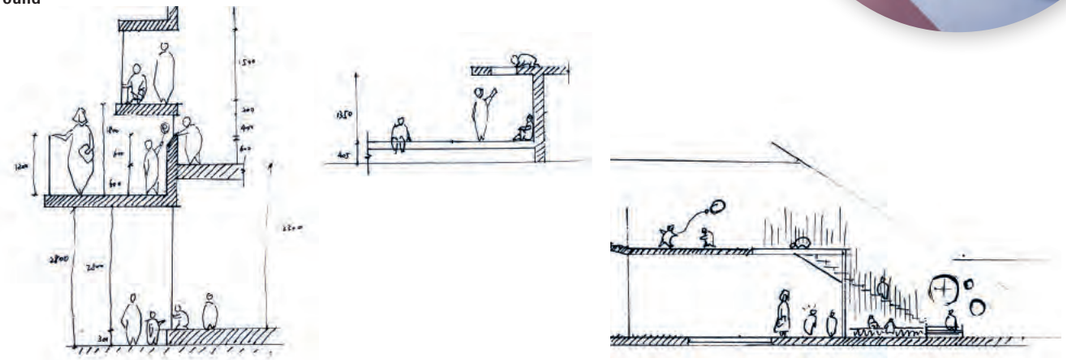
Ground floor

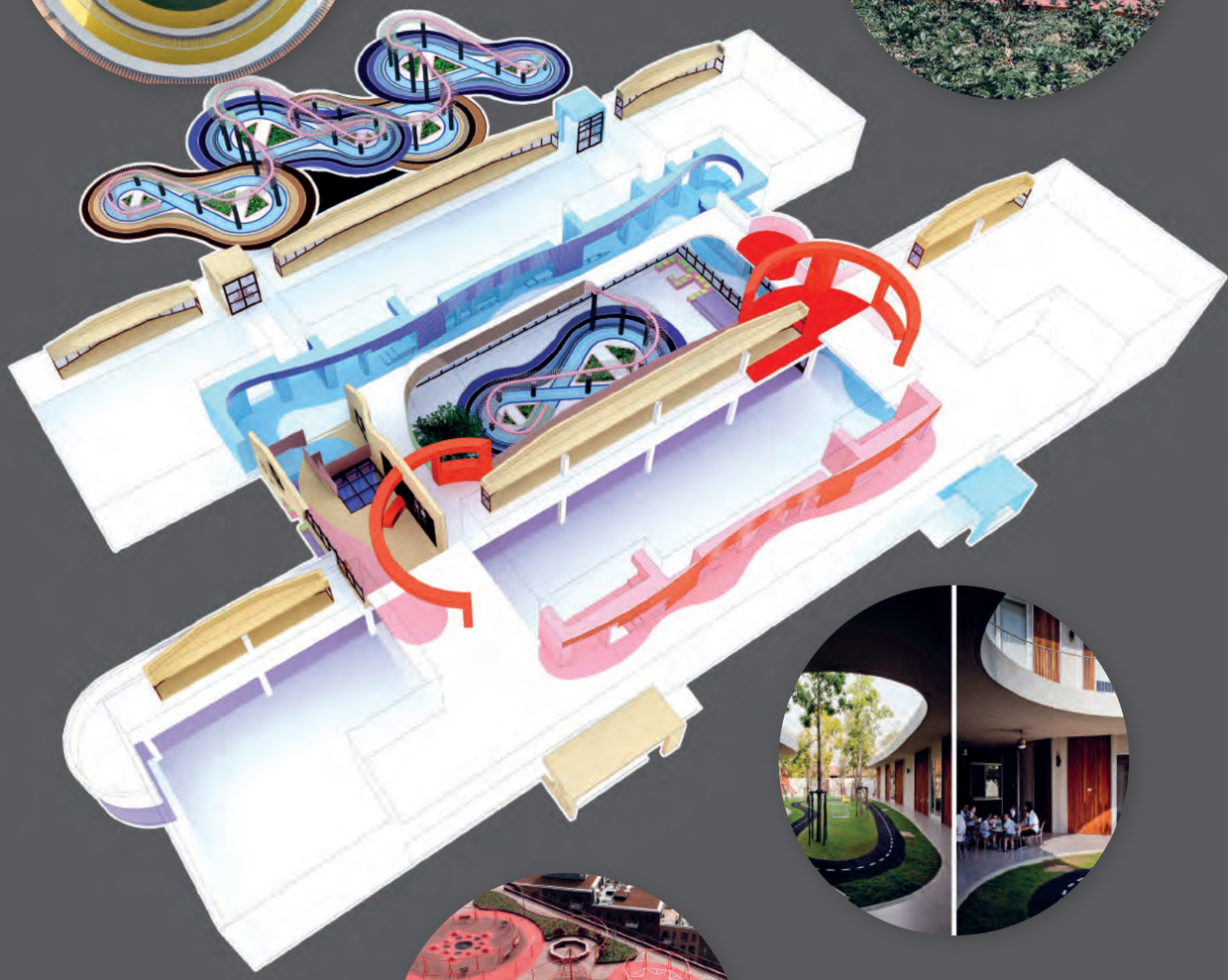


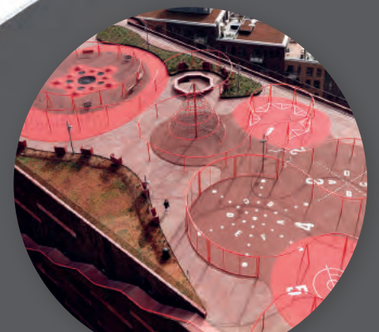
First floor

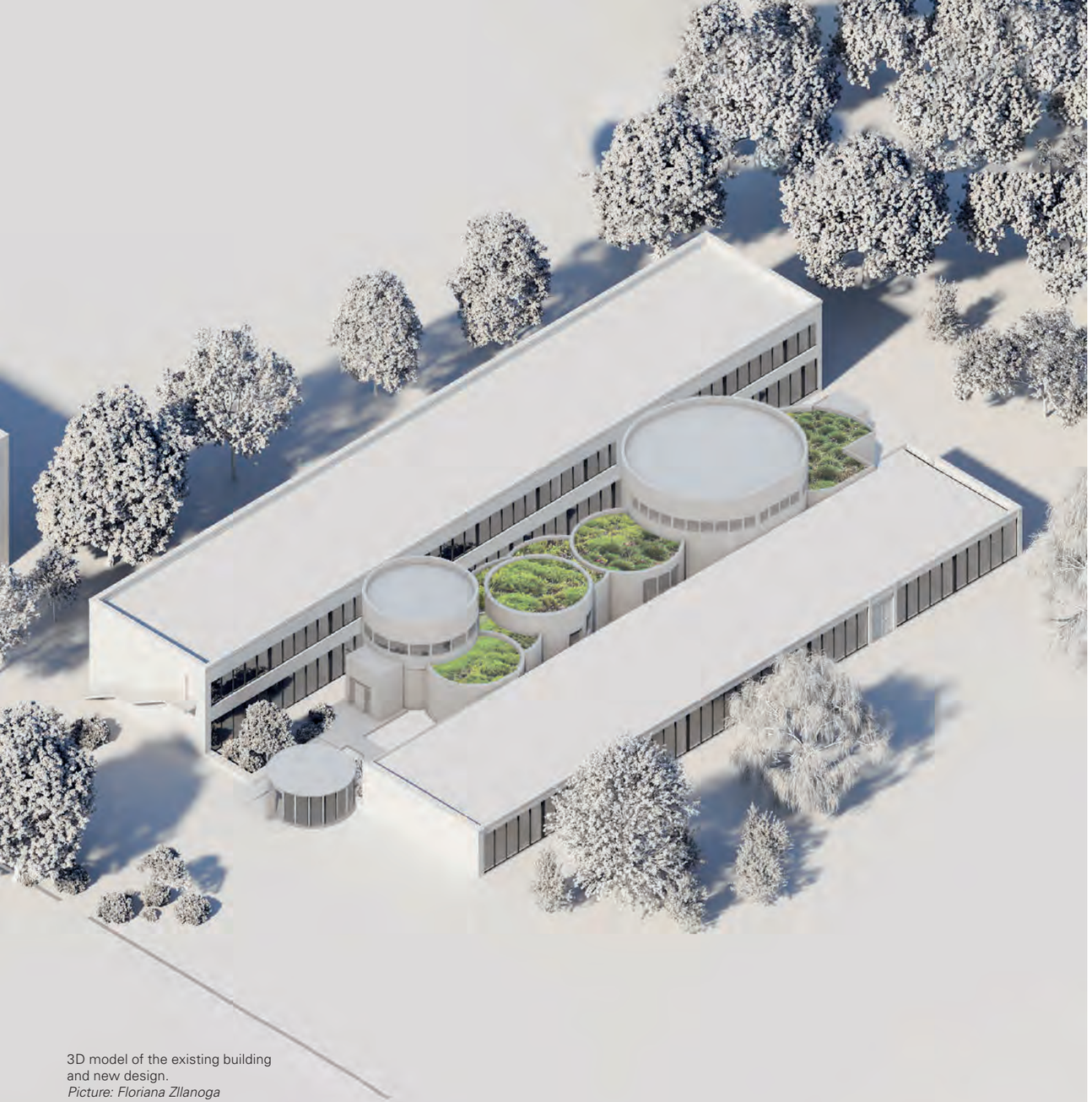
1 10

Playground







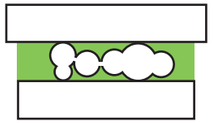


3D model of the existing building and new design.
Picture: Floriana Zllanoga

Circular Village

How movement creates a building organism full of life

Floriana Zllanoga

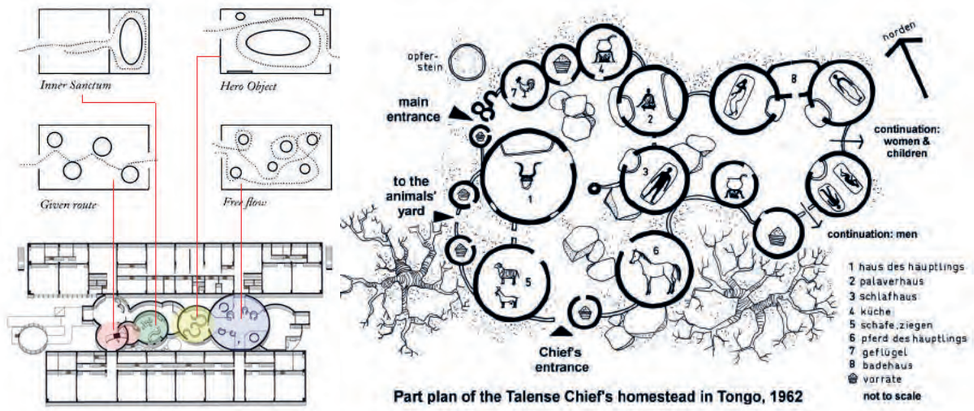


The Circle
Inspired by natural circles such as the sun and moon, this design idea draws on the first settlements of mankind. In reality, if we leave aside the costs of execution, the use of the circle results in the most efficient formation – which applies equally to two-dimensional circles as it does to three dimensions, with the sphere. And ancient civilisation was already aware of this.

The Village
Living in a village such as Tongo-Talensi evokes a primitive lifestyle, but presents all the opportunities that nature offers villagers to live and develop activities that keep them alive and happy. Children must also have opportunities to interact and build positive relationships. Inspiring and caring environments hereby encourage children to develop.

Free-flowing Interiors
Curves are some of the most free-flowing tectonic elements; free-flowing interiors imply movement while symbolising organic and abstract relationships. The design goal here is to create a space where children interact with the building through the continuous communication between spaces. To maintain light and airy free-flowing space, in a diverse interior design setting.

Ground floor

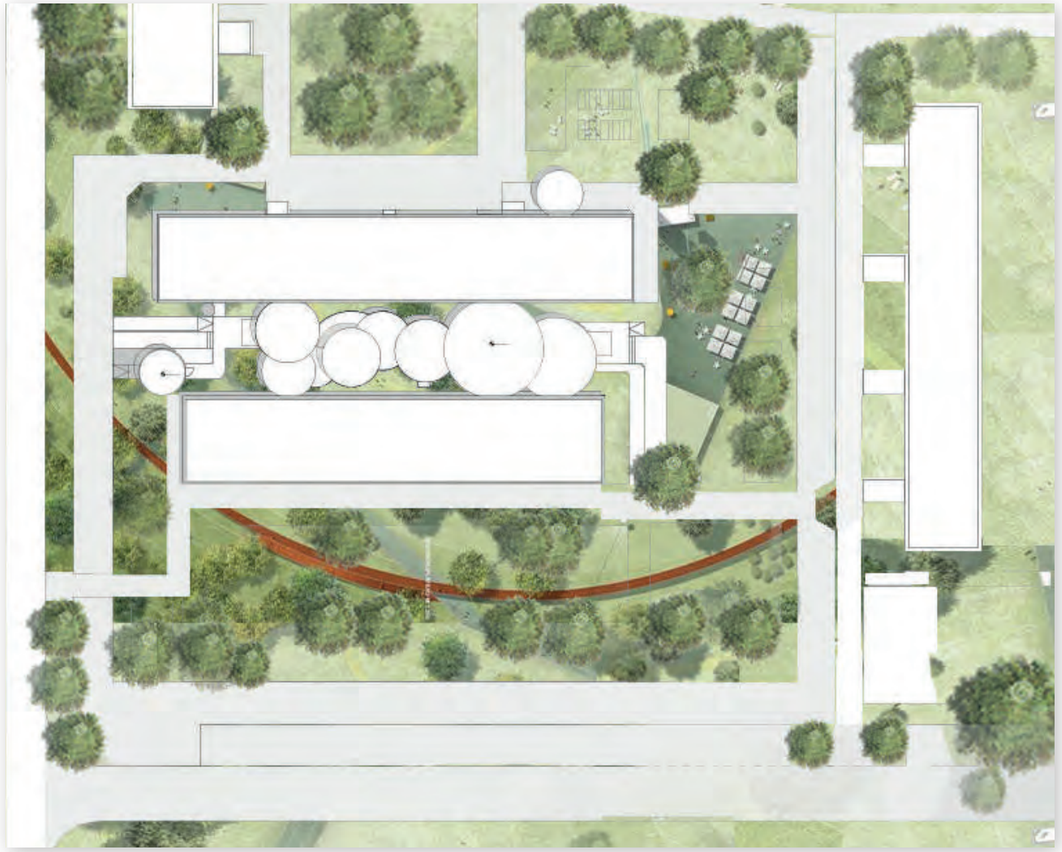


Part plan of the Talense Chief's homestead in Tongo, 1962

First floor

1 10

Design process

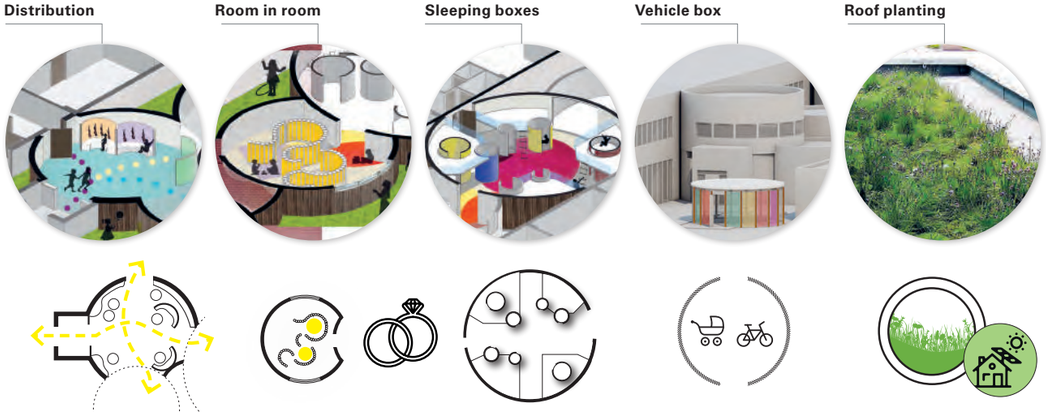


Site plan

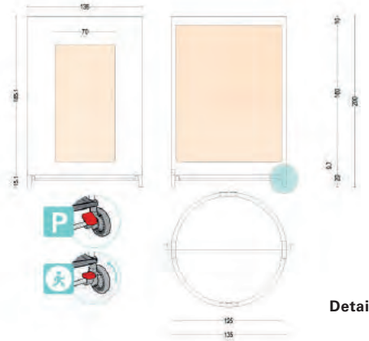
African Village

Section

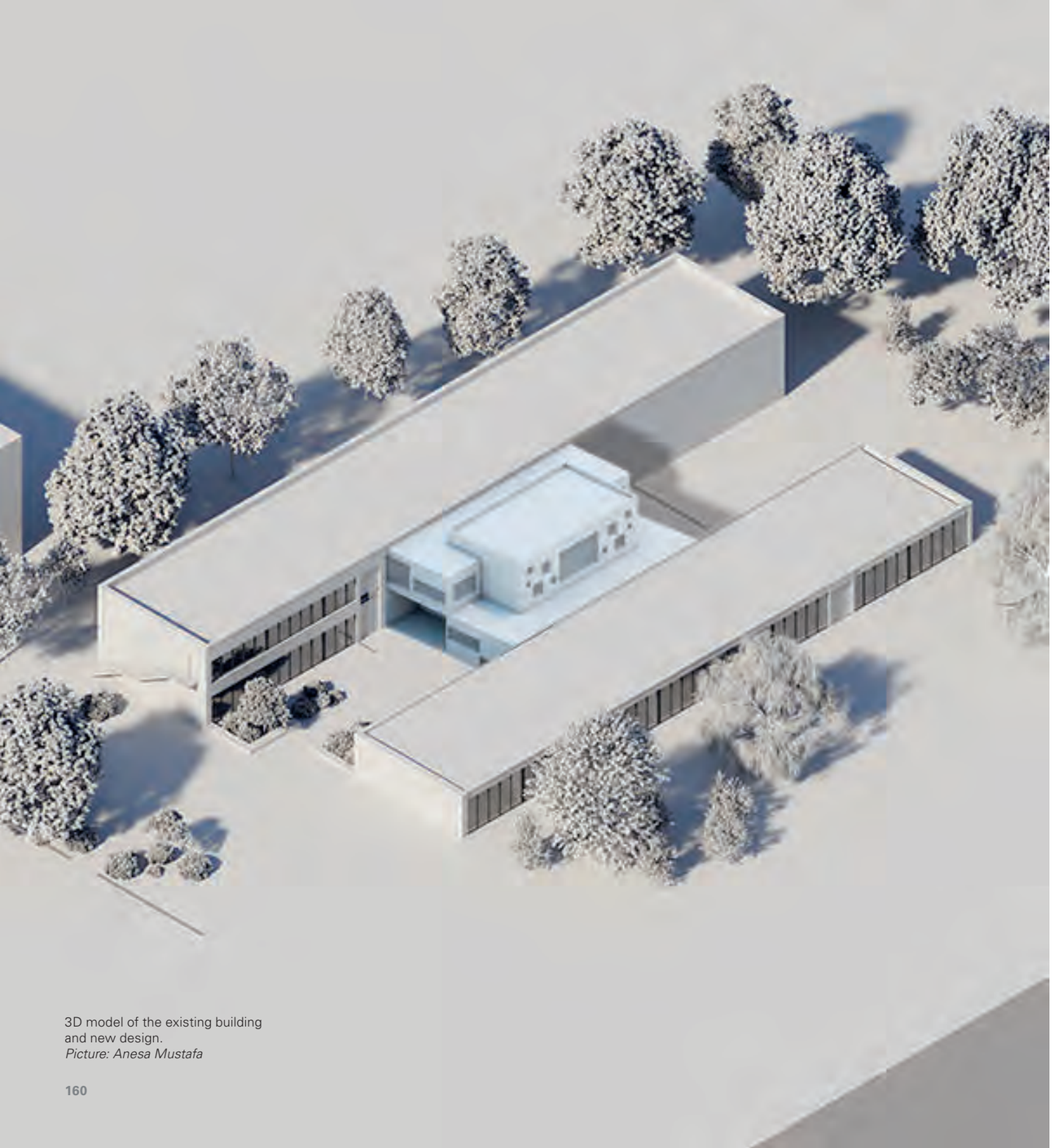
Variations on a theme



Sleeping boxes



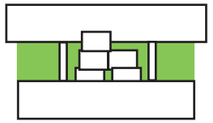
Detail: movable beds



3D model of the existing building and new design.
Picture: Anesa Mustafa

Rue Intérieure
How intersections form interstices

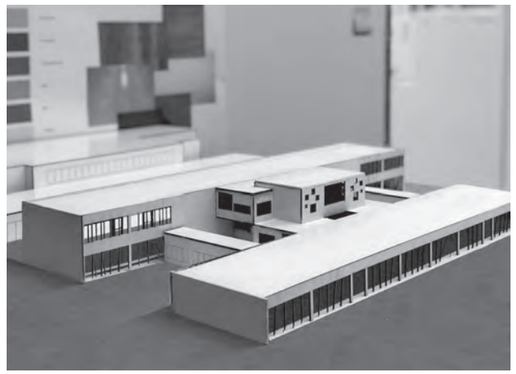
Anesa Mustafa

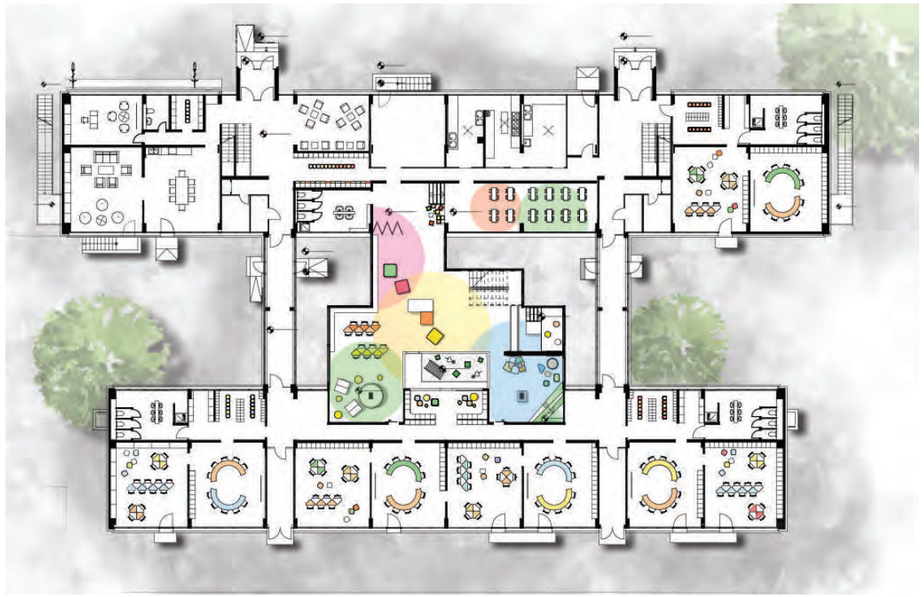


Architecture Bridging Gaps
Just because there are corridors between the buildings, we cannot say that these are not connected to each other. However these actually provide a very formal and unattractive connection from a child's perspective. Acting as a bridge, this new intervention allows children to move from one side to another through different, more attractive mediums. At the same time, this provides a new attraction for the building itself and new spaces for children.

Blending with Nature
This design communicates clearly in terms of blending in with nature, since the tree houses unite indoor and outdoor space. These elements open up a new world for children by referring to objects and elements with which they are already familiar. The trees visually support the functional elements or bring them to the young children's attention. The panoramic window on the first floor gives a lovely view over the outdoor space.

Respecting Dimensions
Even though the design has different ways for children to relate to spaces, the volumes take into consideration former spaces, respecting their dimensions in order to make smooth changes and ensure the original design adapts swiftly to the new one, thus avoiding being seen as harsh and dramatic.





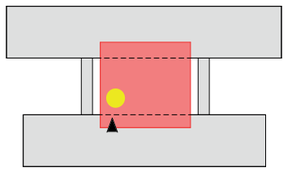
1 Director's office
2 Staff room
3 WC
4 Staff changing room
5 Parents' meeting point
6 Heating room
7 Kitchen
8 Group room
9 Children changing room
10 Storage
11 WC
12 Eating space
13 Drawing space
14 Reading space
15 Gathering space
16 Playground

Ground floor

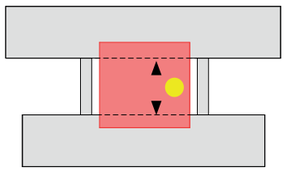
1 Babies' room
2 Group room
3 WC
4 Storage
5 Changing room
6 Working space
7 Jumping area
8 Gathering space
9 Reading space
10 Atrium
11 Play area

1 10

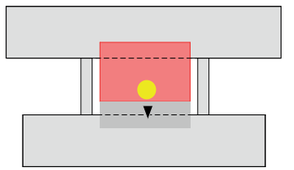
First floor



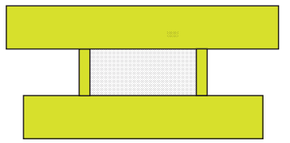
First Attraction



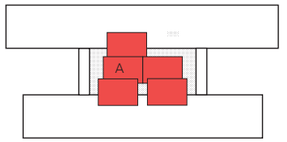
Communication Core



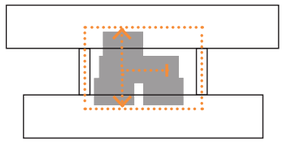
Panorama Window



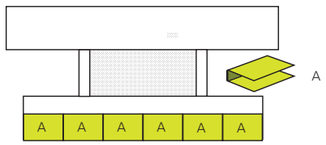
Existing Building



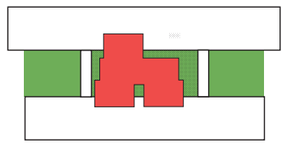
Addition of Space



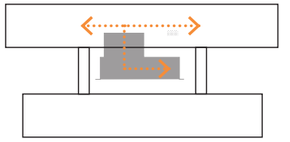
Circulation Ground Floor



Existing Dimensions/Cluster



Connecting with Nature



Circulation First Floor

Beehive

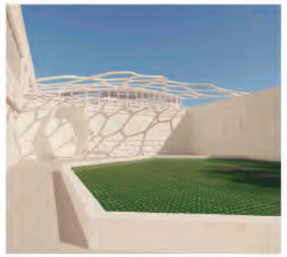
How the interplay of spatial separation and connection influences how we experience space.

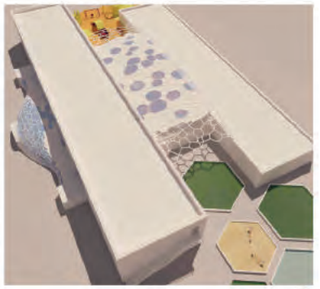
kamalinejad Abbas

Hochschule Anhalt
Anhalt University of Applied Sciences
Prof. Dr.-Ing. Natascha Meuser
Innenraumplanung/Interior Architecture










Beehive

How the interplay of spatial separation and connection influences how we experience space.

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Design Parameters

1 Maintain The Building

My goal was to respect and maintain the existing building and not create any damage to it and add spaces to it, which would result in two results:one, we will have two architectural histories in a frame. The combination of up-to-date architecture with old architecture- and, secondly, economically no additional costs for destruction.

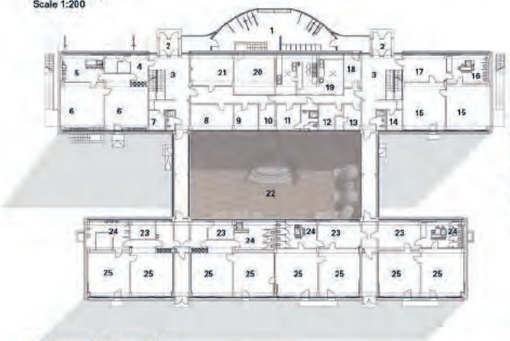
2 The Main Problems

I considered the problems in this kindergarten and the spaces that the children need,which are important and to solve these problems by adding spaces for.There is no good atmosphere for studying where children are feeling comfortable,lack of space to get kids familiar with nature,the lack of space for outdoor children's playing.

3 Inspiring From Nature

Since I look on kindergarten as a beehive, I looked at nature and inspired from it, from influncing by the hexagonal structure of hives, I used a hexagonal pattern for designing furnitures and other components of my design.And Also I used the potential of the Site plan for my design an devided it to three different zones.

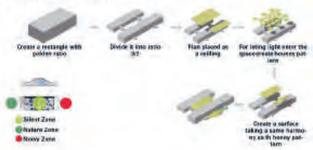
Site plan
Scale 1:200



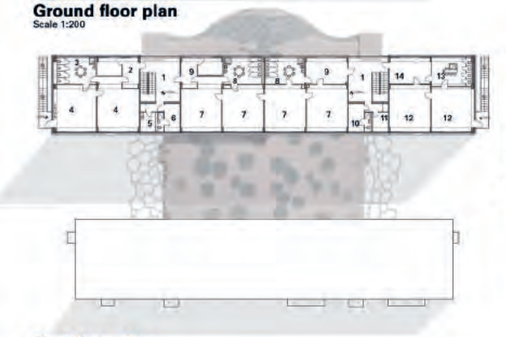
Ground Floor

1 Buggy Room/Closet	10 Storage	19 Kitchen
2 Entrance	11 Personal Room	20 Technical Room
3 Hall	12 Storage	21 Rest Room
4 Rest Room	13 Personal Room	22 Library
5 WC	14 WC	23 Changing Room
6 Living Room	15 Group Room(0-3)	24 WC
7 WC	16 WC	25 Group Room
8 Office Room	17 Storage	
9 Personal Room	18 Storage	

Form development



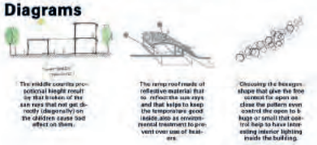
Ground floor plan
Scale 1:200



Second floor

1 Hall	8 WC
2 Changing Room	9 Changing Room
3 WC	10 WC
4 Group Room	11 Storage
5 Storage	12 Group Room
6 WC	13 WC
7 Group Room	14 Changing Room

Diagrams



First floor plan
Scale 1:200

Exhibition boards
130 x 220 cm

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E DIN EN 1130:2017-12 {D/E): Kindermöbel – Krippen und Wiegen – Sicherheitstechnische Anforderungen und Prüfverfahren; Deutsche und Englische Fassung prEN1130:2017; Children's Furniture – Cribs and cradles – Safety requirements and test methods; German and English version prEN 1130:2017.

VDI 6000 sheet 6: Ausstattung von und mit Sanitärräumen Kindergärten, Kindertagesstätten, Schulen [2006-11][2011-10].

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Fanguan Zhang
Floriana Zllanoga
Gulyuzbonu Ruziboera

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Anesa Mustafa

Learta Stavileci, Natascha Meuser, and Floriana Zllanoga

Nivesh Gaur

Fanguan Zhang

Randell Campell

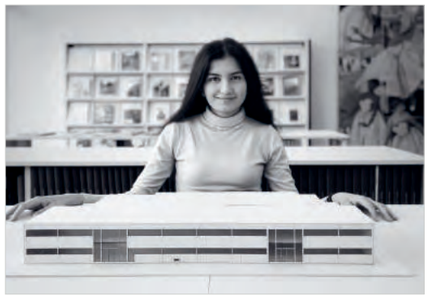
Gulyuzbonu Ruziboera

Yaohong Liu

Flaka Syla

Studio with perfect view of the Bauhaus building

Flaka Syla in the model shop



Gulyuzbonu Ruziboera with model of *Typenserie 66*

Interim presentation

Gulyuzbonu Ruziboera, Flaka Syla, and Abbas Kamalinejad

Fanguan Zhang and Anesa Mustafa

Kai Korn, Detlef Diskowski, Elisa Steinfeld, and Danilo Surweiher

Suzanne Lawrence, Randell Campell, and Flaka Syla

DOM publishers

Childcare Facilities, Nursery Schools and Kindergartens
Construction and Design Manual

Building for children has once again become a hot topic for architects, particularly with the recent announcement of new laws aimed at improving the availability and quality of nursery schools. In recent years, no other building typology has changed and evolved more rapidly than educational facilities for children. Architectural solutions must go far beyond the structural aspects of the respective building: they must also ensure flexibility, safety, and accessibility and account for the current technical, ecological, and energy standards. This publication explores nursery schools and childcare facilities from an architectural perspective. The aim is to provide a cultural-historical account of the development of educational buildings for children, to define design tasks, and to formulate quality standards for play-learning architecture and environments.

Natascha Meuser

Childcare Facilities, Nursery Schools and Kindergartens
Construction and Design Manual

225 × 280 mm, 416 pages
500 plans and images
Hardcover with elastic strap
978-3-86922-XXX

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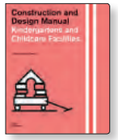

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