LERNWABE®

LUKAS BÄR

Publisher

One of our students, let's call her Eva, is very introverted. During the pandemic, when masks were required at school, she felt unexpectedly comfortable. The masks gave her a sense of security and personal space. She finds the noisy and lively midday period at our day school particularly burdensome.

As a school, we view space as a 'third teacher' and believe that conscious spatial design can have a positive impact on a child's development. Our learning environment is designed to provide opportunities to withdraw and concentrate, as well as moments of calm and security.

That is why it was an easy decision to install Learning Honeycombs in the common room. At lunchtime, Eva can often be found in one of these spaces, taking a break from the busy day. There she can rest, without feeling isolated.

We would like to share the idea behind Learning Honeycombs with you and invite you to explore this concept further. Discover the background, the thinking, and the people connected to it.

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LEARNING... WHAT?
LEARNING HONEYCOMBS?

Daniela, what are Learning Honeycombs?

Learning Honeycombs are hexagonal spaces made of wood or cardboard, constructed as modular structures. This makes them an efficient and visually appealing way to organise and divide space. The honeycomb design creates small, private units that dampen noise and provide visual shielding. As a result, they are particularly well suited for focused learning, working, playing, or spending time in a calm, semi-private environment.

How did you come up with the idea of developing Learning Honeycombs?

My architecture firm was commissioned to plan the renovation of the SalZH school in the Zeughaus Winterthur. While sketching, I experimented with honeycomb structures to make the most of the tall rooms and create as much learning space as possible. The school principal, Marcel Hofmann, embraced the idea and built the first wooden honeycomb wall. The children responded with great enthusiasm.

How did the prototypes evolve?

The first Learning Honeycombs began as simple wooden retreat spaces, joined and stacked to form flexible learning zones. As the concept developed, the design evolved into a sophisticated lattice panel system that can expand and adapt as needed. Designer Marcel Hofmann later introduced a version made from recycled cardboard. Lightweight and foldable, it can be assembled together with the children, turning construction into a hands-on learning experience. Both versions have been tested, from industrial spaces to everyday school life at SalZH, demonstrating the durability and versatility of the Honeycombs.

What do Learning Honeycombs offer the children?

On the one hand, the children gain an individual space for concentration and reflection without being isolated; on the other, they can step away from the activity of school life to relax and recharge. The Learning Honeycombs also support physical activity during lessons. Climbing and changing posture activate different muscle groups and promote circulation.

How do Learning Honeycombs support schools in their day structure?

In many day schools, children have little opportunity to step back from the demands of the school day and rest. A sheltered, quiet space allows them to relax in a comfortable reclining position or even take a short nap, helping them regain focus and energy.

What opportunities arise for teaching?

Learning Honeycombs are part of a forward-thinking educational approach that recognises the learning environment as a "third teacher." By reimagining how space is used, schools can create child-centred, inspiring settings that encourage both independence and collaboration. Honeycomb retreat spaces are particularly effective for quiet activities such as silent study or paired work, supporting children to stay focused and engaged. They also give teachers the flexibility to divide the class into smaller groups, offer targeted support, maintain a clear overview, and guide learning more effectively. For added versatility, fold-out tables and seating can be installed to complete written tasks just as they would in a traditional classroom, but in a calmer, more focused environment.

Where else are Learning Honeycombs used?

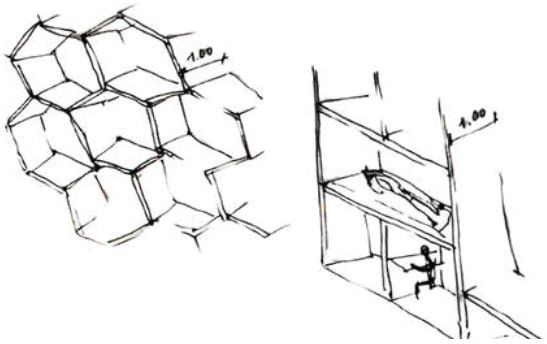
Learning Honeycombs aren't just for schools: they're equally suited to nurseries, libraries, universities, coworking spaces, offices, and museums. In short, they work anywhere people need space to focus, connect, and unwind.

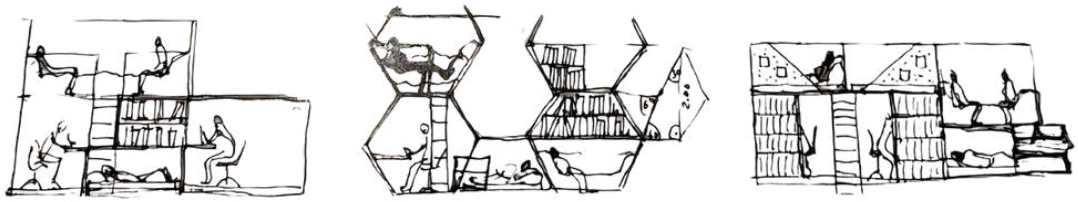
DANIELA BÄR

Inventor of the Learning Honeycombs

Daniela Bär was born in Winterthur in 1967. After completing her degree in architecture at ETH Zurich, she was involved in the establishment of the private school SalZH, where she gained valuable experience with school space concepts. In 2011, she founded her own architecture firm, planidee GmbH, and in 2014, she designed the first Learning Honeycomb. Since 2018, in projects with Katharina Lenggenhager, she has increasingly focused on the field of school space development.

Daniela Bär dedicates her work to the challenges of space optimisation, lighting design, and materiality. She sees architecture as a service to people, shaped by a mindful approach to preserving valuable building substance and by efficiency.





WOODEN HONEYCOMBS

CLASSIC HONEYCOMBS

The design is defined by a clear, minimalist aesthetic. A thoughtful combination of birch plywood and PET felt provides the ideal balance of thermal insulation, sound absorption, structure, and durability. Available in four sizes: for nursery children, primary and secondary school pupils, and adults, who also benefit from places to recharge and add variety to their working day.

MODULAR HONEYCOMBS

This model no longer requires an on-site installer, as the elements can be assembled and connected independently. With no back walls, it remains open and accessible from both sides, making it easy to position in front of glass façades or use as a room divider to enhance openness and transparency.

FLIP HONEYCOMBS

For smaller budgets, there's the Flip Honeycomb, which can be self-assembled. Its load-bearing structure is made from three-ply panels, and the back wall can be customised with wallpaper of choice. Available in sizes S, M and L, these retreat spaces are ideal for smaller open areas in nurseries, kindergartens and primary schools.

SHIELDING HONEYCOMBS

The structure stands on a raised base, partially shielding views in or out depending on the seating direction. Acoustic felt lining reduces external noise and creates a calm, comfortable atmosphere. The padded surfaces are upholstered in soft velour fabric, adding an elegant touch. Each unit can be customised to support the overall colour concept through the choice of wood, felt, fabric and cushions.

CARDBOARD HONEYCOMBS

CARDBOARD AS A CONSTRUCTION MATERIAL

Cardboard still mistakenly carries the image of cheap packaging material. In fact, corrugated cardboard is an efficient building material because its small hollow spaces give it stiffness while saving a significant amount of material.

FLEXIBILITY

Thanks to its simple geometry and lightweight material, the cardboard version is particularly well-suited to modular use. It can be assembled quickly to create the ideal workspace for any situation. Even with a limited budget, additional units can be added year after year.

HEALTHY LIVING ENVIRONMENT

The warm, soft material and gentle colours create a welcoming atmosphere. Sound-absorbing surfaces further enhance the room's acoustics, making the space calm and comfortable.

STURDY AND SAFE

Innovative design and smart construction make the structure particularly stable. Reinforcing the walls with MDF further increases the load-bearing capacity of larger units.

CAN BE BUILT ON SITE

The structure can be assembled on site as a wall or built from a kit together with the children.

ACCESSORIES

Various accessories, such as acoustic panels, ladders, tables, or stools, can be added.

PEDAGOGY

THE ADDED VALUE OF LEARNING HONEYCOMBS IN TEACHING
by Marcel Hofmann, developer of the Cardboard Honeycomb, teacher and former school principal

INITIAL SITUATION

The growing awareness that today's challenges in schools, such as all-day care, inclusion and new learning cultures, cannot be met without rethinking spatial design has become increasingly clear. This shift has opened the door to new approaches to learning environments.

Schools need spaces of different sizes to support a wide range of activities, as well as areas for retreat. In day schools in particular, there is a strong demand for lively zones that allow movement and noise, alongside quiet areas that foster calm, silence and concentration.

Many schools are now exploring how to better support individual learning. Just as important is understanding what kind of environment a child needs to learn effectively and what kind of setting works best for a group. Different teaching and learning formats require spatial solutions that reflect and support these needs. The development of learning environments, school structures, the curriculum and architecture must work together as part of a shared vision.

WHAT DEMANDS DO MODERN FORMS OF TEACHING PLACE?

In most traditional classrooms, children are still tied to a chair and desk. The heavy furniture limits flexibility and restricts how the space can be used. It was once believed that a standardised environment like this would help build solid work habits and support focused learning.

Since industrialisation, classrooms have changed very little, still largely modelled on the open-plan office. For decades, this layout was seen as the ideal environment for creating and learning. But is it really? Perhaps, despite many well-intentioned reforms, we're still holding on to a relic of the past.

It's time to ask whether learning spaces and learning itself could take a different shape. One answer lies in creating smaller, more focused retreat spaces for pupils who struggle to concentrate in open-plan classrooms. These offer a calm, shielded environment that supports focused, independent work.

LEARNING HONEYCOMBS IN THE CLASSROOM

The spatial needs for effective learning are as varied as the learners themselves. As a new type of learning space, Learning Honeycombs encourage us to rethink our ideas about learning and teaching, how learning in schools should take place and look, and even the very purpose of education itself. The image of children and young people half-lying, crouching or kneeling in Learning Honeycombs can be both fascinating and unsettling. It prompts a deeper question: is this still learning, or are they simply hanging around? And does this new freedom mean order and discipline are being lost?

Children use the Learning Honeycombs in ways that are often unexpected and wonderfully inventive:

- They love the snugness of the half-honeycomb unit.
- They rarely use the tables and stools as intended, preferring to sit on or beneath them.
- They enjoy the empty spaces, often barricading themselves behind cushions while they work.
- They occupy the honeycombs in pairs or small groups for collaborative activities.
- They see these spaces as a place of retreat and security, yet one where they can still feel connected to their surroundings.
- They especially like using them after lunch, as a way to find balance during the lively midday period.

CHILDREN'S PARTICIPATION

In my search for meaningful woodworking projects, my goal after creating the wooden version was to design a structure so simple that it could be built together with the children and young people themselves. When they recognise the value of an object and take part in making it, they treat it with far greater care.

The idea of a cardboard model gradually took shape. Its development kept me busy for many months, with plenty of setbacks and new beginnings, until the design was finally ready for series production.

MARCEL HOFMANN

Inventor of the Cardboard Honeycomb

Marcel Hofmann was born in Winterthur in 1971. He trained as a primary school teacher at the Teacher Training College in Chur and subsequently taught in Filzbach, Zurich, Fehraltorf, and Winterthur. After completing training as a school principal, he headed the primary level of the private school SalZH for nine years. In 2021, he joined forces with Daniela Bär and became co-owner of planidee GmbH to develop the Learning Honeycomb and launch it on the market. He is married to Jacqueline Hofmann, school principal and member of the management team, and is the father of five children. He continues to work as a primary school class teacher while exploring the pedagogical possibilities of the Learning Honeycomb.

FEEDBACK

CLAUDIA TUCHSCHMID
Head of the Lunch Club at the Zurich School of Arts and Sports

“We acquired learning honeycombs because we noticed a lack of retreat spaces for students in everyday school life. When they first saw the honeycombs, the children were instantly excited, curious, and engaged. They immediately explored them and tried out the different possibilities they offered. They openly shared positive feedback and even thanked us for the improvement in the common room. Over time, small groups have formed, sharing a honeycomb in pairs or trios, comfortably settling in together. The honeycombs are visually appealing and blend well with the overall room design. The space as a whole is enhanced, and the honeycombs are perfect for individual students or small groups seeking a retreat in the often hectic midday environment. We would definitely recommend them to other all-day schools. They are multifunctional, make excellent use of vertical space, and are therefore space-saving."

PROF. DR. MANJA PLEHN
SRH University of Health Sciences, Gera

"Children like safe retreat and quiet places while at the same time feeling connected to others. The learning honeycombs are used by primary school children as a place for learning and reading, or simply for working on a laptop, listening to music, or relaxing. The hexagonal honeycomb shape offers a refreshing alternative to the usual round and square forms. An inspiring and practical invention.”

PROF. DR. CHRISTOPH NEGRI
Head of IAP, Institute of Applied Psychology, Zurich

"Space has a very strong influence on learning opportunities. In this sense, there is a close interplay between space and didactics. It’s great — and long overdue — that the importance of space for learning is being discussed at various levels, and that more and more excellent examples of implementation are emerging. What is especially important is that architects and educators are in exchange and working together right from the start. From my perspective, there is still a great deal of development needed here. And of course, the support of education departments and building authorities at the municipal and cantonal level is essential."

PROF. DR. DAVID I. SMITH
Professor of Education, Director of the Kuyers Institute for Christian Teaching and Learning, Calvin University, Grand Rapids, Michigan, USA

"Too often we approach teaching and learning as if the physical space in which children learn is mostly irrelevant as long as content is covered and tests are passed. This is short-sighted. A wide-ranging body of research speaks to the impact that physical environment has on human beings' emotions, sense of self, and ability to focus. Feeling safe, learning the skills of quiet focus, and nurturing an intimate relationship to learning are essential for successful education. The learning honeycombs tackle this in a creative, simple, and appealing way, offering students welcoming niches in which to pursue insight while remaining connected to others."

AND WHAT DO THE STUDENTS THEMSELVES SAY ABOUT THE LEARNING HONEYCOMBS?

"You can definitely learn well in here!"
"This is my new favorite spot."
"I like that they are so nicely painted."
"I think it's great that you can lie down inside."
"It's built so beautifully."
"I like that you can look at little books inside."
"The felt is nice to touch."

THE SPACE AS THE THIRD TEACHER

Cave – Treehouse – Campfire – Hammock

The Learning Honeycombs are part of a school space concept that views space as the third educator. Inspired by the pedagogical ideas of Loris Malaguzzi and the Reggio approach, conscious spatial design should positively influence a child's development. The physical learning environment affects the emotions and concentration of children and young people. In addition to many other needs, their learning environment should provide security, opportunities for retreat, and, at the same time, a sense of connection. Learning spaces can support individualised forms of learning. In doing so, they accommodate different learning types and open up diverse methodological possibilities for teachers. To better understand the role of the Learning Honeycomb in this context, the following spatial metaphors are offered:

Cave

The cave provides a retreat for tasks requiring deep concentration and reflection. Here, quiet is essential, and there is no space for movement activities.

Treehouse

The treehouse is a private retreat defined by distance from outside activity, yet still connected through a view outward. Its elevated position allows for perspective and overview.

Campfire

At the campfire, people sit close together and exchange ideas. Informal discussions like this can sometimes inspire learning and collaboration.

Hammock

The hammock stands for relaxation — a place where one can let the soul unwind. Here, students may rest, enjoy their lunch break, and take time for themselves.

CO-WORKING & MUSEUMS

What does the Lernwabe® actually do in a coworking space?

Coworking is no longer limited to trendy startups in California or Berlin. The concept of people from different professions and companies working together under one roof is gaining popularity in Switzerland as well. Young professionals, startups, and freelancers, in particular, value the networking opportunities and the lively atmosphere of coworking spaces.

Where do Honeycombs fit in?

Even in these dynamic environments, there is often a lack of quiet, comfortable spaces for focused work. Honeycombs provide a solution: they offer a private area to concentrate without fully disconnecting from the surrounding environment.

And in museums?

Honeycombs are also being used in museums, including the Naturama Aargau, mumok – Museum of Modern Art Vienna, the Schulmuseum Bern, and the MuseumsQuartier Vienna. In these settings, they complement large, open exhibition spaces by giving visitors a place to pause and reflect.

Why is that?

Modern museums aim to inspire and bring people together. Rather than simply instructing, they focus on creating opportunities for visitors to actively participate and explore. Honeycombs support this goal by offering a flexible, low-pressure space to digest information and interact with supplementary materials such as brochures or digital tools.

Where else can Honeycombs be found?

Today, Honeycomb retreat spaces can be found in libraries, lobbies, reading rooms, waiting areas, educational spaces, and even in restaurants.

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