SPARKING CREATIVITY AT BEEP LAB IN SINGAPORE

BEEP Lab is the first school of design and architecture for children and youth in Singapore. The mission at this design thinking creative lab is to engage, enrich, and empower young learners to spark their creativity and nurture in them a sense of stewardship toward the built, natural, and cultural environments in which we live. Since its founding, BEEP Lab has curated over hundreds of interactive and intentional design thinking in-person and Zoom workshops, camps, and events, which have impacted over 1,000 children in Singapore, Taiwan, Malaysia, and China.

BEEP Lab was selected by the Finland-based education improvement platform HundrED as one of its top 100 global innovations in 2020 and 2021. HundrED also recognized BEEP Lab in its spotlights for employability skills and visual arts education.
The BEEP Lab Team of Design Facilitators

The team at BEEP Lab consists of teachers, coaches, mentors, and facilitators who are also architecturally trained designers. They see the everyday nature of teaching and learning present students with a challenge and then support their learning of what they need to know to address that challenge.

A project-based or problem-based learning platform facilitates incremental acquisition of the relevant skills for designing a solution. There is often no instant answer provided; rather, the learners are guided toward discoveries and encouraged to synthesize their learning experiences to form meaningful strategies for application. They are coached to be motivated learners with the basics of independent learning. This is what BEEP Lab strives to imbue in the young learners they support.

BEEP and Epic Fun!

Architecture is equal parts art and science; it is a craft that requires both imagination and inquisitiveness. BEEP Lab’s design studio activities are crafted to provide enjoyable moments of discovery and achievement while learning about how buildings, cities, and parks are designed and built for and with people. Underpinning these learning activities are the integrated pedagogical principles of experiential learning and inductive learning. An emphasis on learning by doing or making is key to helping students make sense of their experiences and form stronger mnemonic impressions.

The design of the learning journey is always contextualized in a project-based or problem-based scenario. Described by Prince and Felder in the essay, “The Many Faces of Inductive Teaching and Learning,” inductive methods of the built environment around us as a fertile ground in which to engage young learners, helping them uncover the insights and intrigues associated with making buildings and cities. Tapping into their professional knowledge and diverse design-learning experiences, the team transforms daily encounters with our living spaces into novel, refreshing, and captivating activities that challenge the children and teens.

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Albert Liang Tsu Ying, Founder and Creative Director of BEEP Lab

Built Environment Experiential Programme LAB

Empowering kids to be aware of current issues around the world and participate in design to interact with these issues. Inspiring them to be confident, collaborative, and compassionate human beings.

What BEEP Lab strives to imbue in the young learners they support. BEEP Lab’s Journey

To change the status quo, BEEP Lab’s founder Albert Liang Tsu Ying decided to improve the way children learn by embarking on a journey to relearn, unlearn, and learn about architecture through the lens of children and youth. He strongly believes that by developing a new point of view on the world around us, we can work together to make better decisions about our learning and how to better serve our society.
In 2015, with support from S&A Architects management, Albert and some colleagues embarked on a civic engagement initiative known as ArKidecture. With a team of architects, the initiative pursued various public engagements to promote learning about architecture through platforms such as Archifest, URA Children’s Season Workshop, National Library, and PA Arts Festival. With a commitment to pushing the boundaries of the education and training sector, Albert took a leap of faith and embarked on a civic engagement initiative pursued various public engagements to promote learning about architecture through platforms such as Archifest, URA Children’s Season Workshop, National Library, and PA Arts Festival.

AR.C.HI.TEC.TURE

ART is content. COMMUNITY is who we serve. HISTORY forms context. TECHNOLOGY helps to construct. NATURE is what surrounds us.

Pedagogy and Philosophy of Learning

The core pedagogy at BEEP Lab sets out to impact young learners from all walks of life through experiential learning about the built environment. Just as our built environment develops from the natural environment, collaborating with architecture, engineering, art, and mathematics.

DIG DEEP

Based on the experiential learning framework, DIG DEEP. This step-by-step process deconstructs a design brief, considers the problem to be solved, proposes compelling ideas, and presents the ideas to others. This process not only stimulates children’s thinking, but also builds their confidence as they present their thought processes and ideas to others.

Over the years, this framework has been refined with the guidance of mentor Dr. Anne Taylor, author of Linking Architecture With Education. Based on her advice informed by extensive

BEEP Lab Approach

BUILD PEOPLE
Empower the future generation to create an environment of openness that values discovery and diverse perspectives, through the mastery of creativity, confidence, and collaboration.

SHARE EXPERIENCES
Share knowledge and experiences to invoke a sense of giving that heightens the purpose of learning.

LEARN TRAITS & SKILLS
Import architectural traits and skills to equip lifelong learners of our built, natural, and cultural environments.

BEEP Lab has been on the move to grow and develop clarity for the themes in AR.C.HI.TEC.TURE. They find exciting proposals that challenge teams to transform neglected parts of urban areas or cities into interactive landscapes that encourage community building and engagement.

ARCHITECTURE, ENGINEERING, TECHNOLOGY, and NATURE form the foundation of design thinking. BEEP Lab aims to engage and inspire the head, hands, and heart, so as to build a sense of stewardship and ownership toward the shared built, natural, and cultural environments.

BEEP Lab curates design briefs to approach the design challenges around us. This framework becomes the baseline for programs based on current issues surrounding the themes in AR.C.HI.TEC.TURE. They find exciting proposals that challenge teams to transform neglected parts of urban areas or cities into interactive landscapes that encourage community building and engagement.

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BUILD, SHARE, LEARN
Students are encouraged to be curious about the world around them, to think of creative possibilities, and to be confident and self-directed learners, active contributors, and civic-minded individuals.

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“See, Wonder, Do” is the approach to See, Wonder, and Do teaches children to look around themselves to find inspiration and ideas from the things they see. Through careful observations, they learn to be curious and think of creative possibilities. BEEP Lab provides materials and guidance to support children as they create, giving rise to a myriad of innovative ideas.

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research in architectural education for children, BEEP Lab’s DIG DEEP approach teaches children to solve problems, in ways that also could be applied to other disciplines, and to be effective communicators.

Define issues and scope
Investigate the issues
Generate ideas
Develop
Experiment
Evaluate
Present

BEEP Lab’s 5G Values
An important aspect of the experiential learning process at BEEP Lab is a focus on imparting the 5G VALUES of Grease, Grit, Grace, Gratitude, and Green. Design thinking relies on a continuous process of exploring, making, and failing. In the process of construction, children learn to get their hands dirty (Grease) and be comfortable with that. When their designs do not work immediately, they learn to persevere (Grit). Through hard work and team work, children learn to care for one another (Grace) and to appreciate that things do not just happen (Gratitude). They also learn how to be Green, with a focus on sustainability.

Community Building
In Singapore, children live in a built-up environment. Architecture is all around them and this provides a rich inspiration for them to connect their learning in the classroom to the community. Such authentic experiences allow them to appreciate that buildings are not just bricks and mortar. Within and around these structures are people, culture, history, and stories. At BEEP Lab, children learn about, connect with, and even build their community.

For Further Reading

The Case for Architecture Classes in Schools
Through the organization Architecture for Children, Hong Kong architect Vicky Chan has taught urban design and planning to thousands of kids. Read more about his work on Bloomberg Citylab: https://www.bloomberg.com/news/articles/2018-12-12/how-architecture-teaches-kids-patience-problem-solving

Language of Architecture, from Center for Architecture
Designed for students in grades K-6, this packet includes suggested activities, worksheets, and lessons to learn about different types of buildings as well as the significance of their individual parts. Students can practice “reading” buildings for clues about their design and function as they observe and think about simple architectural elements. Download this and other teacher resources at: https://www.centerforarchitecture.org/k-12/teacher-resource-packets/

Architecture for Kids: Why All Children Must Learn Architecture
In 2015, an educational initiative called “Arquitectura Para Niños” or “Architecture for Children” began providing an introductory architecture course to fourth-year students of the Ceip Praza de Barcelos primary school in Galicia, Spain. Through hands-on experience, children observe and reflect on architectural content while learning other school subjects like natural sciences, geography, mathematics, art education, and English. The children learn critical thinking and become more aware of their environment through guided play and discovery-learning. https://www.arch2o.com/architecture-for-kids-why-all-children-must-learn-architecture/