STUDIO
The School of the Future

Guided by Aser Giménez-Ortega, Mick van Gemert (MVRDV) and Anne Hoogewoning

Student Project Presentations

INSIDE 1718

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INSIDE

Royal Academy of Art The Hague

School of the future

INSIDE studio by MVRDV
30.11.2017 - 02.02.2018
Research and design studio Brief

Shifting demographics, rapidly developing technologies and ever changing visions on learning are constantly challenging education. Schools are subject of continuous transformation while buildings remain a static backdrop of generations to grow up. What would the school of the future be like? How can school buildings adapt to remain excellent facilities for future education?

This design studio will work with the hypothesis that the physical learning environment will remain relevant in the future and that today's school buildings may - if affectively adopted - be the right place for future education. The studio will focus on the education of children between 4 and 11 years old and aims to apply new strategies, concepts and designs to a very concrete and local context; the HSV international primary school in De Hague.

Themes

Each student will work on one specific theme to explore a future scenario for the school and the spatial consequences for the learning environment. Possible themes include:

- The **global** school (international learning)
- The **adaptive** school (super flexible)
- The **DIY** school (better than Montessori)

- The **vertical** school (Mixed age groups)
- The **multicultural** school (the more diverse, the better)
- The **inclusive** school (for all levels and capacities)
- The **digital** school (learning from screens?)
- The **fun** school (learning by playing)
- The **minimal** school (why go to school so much?)
- The ... school… (you name it!)

Themes and scenario's may have a social, technological, political or cultural background, as long it seems of relevance to the school of the future and have impact on the way the spaces of the International school will be used. It is specifically not expedient to develop a fully integrated and complete future education theory but to focus on one specific theme/ component/ scenario to explore. How would this theme give direction to a specific concept and design? Scenario's might be very speculative (yes please!) and have experimental character as long as arguments can be found in current trends or visions. If inspiration can be found in (new) scientific insights; even better! The visit to the HSV, specific problems of the school and conversations with the staff might also lead to concepts that make a good fit for the International school.

This theme will be researched and developed into a concept. This concept will be developed into a design. The end result doesn't necessarily need to be an 'interior design'. Could as well be an extension, integration, clash, implementation strategy, toolbox or manifesto for future transformation.

Phases and products

The studio will distinguish three components / phases. The theoretical exercise (by Anne Hoogewoning) will be largely integrated into the studio. Ideally the chosen architectural references will somehow relate to chosen theme / concept.

1. **Research** (week 1-4): Analysis of references and research of chosen theme.
2. **Concept** (week 2-6): Development of theme into a spatial concept / theory/ scenario.
3. **Design / presentation** (week 4-8): Design for the transformation of the HSV.

Each phase will result in one A1 (portrait) presentation panel . During the midterm presentation the first two panels will be presented. The final presentation will encompass (a remake of) all three panels and a physical model.

- **Panel 1**: Analytical research of reference projects (theory) and definition and argumentation of theme through (compact) text, drawings, diagrams, data, quotes, etc.
- **Panel 2:** Concept for spatial intervention through (compact) text, drawings and diagrams
- **Panel 3:** Design for Spatial intervention through (compact) text, drawings and diagrams
- **Physical Model:** The model will be a representation of the concept / design. It will show (part of) the existing school and the proposed intervention and will be kickstarted by a workshop with Vincent de Rijk (11.01.2018)

Each student should (from week one onwards) have tree A1's on the walls of the INSIDE studio space. These panels will be used as collages or pin up boards on which the research, concept and

designs develop. Weekly presentations will be done and feedback will be given on the presented A1's. Following this strategy, part of the process will be focused on presenting the ideas in a clear and compact way as the content and layout of the panels improve.

Weekly schedule

Studio meetings generally during mornings (10:00u – 13:00u). The course takes 8 weeks. In the fourth week we'll have a midterm presentation. Week 8 will be the final presentation.

- 30.11 (thu): Introduction and School visit (10:00-15:30)
- 6.12 (wed): Wednesday! References selection and theme definition
- 15.12 (fri): Development research and concept
- 19. 12 (tue): **Midterm presentation of first 2 A1 panels (research and concept)**

X-mas break

- 11.01 (thu) or 12.01 (fri): Development concept and design (14:00-18:00)
- 17.01 (wed): Development of design and presentation
- 25.01 (thu): Development of design and presentation
- 01.02 (thu): **Final presentation of 3 A1 panels and physical model**

Contact

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School of the Future
Presentation/Proposal

Adriel Quiroz Silva
INSIDE 1718 student

The Collaborative School Research

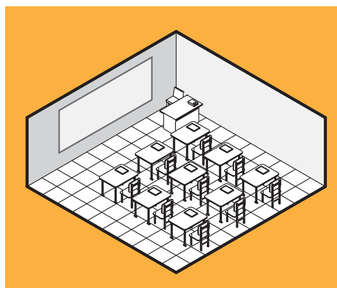
Classroom Evolution

Learning is a process that humans experience throughout the course of their lives. Over the years, the study and discussion of how we learn and how we can improve our capacity remain as important as ever, which has resulted in evolutionary changes to our educational systems and spaces. Nevertheless, the competitive system in schools has been around since the early history of education and even though it began as a pedagogical aid, it has become a problem where in-fighting and resource hoarding counters the social relevance of education.

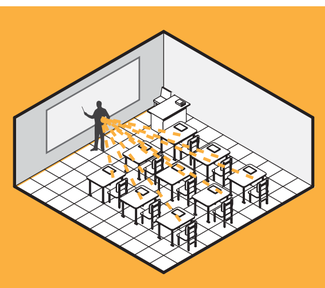
The key role of education and schools is not only about sharing academic knowledge, but also about promoting how to behave and integrate into society. Because of this dual purpose, it is important for the system to redirect its **focus away from promoting competition and center it more on collaboration** and developing spaces where people can be "more trusting of each other, more willing to stretch themselves and more likely to create amazing results"

Social engagin spaces

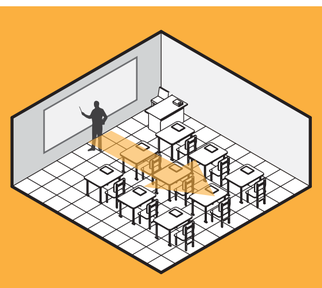
Understanding the importance of the social aspect in school different disciplines, including architecture, have proposed different ways and spaces in which the social interaction are exalted: developing new curriculums, improving the furniture design, creating educational landscapes. These proposals provides meeting points for the students to learn how to live in society, nevertheless, inside the classroom, there has been so little development. **Even though social spaces have been enhanced, the layouts for main academic learning spaces still continue to promote it as an individual activity.**



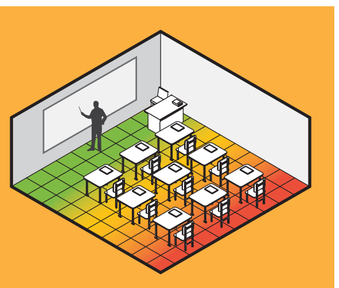
Traditional & Contemporary Classroom



Focus points



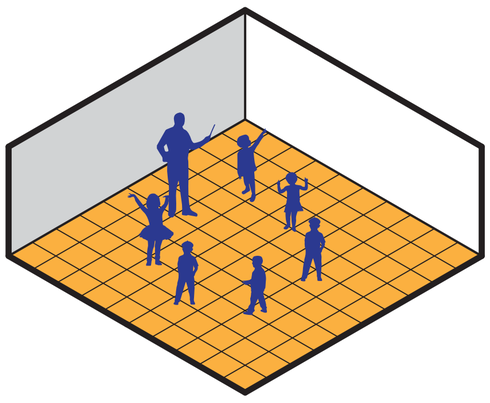
Flow of knowledge



Permeability of knowledge

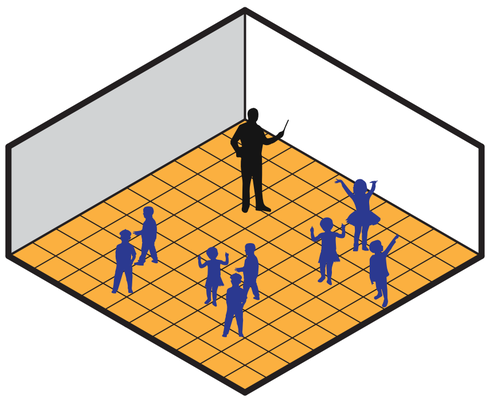
In the traditional classroom we can find elements that define the way that knowledge is attained, the location of the blackboard and the instructors, and the traditional chair and table schemes promote a fixated learning scheme. In which the knowledge comes from a fixated source (the teacher, or the blackboard) and fails to evenly permeate to all the kids.

In the same matter, the lack of flexibility found in the elementary school classrooms antagonizes the playful nature in kids, encouraging them to work and learn sitting for hours and only unload their energy through the breaks, wich makes the learning process more challenging.



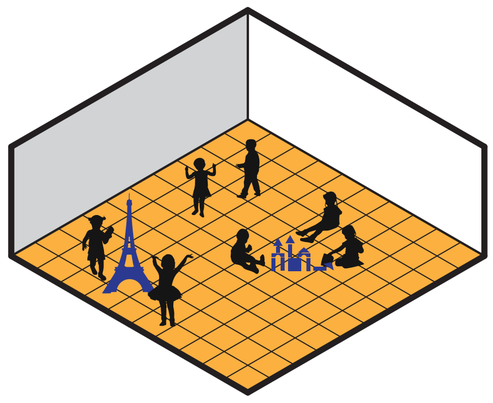
01. Discussion

The space should provide equitative discussion spaces where the instructor along with the kids define the goals of each session and can share the result when the project is done.



02. Collaboration

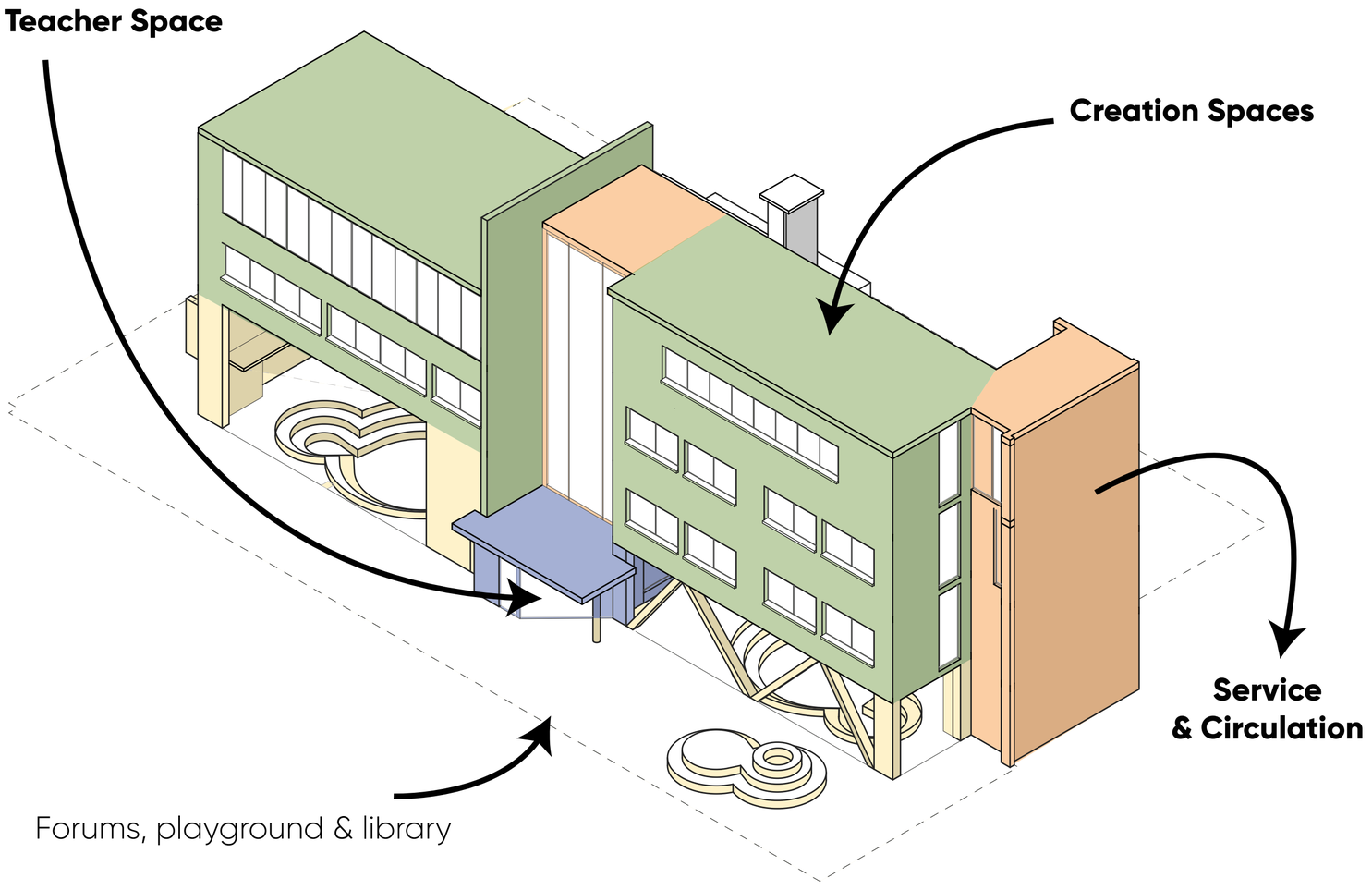
The space must generate spaces for smaller groups. In them, kids will develop their identity and responsibility as part of a group, and will work and help each other in the search of knowledge, having the teacher in a second plane guiding or helping along to every group.



03. Hands on

Being the curriculum project based the space should also provide spaces for a ludic search of knowledge, considering the age group of each kid, allowing them to create and experiment with the acquired knowledge.

The Collaborative School Concept



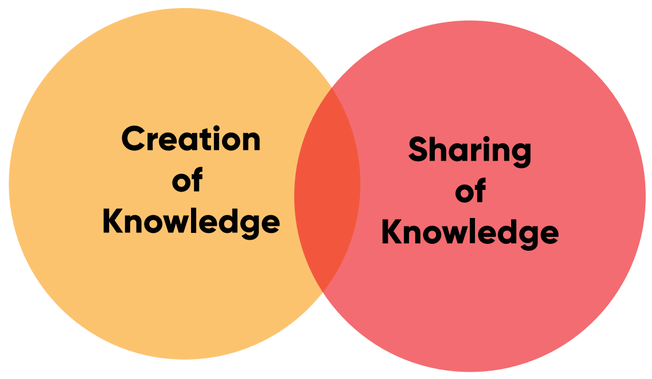
As mentioned before, collaborative learning is based on the idea that learning is a naturally social act. Collaboration and collaborative learning have been a part of our culture from the beginning of our evolution; **we are inherently social beings and social learners**. When collaborative learning techniques are used, students tend to be more engaged, retain information better, and have better learning outcomes than those of individual learners. It is based in 4 principles:

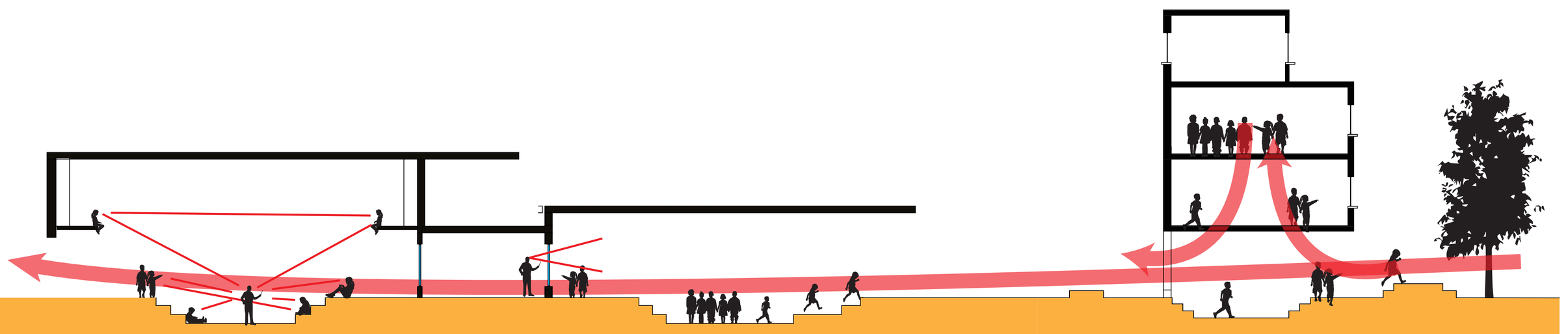
The learner or student is the primary focus of instruction.

Interaction and "doing" are of primary importance

Working in groups is an important mode of learning.

Structured approaches to developing solutions to real-world problems should be incorporated into learning.

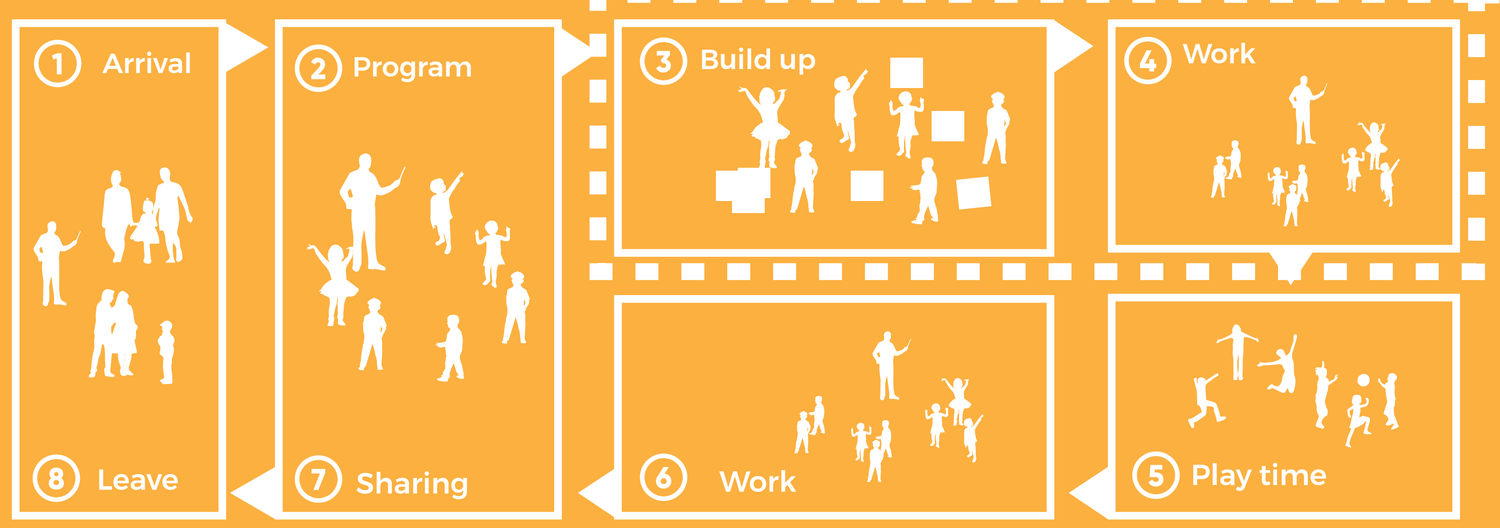




HSV International Primary School, KSS location.

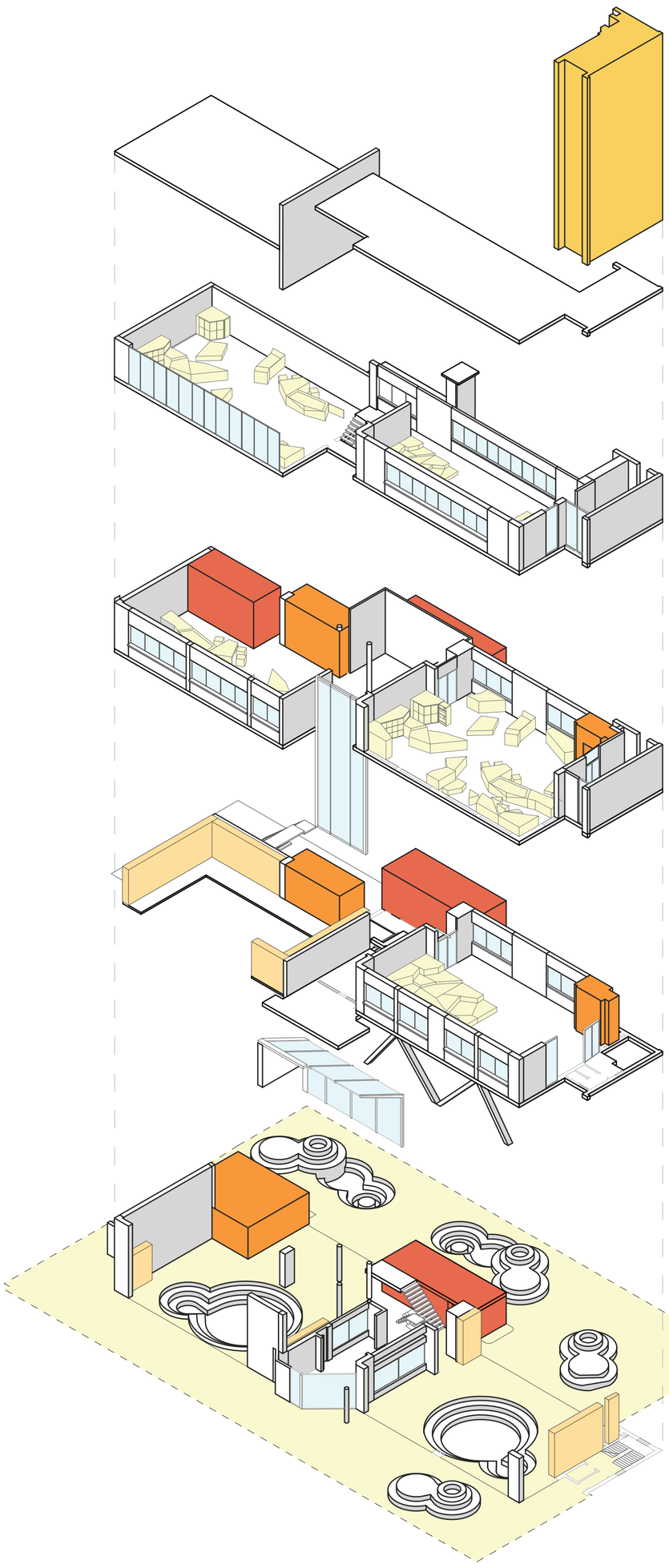
The HSV International Primary School in their KSS location is the chosen school to approach with this concepts since in the visit they showed that collaborative learning is achieved, but the spaces don't enhance it. Also considering their small size it promotes a more personal interaction among teacher and students that benefit the individuality and identity of this last ones.

A day in the collaborative HSV KSS.



Flexibility & Collaboration in the Classroom

The Collaborative School



Circulation

3rd Floor

Classrooms

2nd Floor

Classrooms
Storage
Services

1st Floor

Classrooms
Storage
Services
Library

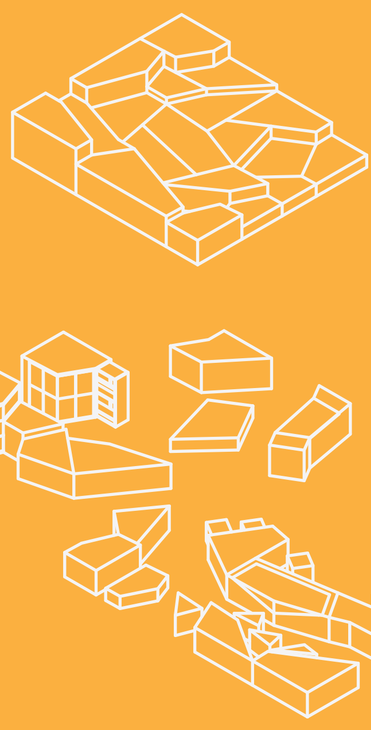
Ground Floor

Forums
Playground
Library
Teacher's Room

It is intention of the project to allow the collaboration in two aspects, sharing and creating knowledge, In the first floor the school opens to the society and takes advantage of the context it's placed focusing as such in the sharing of knowledge, and the rest of the building dedicates to the creation of knowledge by enhancing collaboration with the design.

In the first floor, we find a playful landscape that creates gathering spaces, not only for the students, but for the dwellers of the context, kids in the park, workers and others, permitting this way that the knowledge generated can expand to the área of the school as well as creating an input to receive more knowledge of those users. In this same spaces there's the school library that works as well as a public library in which everyone who wants to take or leave books can do so.

In the upper floors there's classrooms, each of them has a specific set of pieces that, because of their shape and flexibility, enables kids to create different spaces that each of their projects required, the students will build everyday among them each spaces that mutually benefits them while also developing social skills.



Collaborative Learning

Adriel Quiroz

Research questions

1. What is collaborative learning?
2. What are the benefits of collaborative learning?
3. How can collaborative learning be enhanced through the space?

"Learning is a naturally social act in which the participants talk among themselves."
Jeanne Marcum Gerlach

Learning is a process that humans experience throughout the course of their lives. Over the years, the study and discussion of how we learn and how we can improve our capacity remain as important as ever, which has resulted in evolutionary changes to our educational systems and spaces. Nevertheless, the competitive system in schools has been around since the early history of education and even though it began as a pedagogical aid, it has become a problem where in-fighting and resource hoarding counters the social relevance of education.

Over time, designers and architects have attempted to create spaces that enhance academic efficiency and social interaction in schools by rethinking elements like hallways, stairs and playgrounds. However, inside the classroom, there has been very little development. Even though social spaces have been enhanced, the layouts of the main academic learning spaces still continue to promote it as an individual activity. The key role of education and schools is not only about sharing academic knowledge, but also about promoting how to behave and integrate into society. Because of this dual purpose, it is important for the system to redirect its focus away from promoting competition and center it more on collaboration and developing spaces where people can be "more trusting of each other, more willing to stretch themselves and more likely to create amazing results" (Hayashi, 2017).

Background

In early years, the educational scheme upheld the teacher as the mighty keeper of knowledge, and only through him/her was knowledge imparted to the students in a top down scenario, creating a competitive system very similar to the one found in sports. The 1st century BC Roman teacher, Marcus Verrius Flaccus, first introduced the principle of competition among his students as a pedagogical aid, where he awarded attractive books as the prize. This was the first historically recorded instance of competition used in

academic learning. In 1897, the first national mathematic contest was held in Hungary, followed by one in the United States in 1938. These lead to the first International Mathematics Olympiad hosted by Romania in 1959. Other disciplines subsequently established their own international olympiads: physics in 1967, chemistry in 1969, informatics in 1989, biology in 1990, and astronomy in 1996. (Verhoeff, 1997) These precedents combined with the strong influence of new test measuring tools and a shift toward individual accommodation has caused schooling systems to become more and more competitive as time went on.

In today's modern age, competition is still present in most academic systems, but leading educational trends are seeking to shift from competition to collaboration. This is in hopes of making the search and acquisition of knowledge easier and to encourage children to function in society with an understanding of their individual skills and abilities so they can pool these strengths together and move toward a common vision.

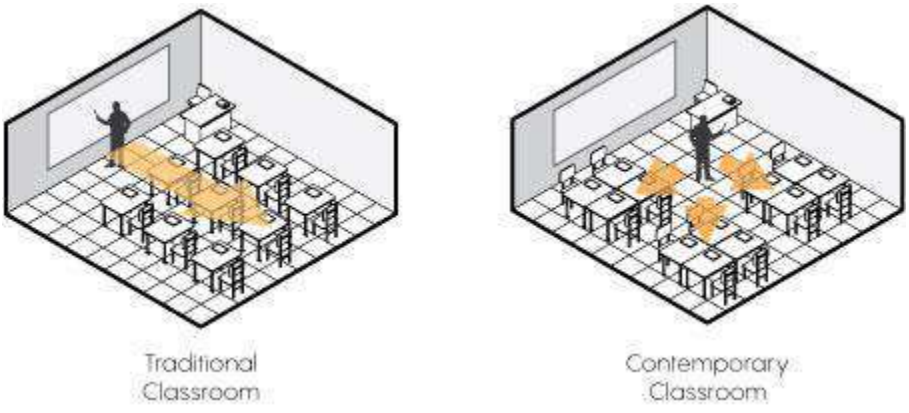
According to Finnish journalist, Anu Partanen (2011), competition kills some students' love of learning, which is seen and reflected in the lower international education rankings of competitive systems. Finland, the leading nation in education rankings, emphasizes on collaboration over competition, and this collaboration can be found between students, teachers, and even schools. This shows that it is possible to achieve excellence by focusing not on competition, but on cooperation.

Collaborative Learning

Collaborative learning was born from Lev Vygotsky's (1934) concept called the zone of proximal development. The basis of this idea is that there are tasks that learners can and cannot accomplish, and in the middle of these two categories is the "zone of proximal development" - a category of things that an individual can learn with the help of others. Vygotsky highlighted the importance of learning through communication and interaction with others rather than just through independent work. This notion is central to the theory of constructivism, which states that learning first occurs in a social context before it transfers to individuals (Gerlach, 1994). Collaborative learning has been a part of our culture from the beginning of our evolution; we are inherently social beings and social learners.

Collaborative Learning can be approached from many different ways, but as Smith and MacGregor (1992) put it, all the methods share some assumptions about the process of learning. First of all, it is an active form of development where students collect, relate, and add new information to their previous knowledge structure. Second, in order to actually learn, a student needs to be put in engaging situations where they can synthesize and apply information rather than just rely on memorization.

Several other assumptions point to the benefits of exposure to a variety of diversified perspectives. This helps to deepen the understanding and application of newly-learned knowledge, and broaden and strengthen the mental structure of that particular subject. As the students' ideas are questioned and challenged, they are placed in a situation where they have to find their own reasons and convictions. This creates the opportunity for individuals to discuss, exchange, defend, and challenge each other's conceptual understandings, while also helping them to learn how to communicate their ideas in a socially and emotionally acceptable manner.



Traditional Classroom

Contemporary Classroom

The basic premise of collaborative learning is project based education where students can work together to solve a problem, complete a task or create a product, all while sharing the obtained knowledge with one another. In this type of scenario, the role of the teacher can take many different forms. Whether that be as an instructor, a facilitator or an evaluator of the projects, they are always organizing and coordinating the processes where learning can take place. Many researchers believe that collaborative learning is a key element in achieving critical thinking. According to Gokhale (1995), individuals are able to achieve higher levels of learning and retain more information when they work in a group rather than individually. This outcome can apply to both the receivers of knowledge, the students, as well as the facilitators of knowledge, the instructors.

A collaborative learning group can open many unique opportunities for skill development. As the teacher's role shifts from being the main provider of knowledge to that of being a guide in the pursuit of knowledge, the students become the key active contributors in the learning process. Projects and questions both challenge and pique the interest of students, which leads them to become mutually invested and socially engaged in the subjects. The group aspect allows individuals to appreciate diversity as all contributions are of value and help advance the team toward a common goal.

Today, many state and national education standards include recommendations in support of collaborative learning, especially to assist students in their development of both language and mathematics skills (Common Core, 2014). It is also now common for the "Four C's" (collaboration, critical thinking, communication, and creativity) to be cited as critical to 21st century education (NEA, 2012). However, despite the relevance that collaborative learning has gained in recent decades, most schools remain the same. According to Allan Kjær Andersen (2016), Principal of one of the most renowned schools in Copenhagen, the

problem in a traditional classroom is not the classroom itself, but lies in the scenery which strictly defines the activities. This essentially means that classroom layouts traditionalize teaching, making the reverse also true that when the arrangement is different, the teacher has to think differently also. In order to achieve the latter result, a collaborative school has some spatial requirements.

Open spaces

Changing the traditional classroom distribution to an open space creates the need for a change in the teaching system. Since the teacher cannot speak to the whole class or without disturbing the other classes, the teacher may take a more silent role in the class. As Allan addresses: “When the teacher talks to one student or a group of students and gives them feedback, it’s important that the other students have something meaningful to do at the same time. This digital backbone makes it possible to differentiate - to have more personalised learning.”

ørestad gymnasium, Copenhagen

It is important that the open space is divided by zones in which different learning activities can occur. The zones should have very clear protocols which define the essence of each space and their use, such as areas for organizing and communicating ideas, for workshops etc. Nevertheless, despite the protocols, the spaces should be able to be rearranged by the students according to the needs of every project.

Workshop Spaces

Considering the project based learning, the collaborative school should have workshop spaces where students can experiment, build, and proof the knowledge needed in order to complete the task at hand. These spaces can also help simulate real world scenarios outside the school, especially when considering the relevance of collaboration not only among students, but with the teachers and society in general.

Design and Technology block at St James's School by Squire and Partners architects

Technology

Lastly, collaborative scenarios should incorporate technological advances like real-time learning communities who are facilitated by social networking sites and software, and peer-to-peer learning support sites. These can be used as long as the advancements promote social gatherings for knowledge, and the students understand that these can never replace true physical human interactions.

Conclusion

Over the years, collaborative learning has not only proven to be an effective and viable educational approach, but has also shown itself to be even superior to that of the more commonly used competitive schooling methods promoting a better integration of students to society and improving the retention of knowledge. Is thereof important that the designed school enforces the education process by creating spaces in where students, teachers and other actors can exploit in the search of knowledge, and that suits better the needs of each school.

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School of the Future

Presentation/Proposal

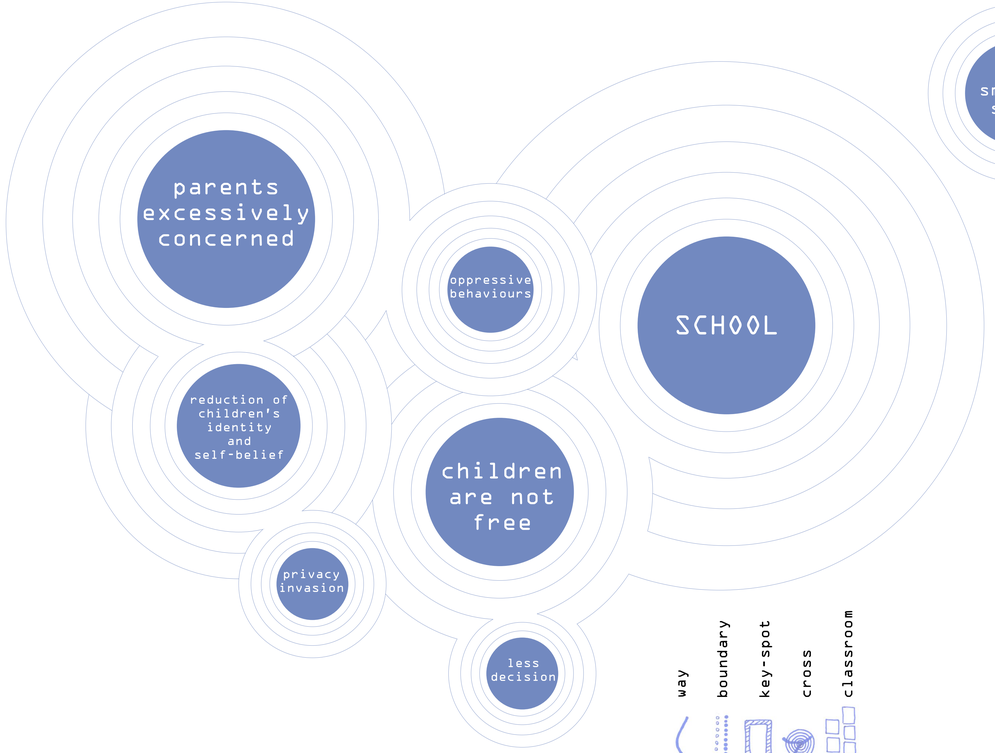
Daniele Valentino

INSIDE 1718 student

THE SCHOOL AS A CITY

Children are the adults of the future.
They are going to provide our new society.
Cities are risky environments for them.
Schools are the stepping stone in our environment.
They are the place for children to learn social behaviours, feel free and become responsable.

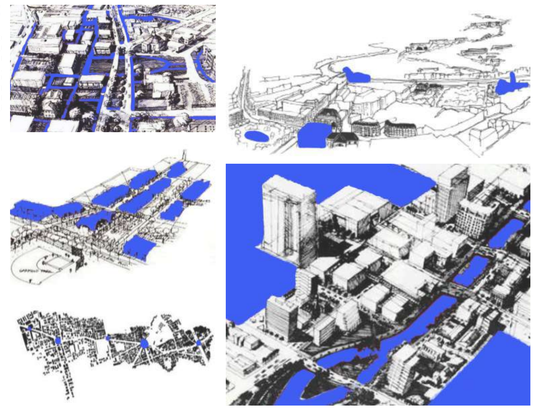
We should ask to ourself which kind of school-and-society we are building.



KEVIN LYNCH
The Image of the City

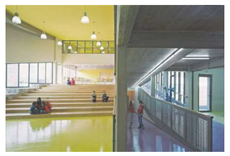
FIVE ELEMENTS

path
edge
landmark
node
district



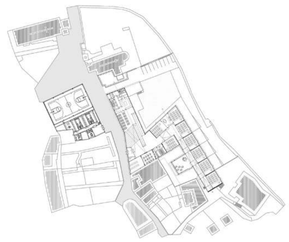
RANDIC & TURATO
Elementary School Fran Krsto Frankopan

location: Krk, Croatia



'school as a city'

relation with the city wall and urban matrix (archeological research).



SPACE-IN-BETWEEN: corridors as urban street ramps as playground.

analysis of
interactions ways and crosses
how can I give identity to these places?

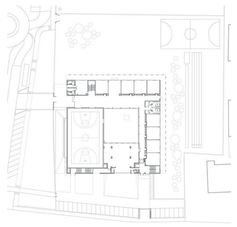
C+S ARCHITECTS
Ponzano Primary School

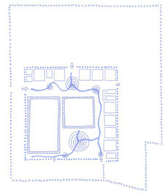
location: TV, Italy

'society building'

all spaces are gathered around a central square (memory of monastic cloister).

NODE: space of possible multietnic exchange and comparison, threshold.

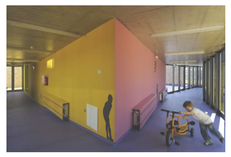




analysis of classrooms and ways
how can I find improve their interactions?

RANDIC & TURATO
Katarina Frankopan Kindergarten

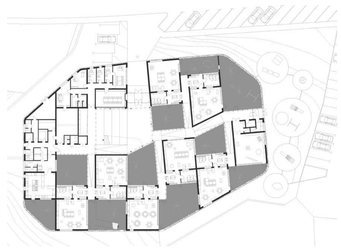
location: Krk, Croatia

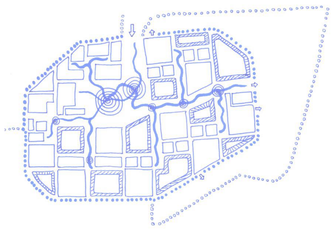


'enclosed insula'
(surrounded with soaring stone walls)

inside of this small town-kindergarten, units-houses are combined with open gardens, next to pedestrian communications.

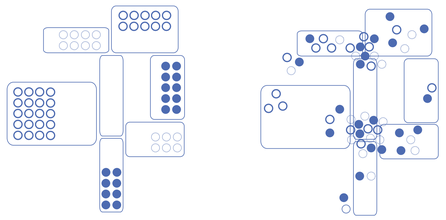
small square - piazza, in the centre, as location for manifestations, events and celebrations.





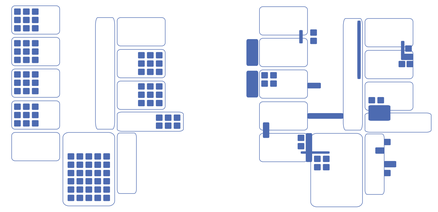
analysis of key-spots and ways
how can I create new ways of exploration?

learning through interactions
with other children



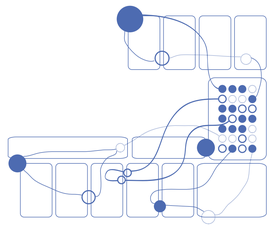
create new place for gathering
inspire new exchenges between children

learning through different
experiences/places

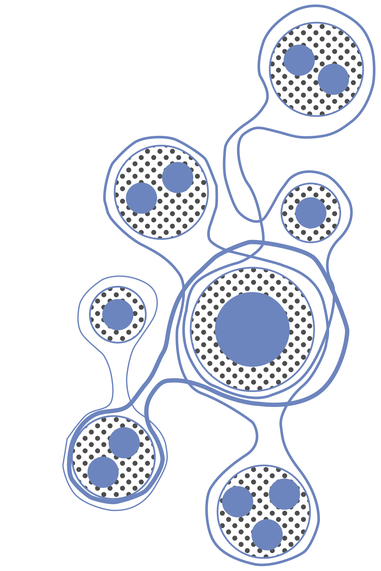


create new places for interactions
stimulate new playing occasions

learning by exploring



create new ways of independence
encourage children to find new experiences

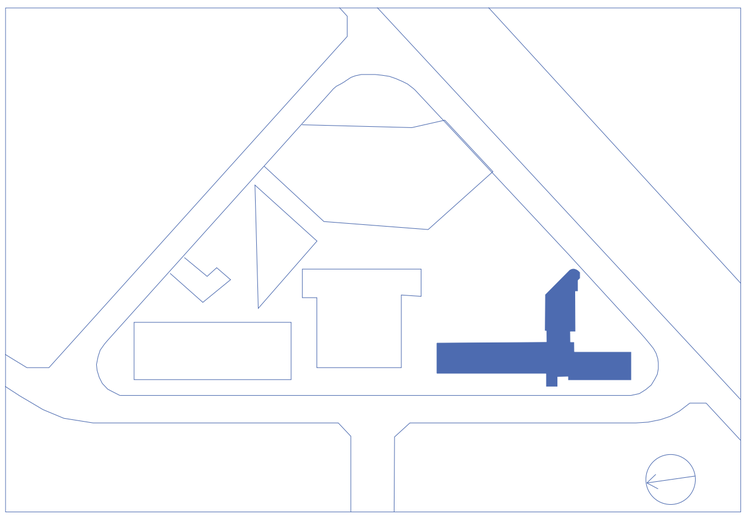


'the city as an egg'
Cedric Price

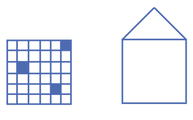
THREE NEW SCENARIOS

HSV International Primary School

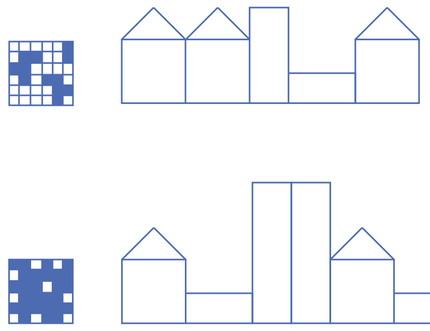
location: Van Nijenrodestraat 16,
2597 RM Den Haag



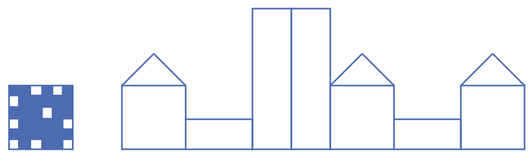
1st class
THE HOUSE
[4-5 years]



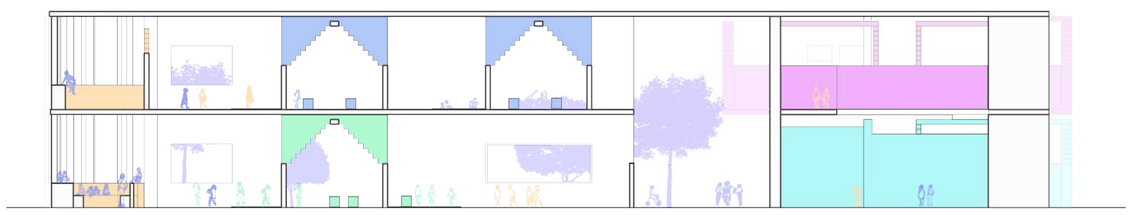
2nd class
THE NEIGHBORHOOD
[6-8 years]



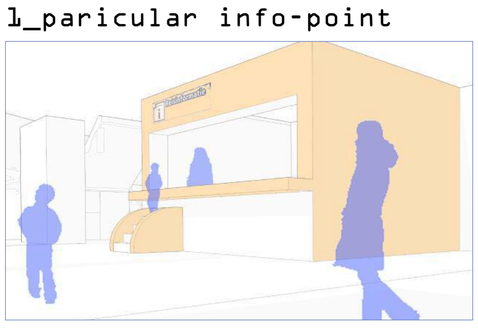
3th class
THE CITY
[9-11 years]



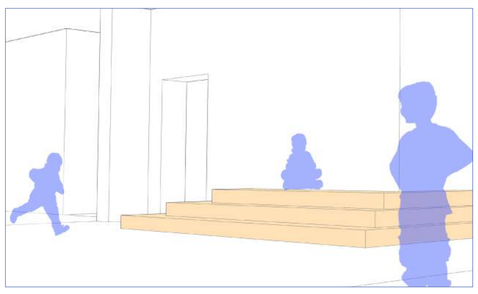
section



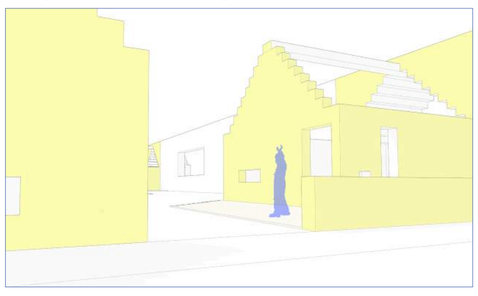
1_paricular info-point



2_paricular central piazza



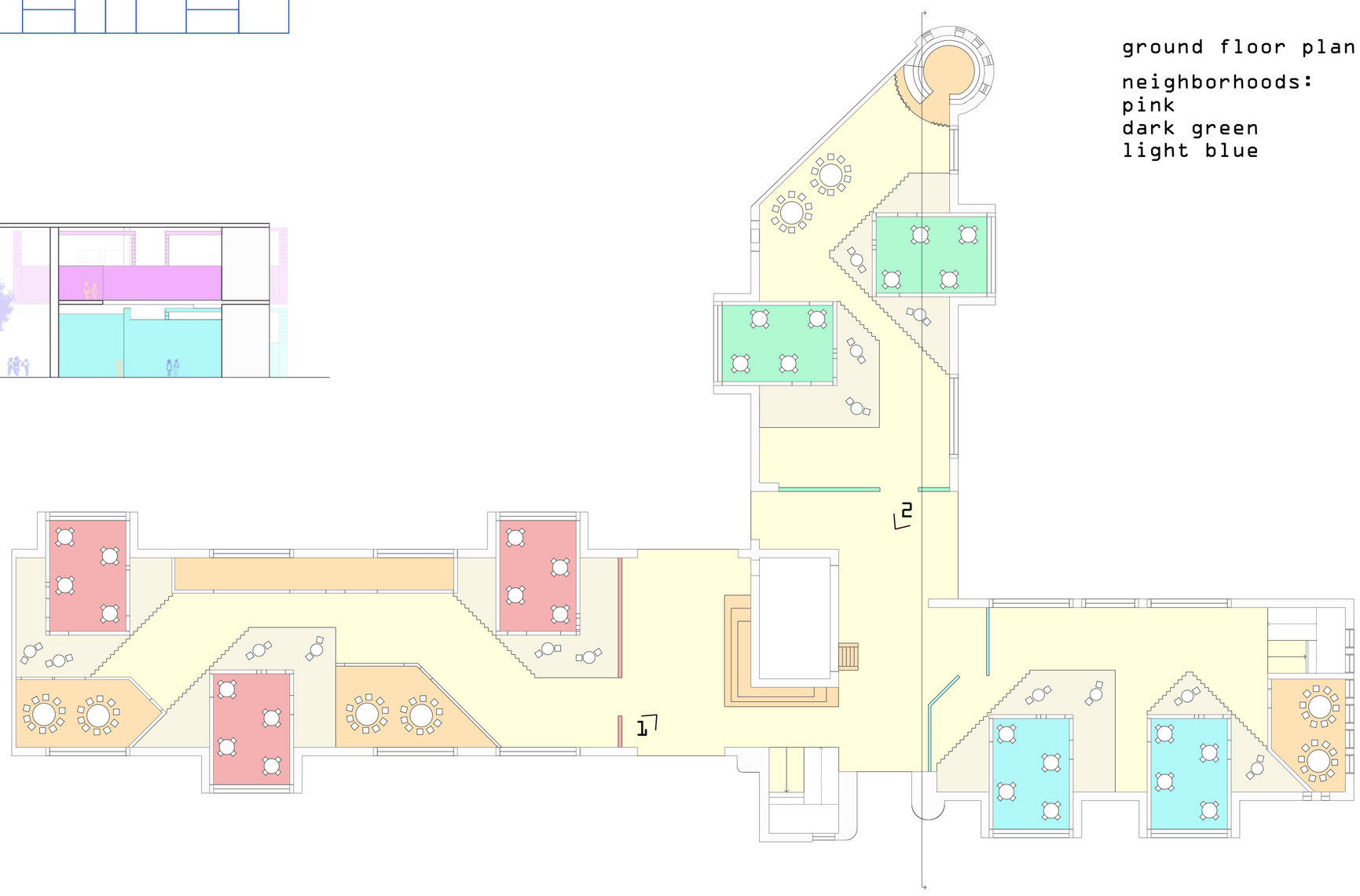
3_yellow neighborhood



4_outside prospective view

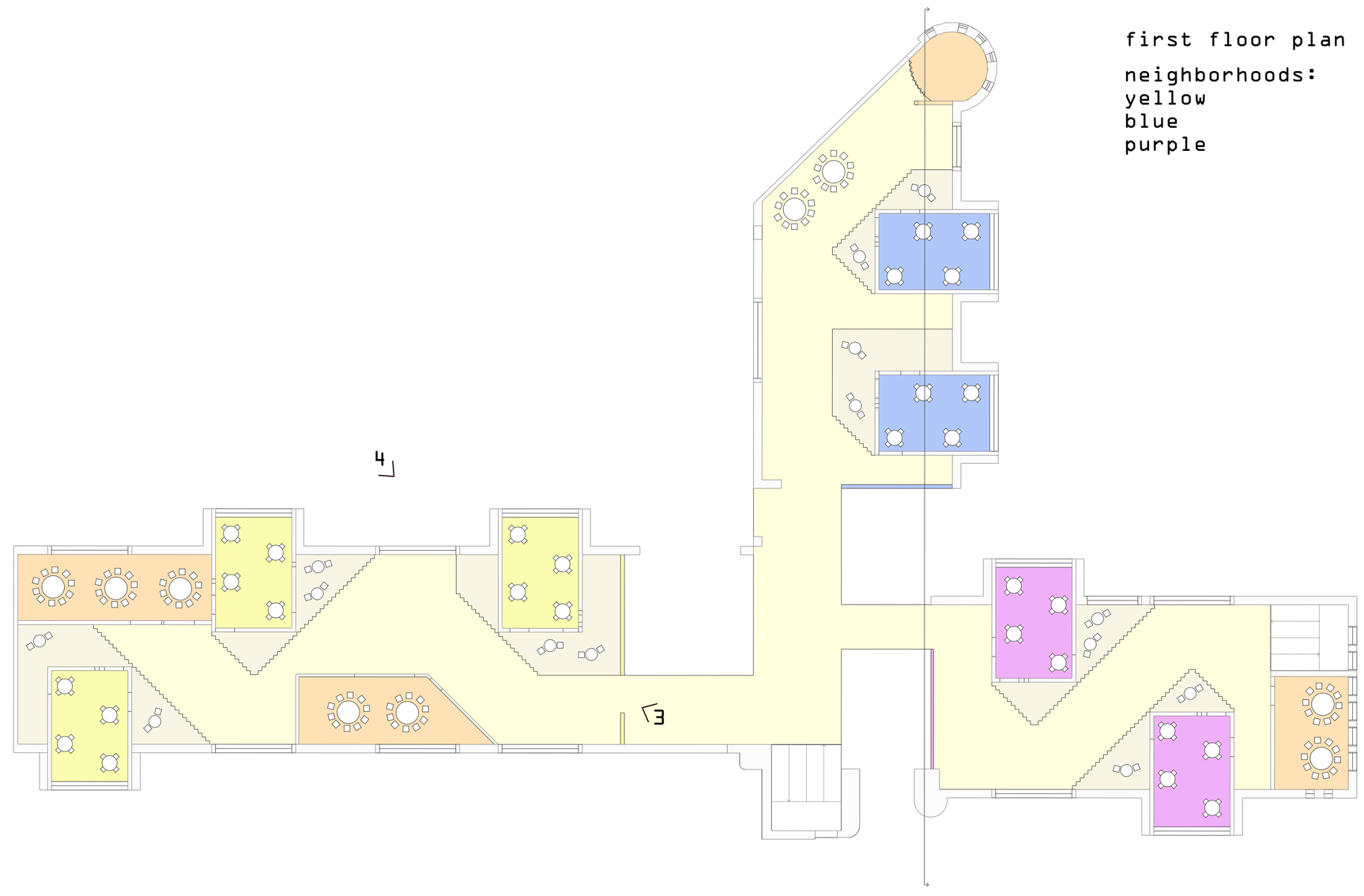
ground floor plan

neighborhoods:
pink
dark green
light blue

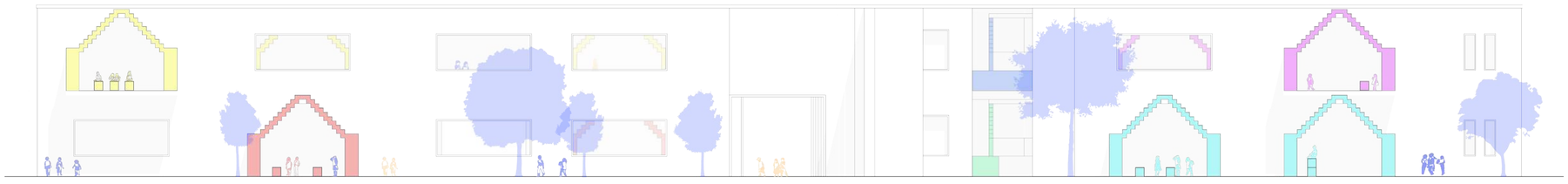


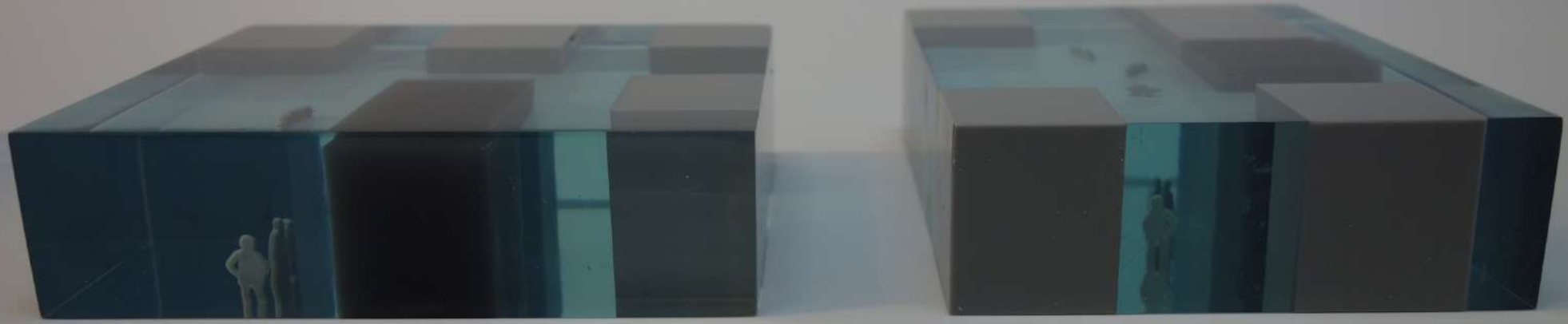
first floor plan

neighborhoods:
yellow
blue
purple



facade





THE SCHOOL AS AN ADVENTUROUS CITY

over-controlling parents restrict children’s growth

Today's children are not free because parents are excessively concerned. The children are uninterruptedly supervisioned, their privacy is invaded and their decisions are taken by adults. I do not want to say that these behaviours are not legitimate but sometimes they reduce children's identity and their self-belief.
This situation is compromising the formation of children's identity. Children nowadays have less and less opportunity to learn by themselves. The school is the right place where this natural experimentation should be allowed and parents over-control can be broken. In the following text I will explain my position and thoughts.

As reported in an article from the Independent's writer Charlie Cooper[1], "overly-controlling parents cause their children lifelong psychological damage"[2]. He argues this idea considering different aspects of children's growth, based on some surveys by doctors of the Medical Research Council's (MRC) Lifelong Health[3] and experts from the University College London (UCL) [4]. Whereby Dr Mai Stafford[5] says, "parents also give us a stable base from which to explore the world", he claims that "psychological control can limit a child's independence and leave them less able to regulate their own behaviour"[6].
In addition, as consequence, it is recognised that over-controlling parents reflect changes in children performances. I want to mention here an article written by Dr Kyung Hee Kim[7] for the School of Education, The College of William and Mary[8], where she observes through a profound survey, a constant decline of creativity in American school children. She reports that "over the last 20 years children have become less emotionally expressive, less energetic, less talkative and verbally expressive, less humorous, less imaginative, less unconventional, […] and less likely to see things from a different angle"[9]. Her wide analysis takes into account more aspects of this social change and accredits the lack of creative elaboration to technologies as new tools of children's creativity. However, I do not want to deal with technological changes. I could speak these interesting topics, but at the moment they are less relevant for the point a want to make.

The "creativity crisis" may be due to the over-controlling of parents but schools have to deal with this lake rather than develop it further. The essential role of the school is here blatant.

1. Charlie Cooper is health correspondent for UK national The Independent
2. Article of The Independent, written by Charlie Cooper: http://www.independent.co.uk/life-style/health-and-families/overly-controlling-parents-cause-their-children-lifelong-psychological-damage-says-study-10485172.html
3. Medical Research Council (MRC) Lifelong Health: https://www.mrc.ac.uk/?nav=main
4. University College London (UCL): https://www.ucl.ac.uk/
5. Dr Mai Stafford: http://www.nshd.mrc.ac.uk/lha/lha-team/mai-stafford/
6. Article written by Dr Mai Stafford: http://www.ucl.ac.uk/news/news-articles/0915/040915-caring-parents-happier-lives
7. Dr Kyung Hee Kim: http://education.wm.edu/news/news-archive/2012/kim-kyung-hee.php
8. School of Education, The College of William and Mary: http://education.wm.edu/
9. Article written by Dr Kyung Hee Kim for the Creativity Research Journal: https://www.nesacenter.org/uploaded/conferences/SEC/2013/handouts/Kim_Creativity-Crisis_CRJ2011.pdf

I was a child too and I will try to explain my experiences, which were part of the background I lived in. My parents enrolled me in the kindergarten because they thought it was the best environment for me, to be in; or probably they just did it because it was next to our house. Anyway, it was great I loved that place. I remember I used to used to look at the older student of the close primary school, running around the garden and playing in the large sandpit.
Few years later arrived the moment to undertake the new experience of the primary school. Obviously, I moved to the adjacent one. From that moment on, I had the chance to discover independently the 'new world' and the all the implicated risks within it. I will analyse and get beck to this concept of risk in children's environment again.
I was an overactive kid and my mum still reminds me today the times I went back home with my dirty and ripped clothes, blue knees and scratches all over my face because I had a fight with some other kids. My childhood at school was a mixture of experiences and activities thanks to which I get the feelings of freedom and independence.
The school relates and communicates with the children through the act of sharing group activities.

Through playing activities, the school have to communicate with children by speaking their own language. Spaces that we, as adults, take for granted, are a challenge and an occasion to learn in the children's eyes.
I am not a sociologist and even an expert in social education. However, I am sure that my experiences, my background and my education can lead my thoughts and my future decision as designer. It is important for children to start interacting with the real world.

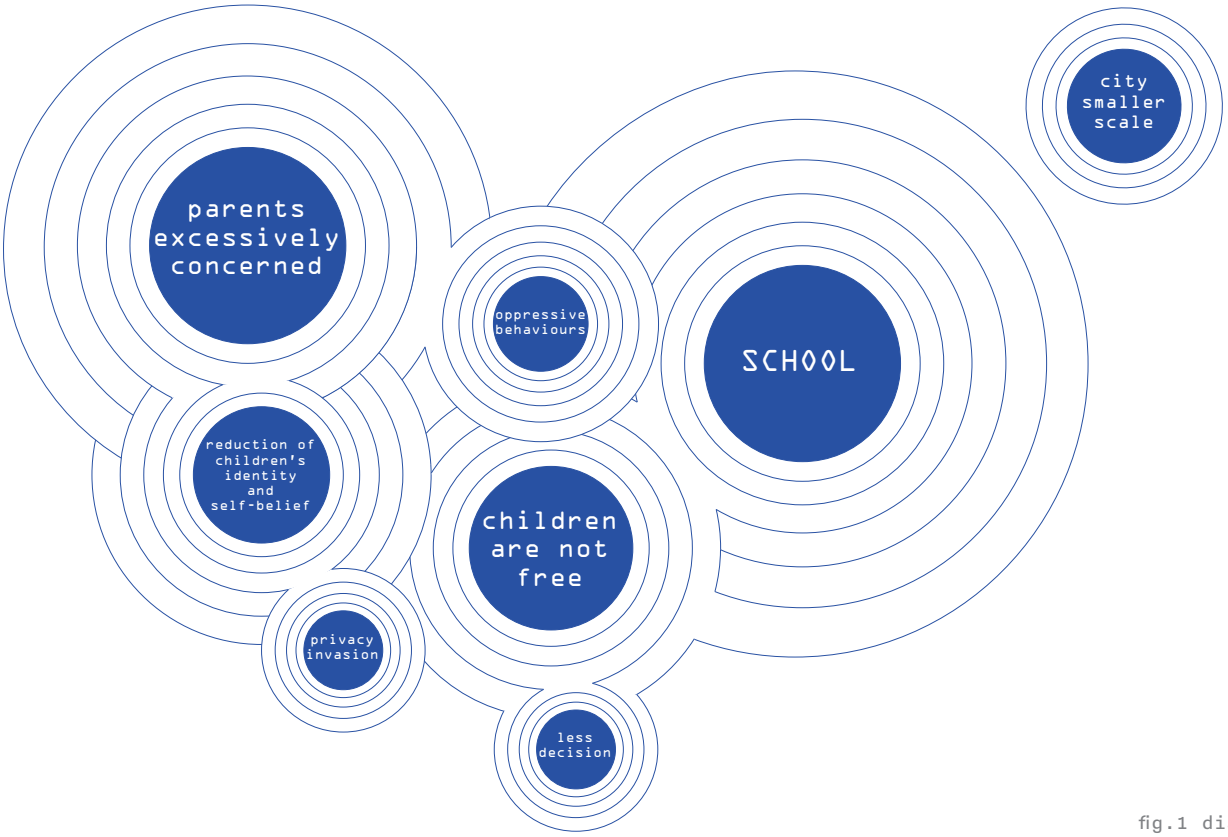


fig.1 diagram

There are some approaches, that are extremely relevant to understand my way of thinking.
One of these, which inspires me, is the Reggio Emilia Approach[10]. Children are considered capable to construct their own learning. In other words, they should be treated as active collaborators in their education and learn through the experiences they share with their peers. Therefore, according to, Loris Malaguzzi[11], the most profound aspect is that children “are the bearers and creators of knowledge”, and as creators they should be encouraged to express themselves. This is also known as the concept of The Hundred Languages[12]. The school’s environment is important as the curriculum. Classroom, for instance, acts as a third teacher. Inside spaces and outside spaces are well interconnected. Schools are living and learning organisms and teachers are expert guides for children. The Reggio Emilia approach is today exported in all over the world as brilliant model of learning. Experts from different countries are studying its future development and elaboration.
As the Reggio Emilia approach, other educational approaches are working, or have worked, in order to break this unidirectional way of learning, where children are strictly guide by either teachers or parents, without being free to interact with the surrounding environment or listen to their own thoughts and reflections.

Recently, I had the opportunity to visit one of the Apollo Schools in Amsterdam[13] built by Herman Hertzberger. This school, also known as the Montessori School, represents a pure example of what I said before. Without going into the details of what the Maria Montessori model provides, I tell you about an experience I had during that visit. The Apollo school is configured as a large detached house, the classrooms are grouped around a central common hall, developed on three floors, which is a space for all events. Staircases or “learning promenades”, as Hertzberger defines them, are used by children for reach different places. Every space is design by Hertzberger as an occasion for gathering and exchanging. Some small tables are placed around the second floor in a position that could create a dangerous situation for the children. Whereas children have the opportunity to move around the whole school without any kind of restrictions, elements, such as the staircases or tables, can constitute a risk situation. According to the Montessori concept hey are circumstances for learning even though they could provide a possible risk. This is, in other words, what the Director of the school stated.

10. Reggio Emilia Approach https://en.wikipedia.org/wiki/Reggio_Emilia_approach
11. Loris Malaguzzi is the founder of the Reggio Emilia Approach, the Reggio Children International Centre bears his name: http://www.reggiochildren.it/centro-internazionale-loris-malaguzzi/?lang=en
12. The Hundred Languages concept: http://www.reggiochildren.it/2011/09/2617/notizia-di-prova-consulenza/?lang=en
13. Apollo Schools in Amsterdam built by Herman Hertzberger: https://www.ahh.nl/index.php/en/projects2/9-onderwijs/113-apollo-schools

fig.2 the Apollo School in Amsterdam

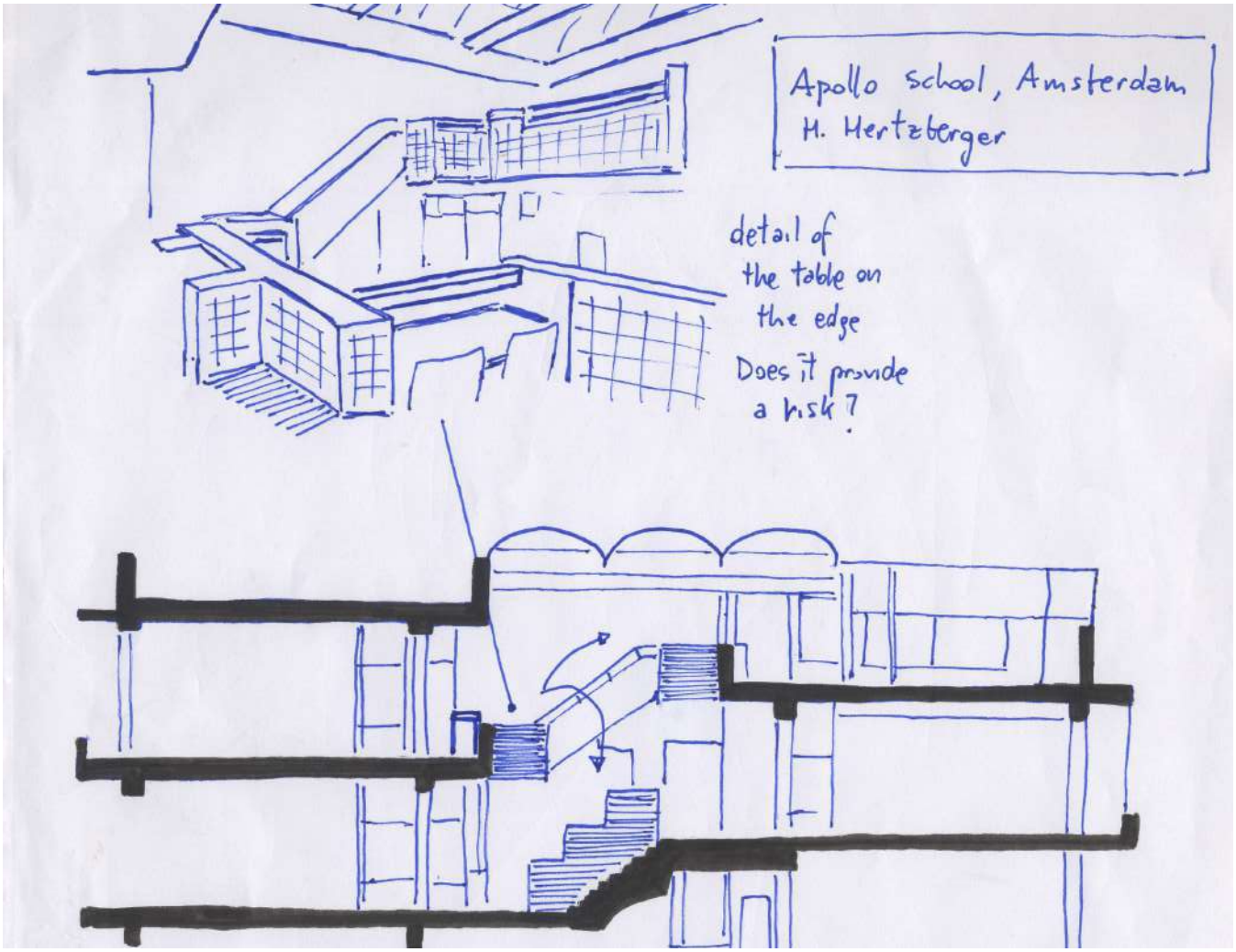


fig.3 skethes of the Apollo School

fig.4 Baltic Street Adventure Playgrung, in Dalmarnock, East Glasgow

fig.5 the Elementary School Fran Krsto Frankopan, Krk, Croatia

I would use here the idea of risk that I mentioned before. Children should be allowed to test themselves and their environment they are in without fear and concern for their own safety. Give more freedom to kids inevitably means increase the possibility of risks in the school's environment. The Dynamic Risk Benefit Assessment[14] is a procedure that takes into account risks, especially in children's experience. Developed by PlayWales[15], it provides practical methods for conducting risk-benefit assessments. Some designers are using this procedure within their projects. This is the case of Assemble Studio[16] in one of its project, the Baltic Street Adventure Playground in Dalmarnock, East Glasgow[17]. This free but supervised playground is a place where children are in close contact with the urban environment and its risks. Whenever possible, self-playing is adapted through suggestion and negotiation, rather than diverted or prevented. The distinction between two different types of risks is used as an occasion for learning. On the one side, there are potential risks, that are dangerous situations where children have the capacity to understand the quality of the danger: using a saw, making a fire or climbing a tree. On the other side, the hazard risks that are dangerous unknown situations for children that cannot be measured or understood by them.
This is one of the harshest new design experiences where, again, children are pushed to be the protagonist of their own learning path, so much that they are exposed to the risk.
I think it is useful now to mention other two groups of Architects, which are working on the same method, maybe in a less adventurous way, but still efficient and relevant.

The first group, constituted by Sasa Randic & Idis Turato[18], have built many primary schools and kindergartens. Two projects are particularly interesting and significant to me. These projects are both placed on the Island of Krk, Croatia, one is the Elementary School Fran Krsto Frankopan[19] and the other is the Katarina Frankopan Kindergarten[20]. The Frankopan School is deeply configured as a city, with a special relation to the old city wall. The whole complex shape refers to the urban matrix. Corridors are designed as urban streets and ramps as playgrounds. These spaces-in-between represent the core of the school. Children can use these spaces, within an unlimited freedom, for their own activities. Similar as concept but with a different configuration Katarina Frankopan's school is designed as an enclosed insula. Inside of this small town-kindergarten, units-houses are combined with open gardens, placed next to pedestrian routes. Again, the reflection of the urban matrix provides small streets ending up in the central square, which is supposed to serve as location for manifestations, events and celebrations. All these school-urban elements encourage the very young children-citizen to walk around and discover their own kindergarten-city. These two projects clearly reflect the idea and structure of a city inside the school environment.

14. Dynamic Risk Benefit Assessment: https://www.ltl.org.uk/spaces/dynamicriskassesment.php
15. Play Wales is an independent charity funded by the Welsh Government: http://www.playwales.org.uk/eng/
16. Assemble Studio: http://assemblestudio.co.uk/
17. Baltic Street Adventure Playground in Dalmarnock, East Glasgow is realized by Assemble Studio, with other collaborations: http://assemblestudio.co.uk/?page_id=776
18. Architectural office founded by Sasa Randic & Idis Turato: http://www.randic-turato.hr/
19. Elementary School Fran Krsto Frankopa, Krk, Croatia: http://www.randic-turato.hr/new/skola%20krk/SKOLA%20KRKeng.htm
20. Katarina Frankopan Kindergarten: http://randic.hr/?p=321#.WlzN767ibDc

On the same idea is based the project of the second group of architects I chose to mention. Cappai Carlo & Alessandra Segantini (C+S Architects)[21], both Italian architects are widely involved in the educational design. The project for the Ponzano Primary School in Treviso, Italy[22], is a further development of the Randic&Turato's approach. Here the idea of a city has a social implication, this school constitutes a new node-meeting place for the whole community. Part of the building is indeed opened to anyone by everybody in after school hours. This social aspect is also reflected in the structure of the building. All the spaces are gathered around a central square, as a memory of the typical monastic cloister. The cloister as a possible place for multietnic exchanges an interactions.

All the previous projects I mentioned are working, or at least, are based on the idea that the school is not only a place where pupils are learning but they are, indeed, children's excuses and occasions for acquire social behaviours and self-beliefs. I went through a wide range of educational approaches, more or less experimental, or innovative but still efficient and valid alternatives to the common way of seeing the school nowadays. I took into consideration my personal experiences and my background in order to use them as solid base for comparison.
As reflection of our society, children's environment is changed. It is important, therefore, to ask ourselves what kind of schools and school environment we are building for the new generations. If schools are the "doors of the world", in the children's eyes, we should bring the world into the schools, rather than create bubbles where over-protection and restriction are the rules. One of the possible solution is to configure them as small cities, where children are young citizens and adults are expert guides for them.

21. C+S Architects: http://web.cipiuesse.it/
22. Ponzano Primary School in Treviso, Italy: http://web.cipiuesse.it/en/projects/pps-ponzano-primary-school_5_62.htm

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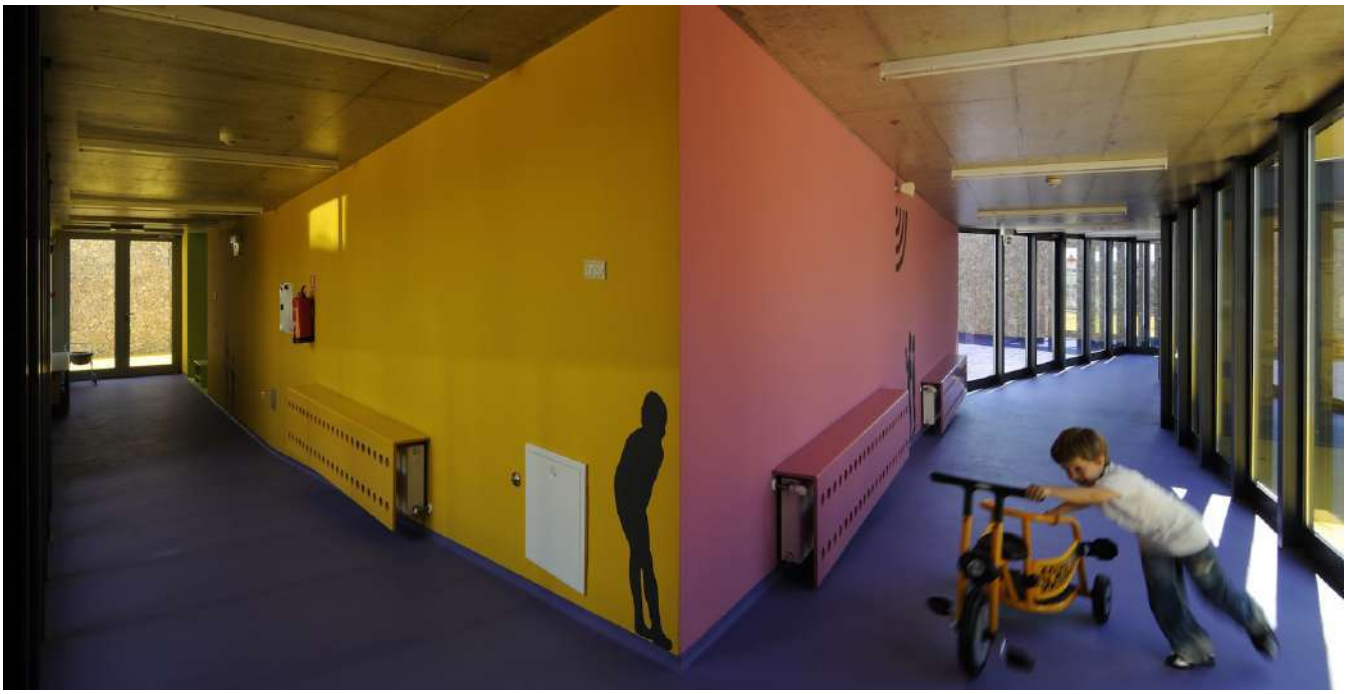


fig.6 the Katarina Frankopan Kindergarten, Krk, Croatia

fig.7 the Ponzano Primary School, Treviso, Italy

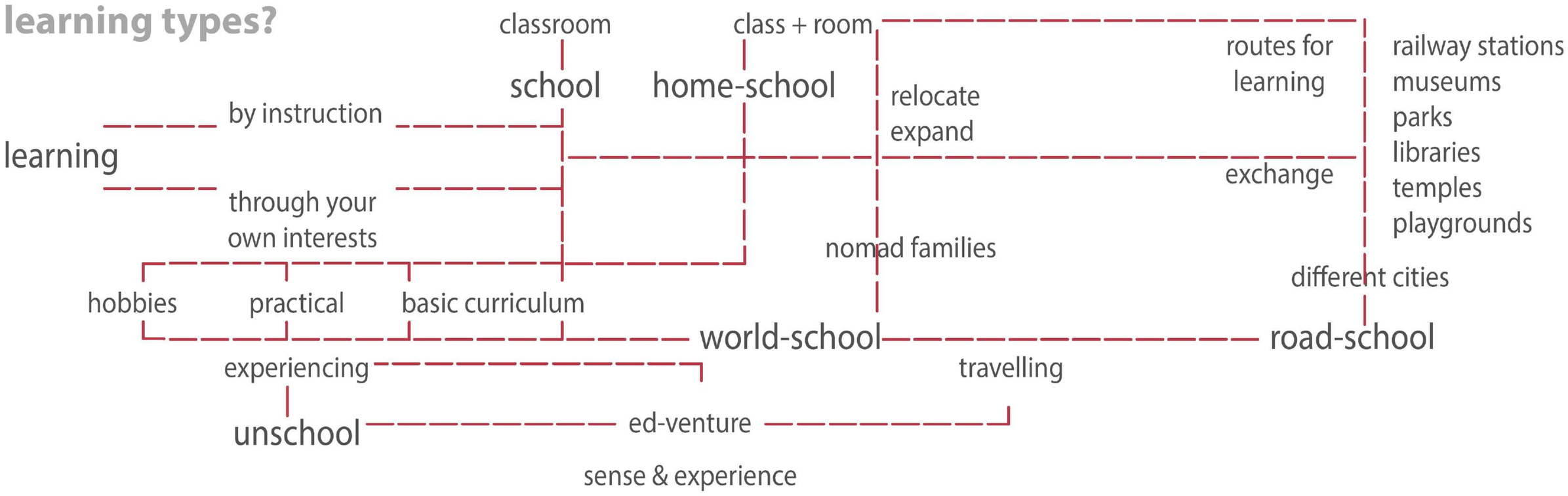
School of the Future
Presentation/Proposal

Hande Öğün

INSIDE 1718 student

road school

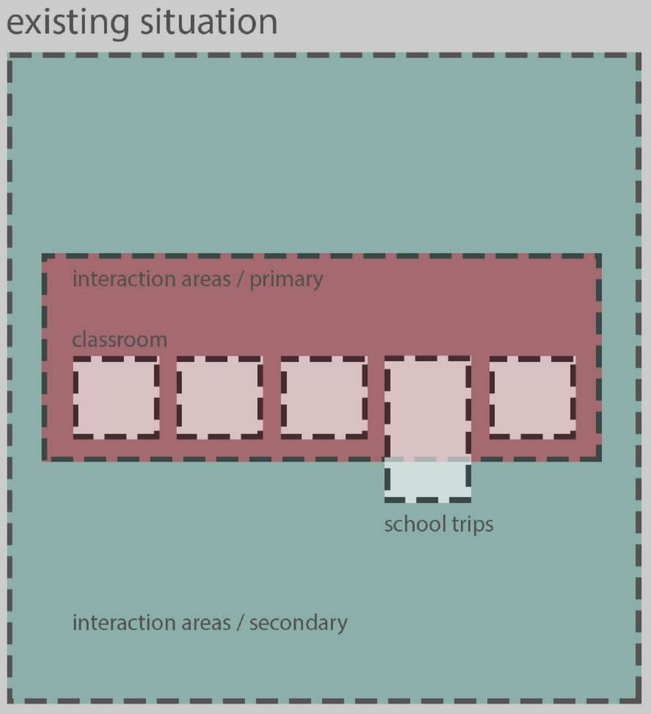
learning types?



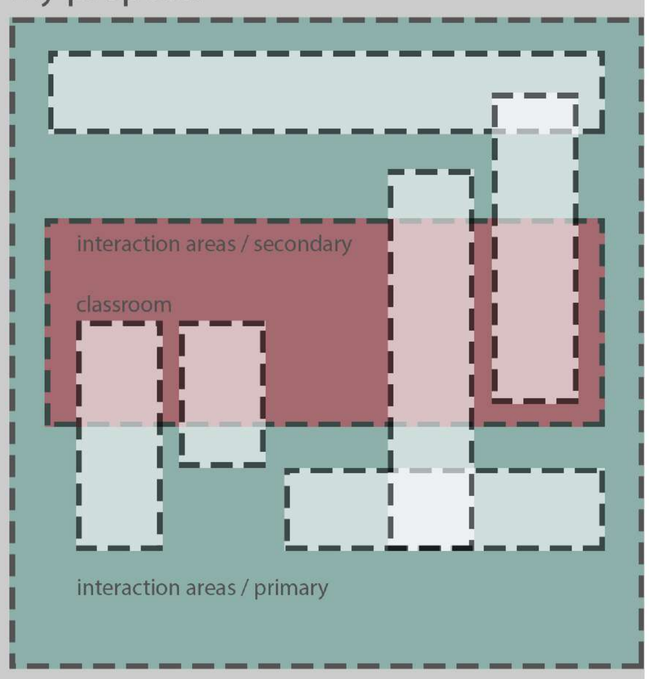
what is roadschool?

experience interact learn communicate enjoy travel

existing situation



my proposal



main goal ? **INTERACTION**

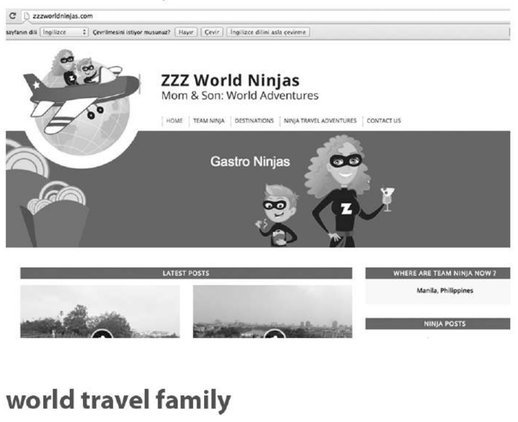
who are those people?

roaming robins

10 7 UK RENT ONLINE 4M

+ couple of interesting things that they learned & experienced : how chocolate beans are grown, fermented, roasted and groud to make chocolate / different kinds of birds / instead of zoo

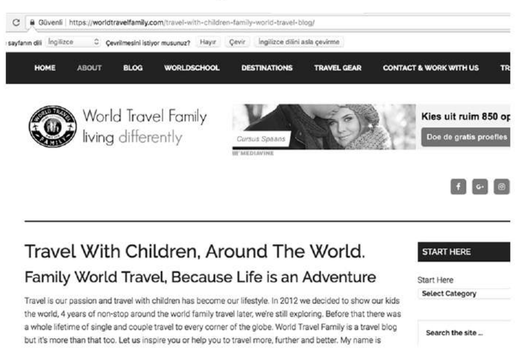
zzz world ninjas



7 SPA RENT BREAK 12M

+ couple of interesting things that he learned & experienced : fishing with a local in vietnam, visiting spanish castle to keep out british armada

world travel family



13 11 AUS RENT ONLINE 12M

+ couple of interesting things that they learn & experienced : blue whales in sri lanka / started learning spanish in guatemala / snow / niagara falls while frozen

general characteristics and needs?

theme	characteristics	motivation
age group between 6-14	they have chance to meet and interact with people from different ages	**interact & communicate both age groups**
budget	digital nomad families / making money out of it saving for travel / temporary jobs / tight budget	**spend less**
english speaking	aim is to raise responsible and capable international citizen of an increasingly globalized	**exchange information**
education	self directed, adult facilitated life learning in the context of their own unique interests	**learn according to their interests**
nomadic	be light less attachement / travel slow / think & adjust fast / own less / including space	**own less, be light**

from needs to concept / concept to design

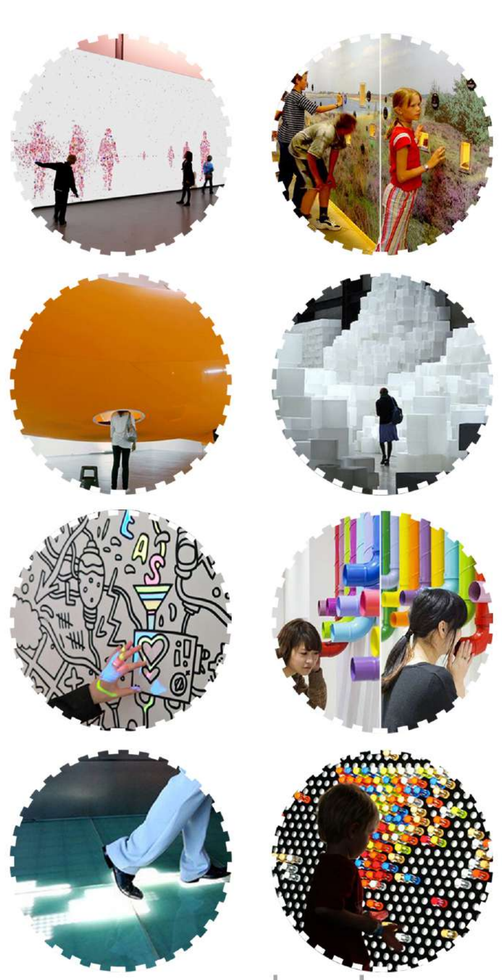
keywords for concept

- interact with space and people & build with your experiences
- use existing facilities arrange presentations book workshops
- meet & speak with people exchange information & practice other languages
- exchange experiences and information
- use existing facilities and tools

space & program

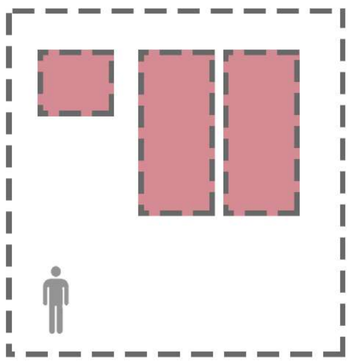
- interactive halls & corridors experiences halls & on different topics
- interactive information surfaces / screens, library, art hall, sports hall and presentation hall

references

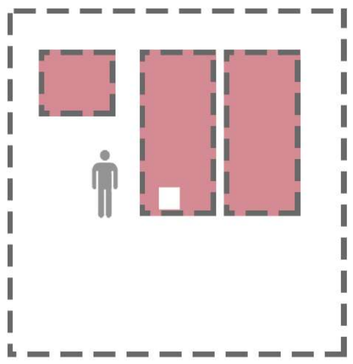


road school

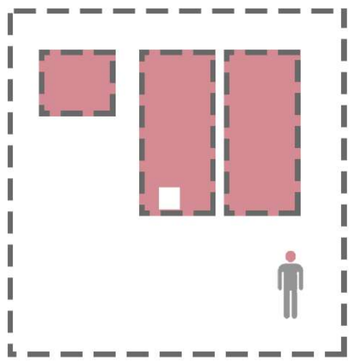
roadschooler's school?



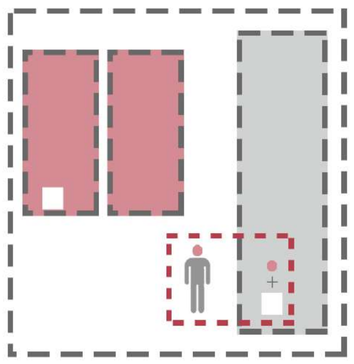
we observe and experience the city, world and learn from them



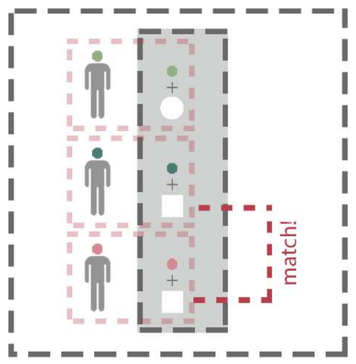
we change physical space by adding information and leave memories in space



physical space and experiences change us, make us grow



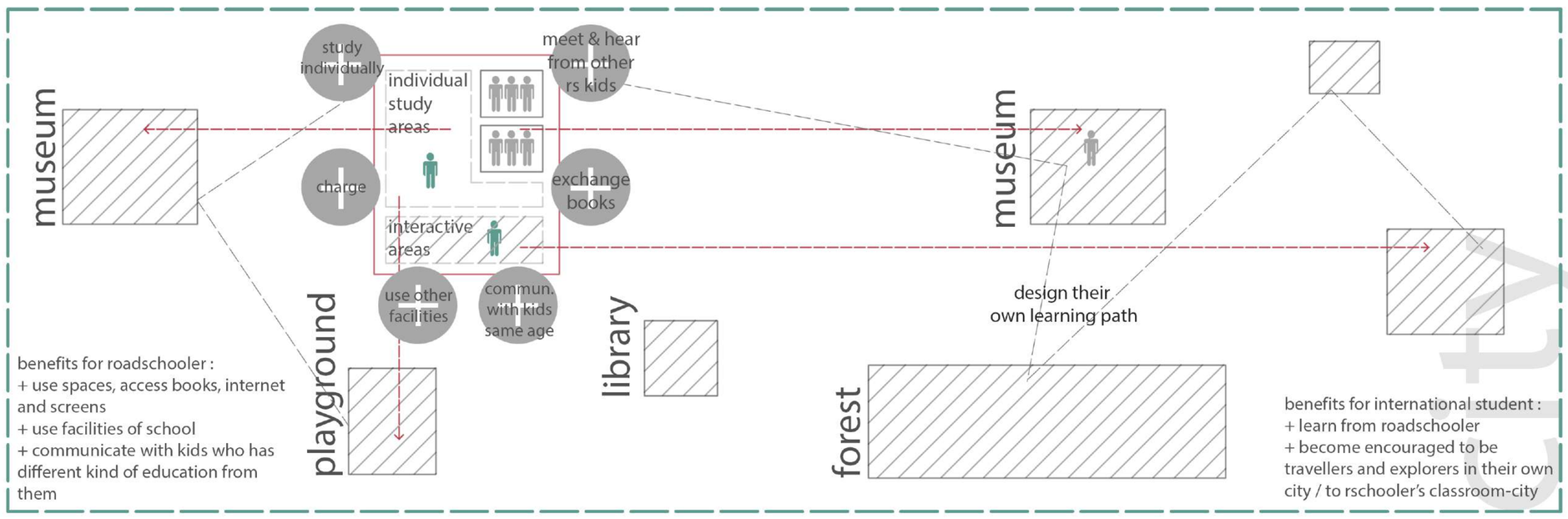
roadschooler teach / save what they learn on the road (which is a part of their classroom) to school school will learn from students and save it



school will also grow with experiences (like humanbeings) both physically and digitally serve with its physical interaction spaces

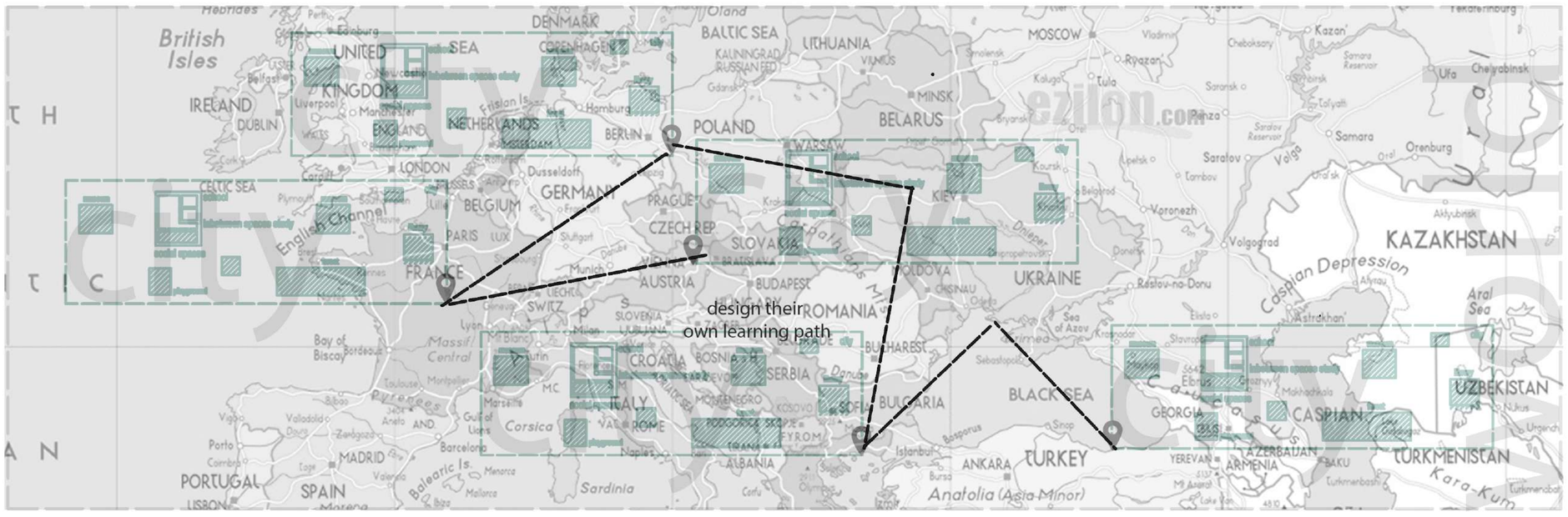
when there is a match according to interests people meet and interact in the building

how does it work? schools to city? city to world?

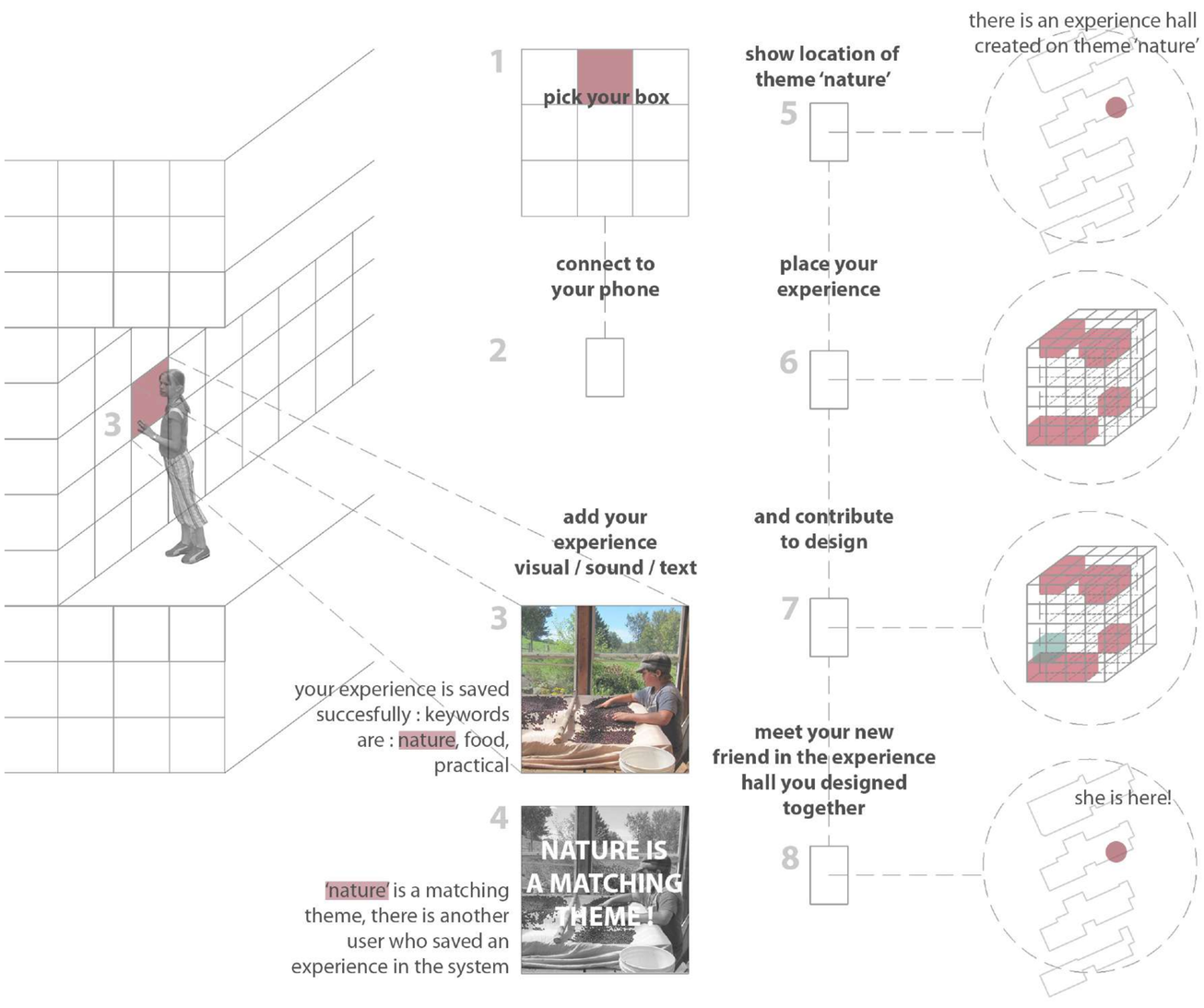


benefits for roadschooler :
+ use spaces, access books, internet and screens
+ use facilities of school
+ communicate with kids who has different kind of education from them

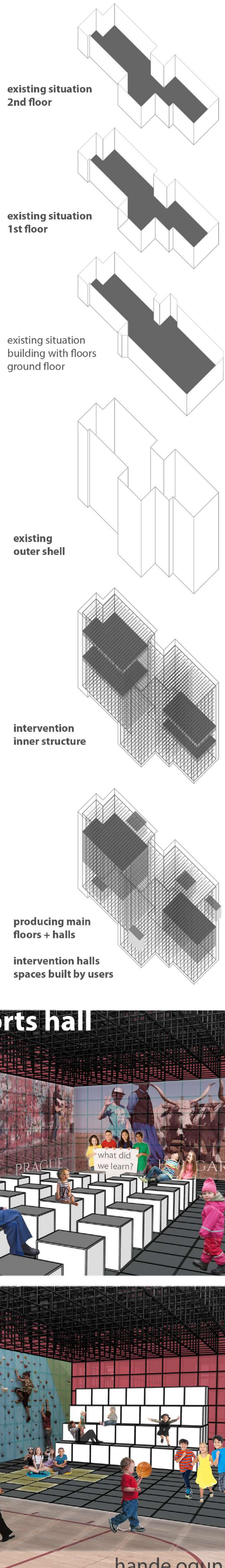
benefits for international student :
+ learn from roadschooler
+ become encouraged to be travellers and explorers in their own city / to rschooler's classroom-city



how does it work digitally?

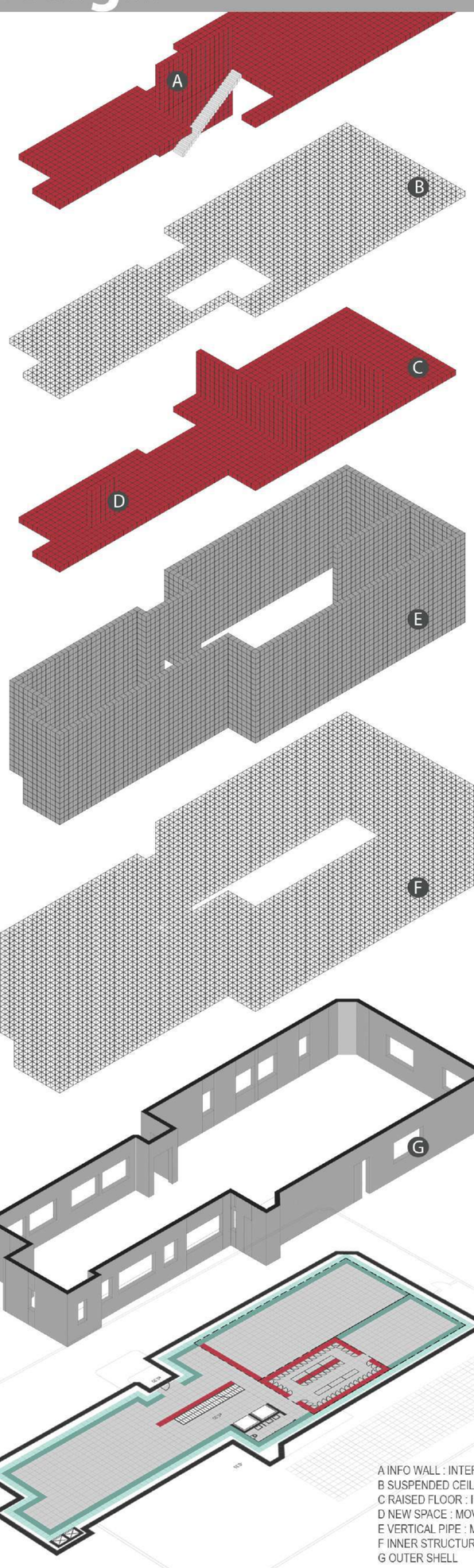


system



presentation hall / sports hall

road school



download & scan !

A

track your box !

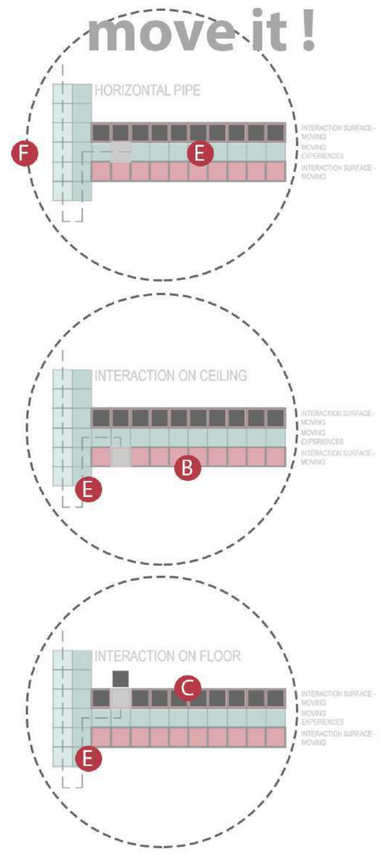
x : _
y : _

A
D

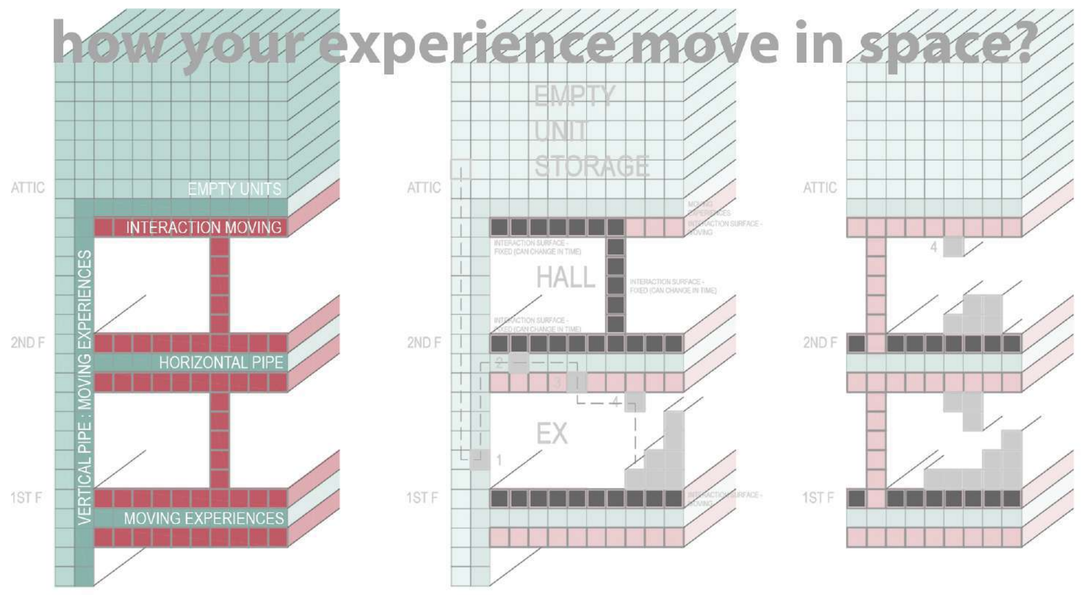
modify !

B

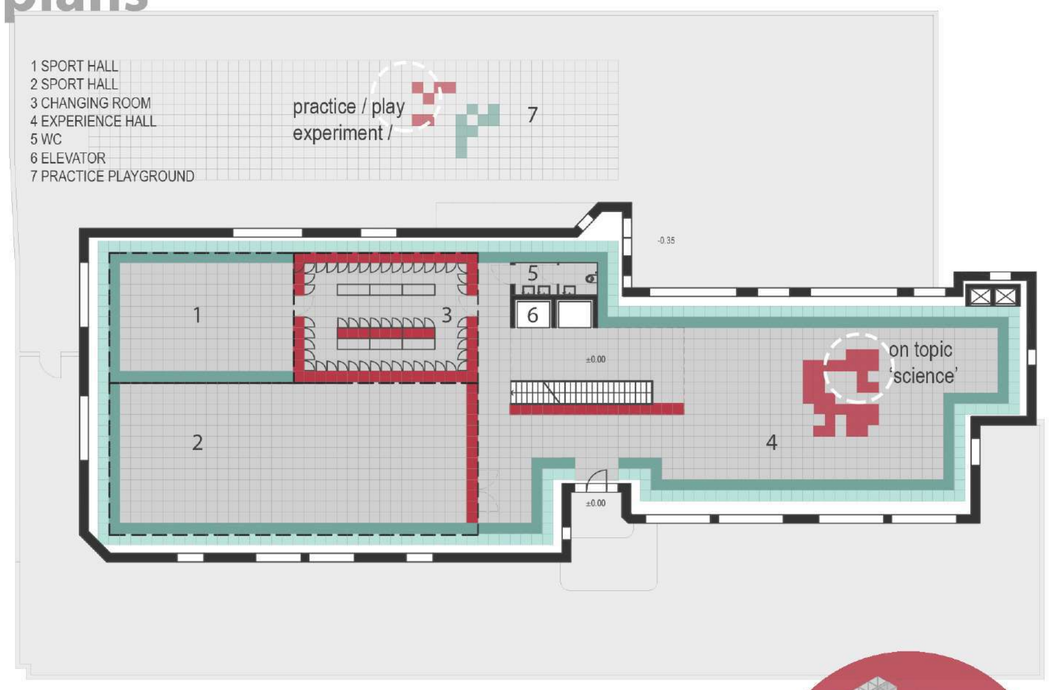
move it !



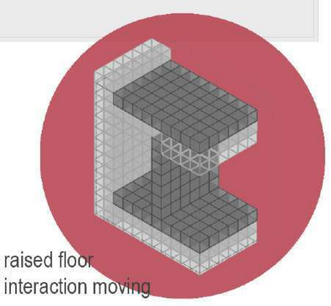
how your experience move in space?



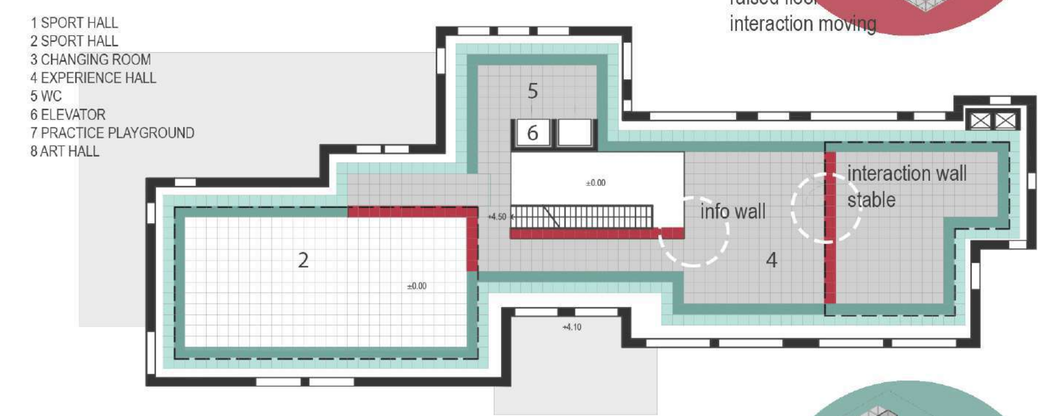
plans



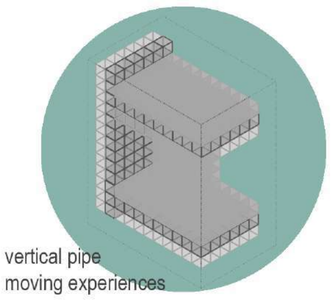
GROUND FLOOR



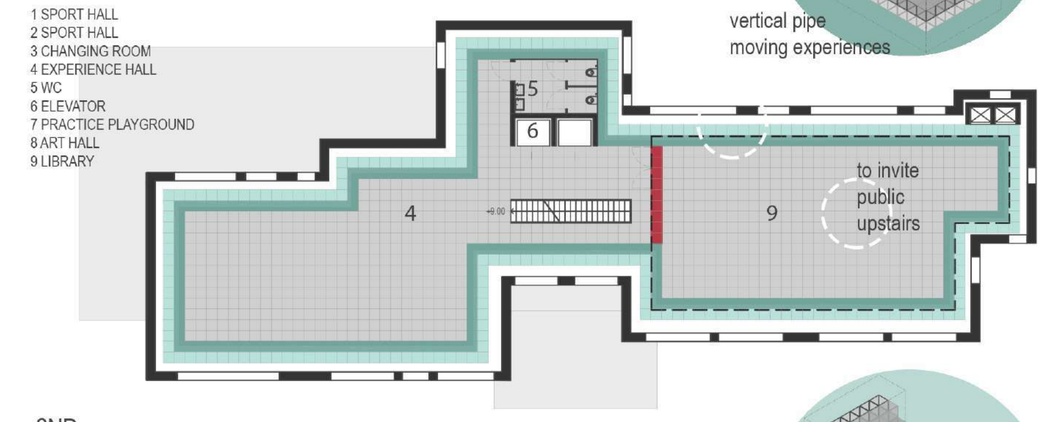
raised floor
interaction moving



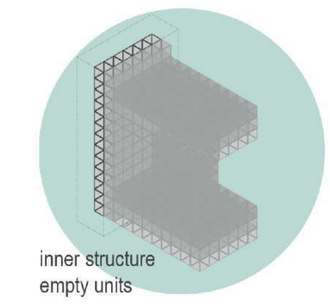
1ST FLOOR



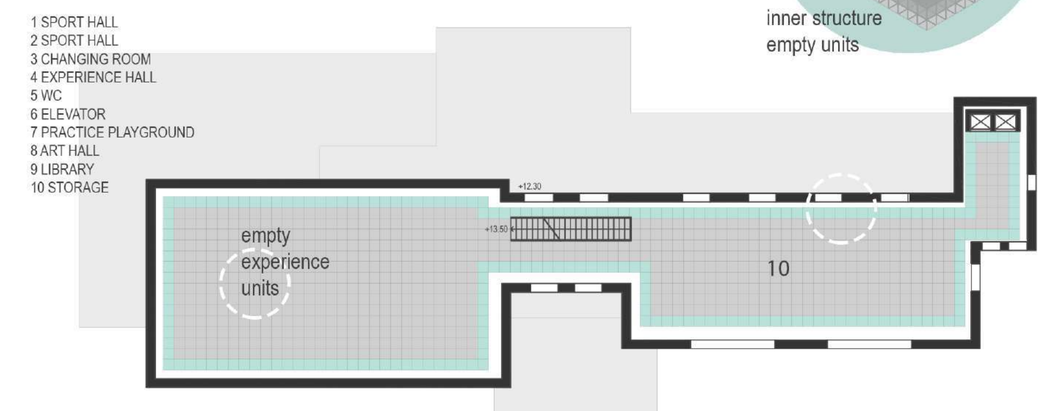
vertical pipe
moving experiences



2ND FLOOR

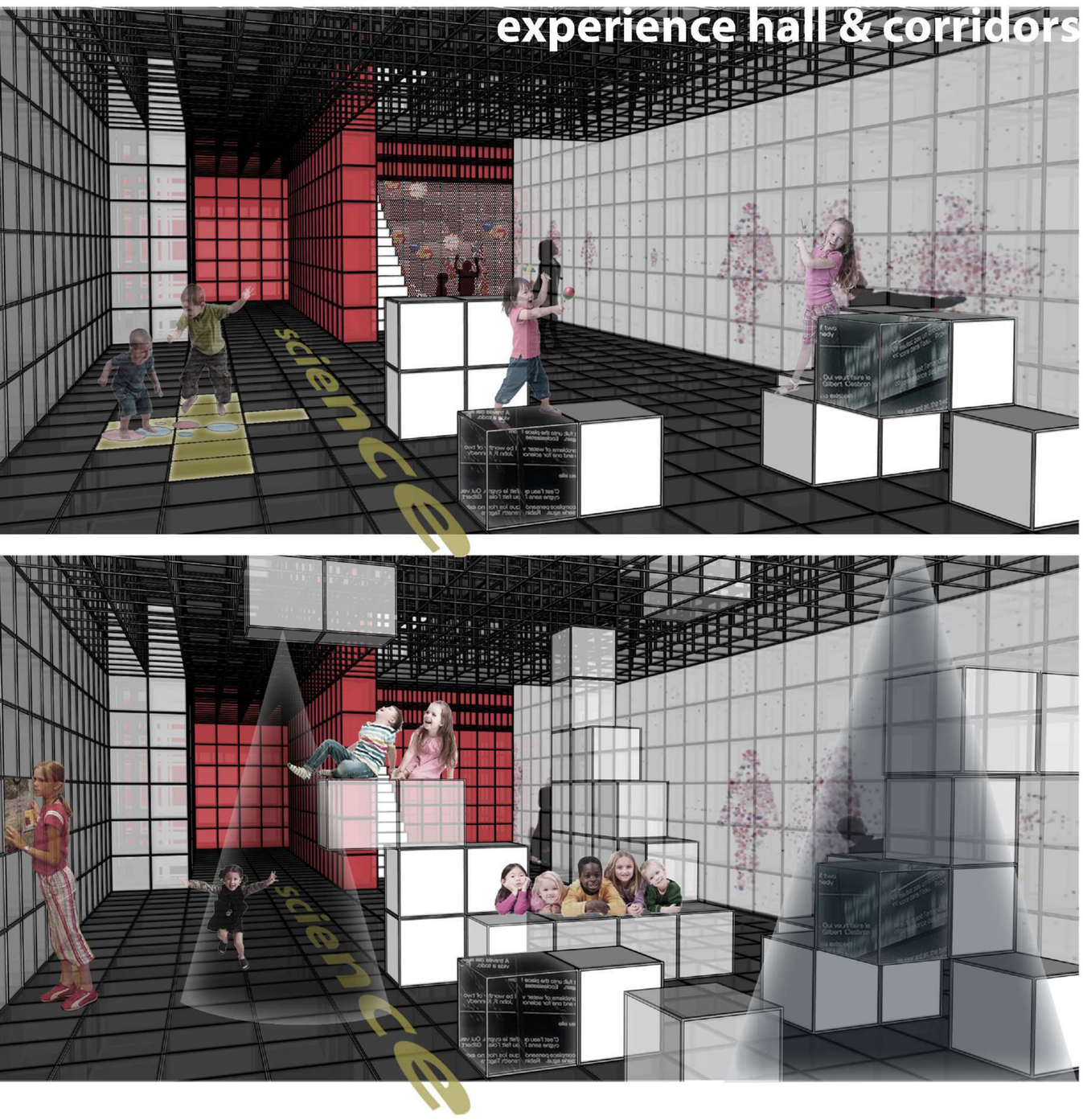


inner structure
empty units



ATTIC

experience hall & corridors



HELLO YOU!

WELCOME TO ROADSCHOOL DEN HAAG EXPERIENCE !

SCAN THE CODE AND SYNC YOUR PHONE WITH YOUR BOX !

-SAVE YOUR EXPERIENCE

-INTERACT WITH SPACE & LEARN

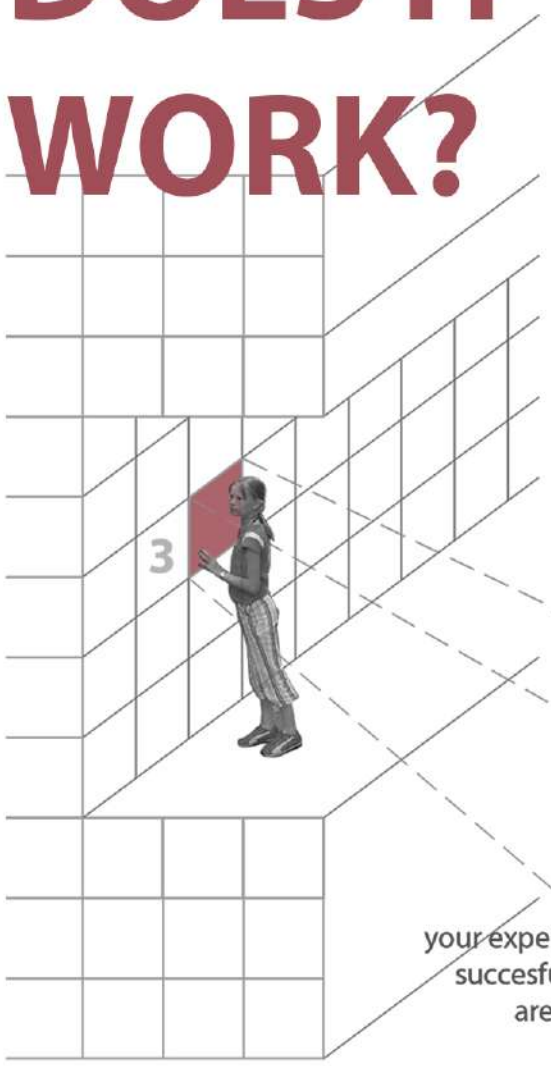
-CHOOSE LOCATION TO BUILD & TEACH

-TRACK YOUR BOX & FOLLOW

-INTERACT WITH PEOPLE

-HAVE FUN!

HOW DOES IT WORK?



1 pick your box

connect to your phone

2

3

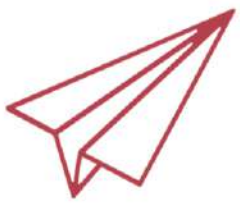
add your experience visual / sound / text

3

your experience is saved succesfully : keywords are : nature, food, practical

4

'nature' is a matching theme, there is another user who saved an experience in the system



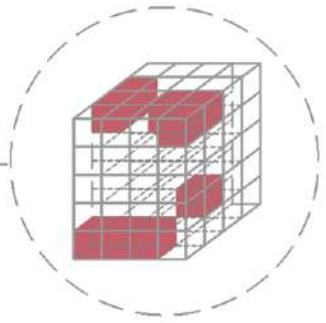
show location of theme 'nature'

there is an experience hall created on theme 'nature'

5

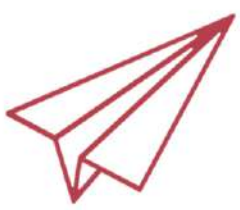
place your experience

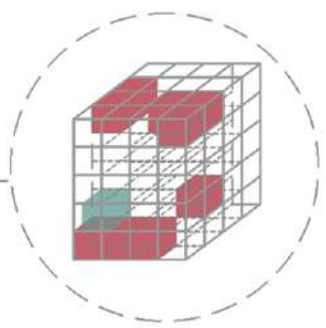
6



and contribute to design

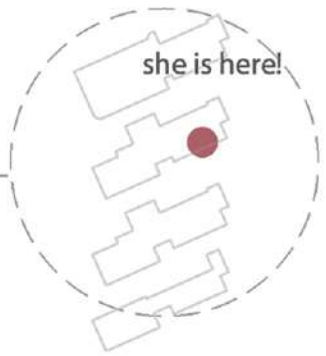
7

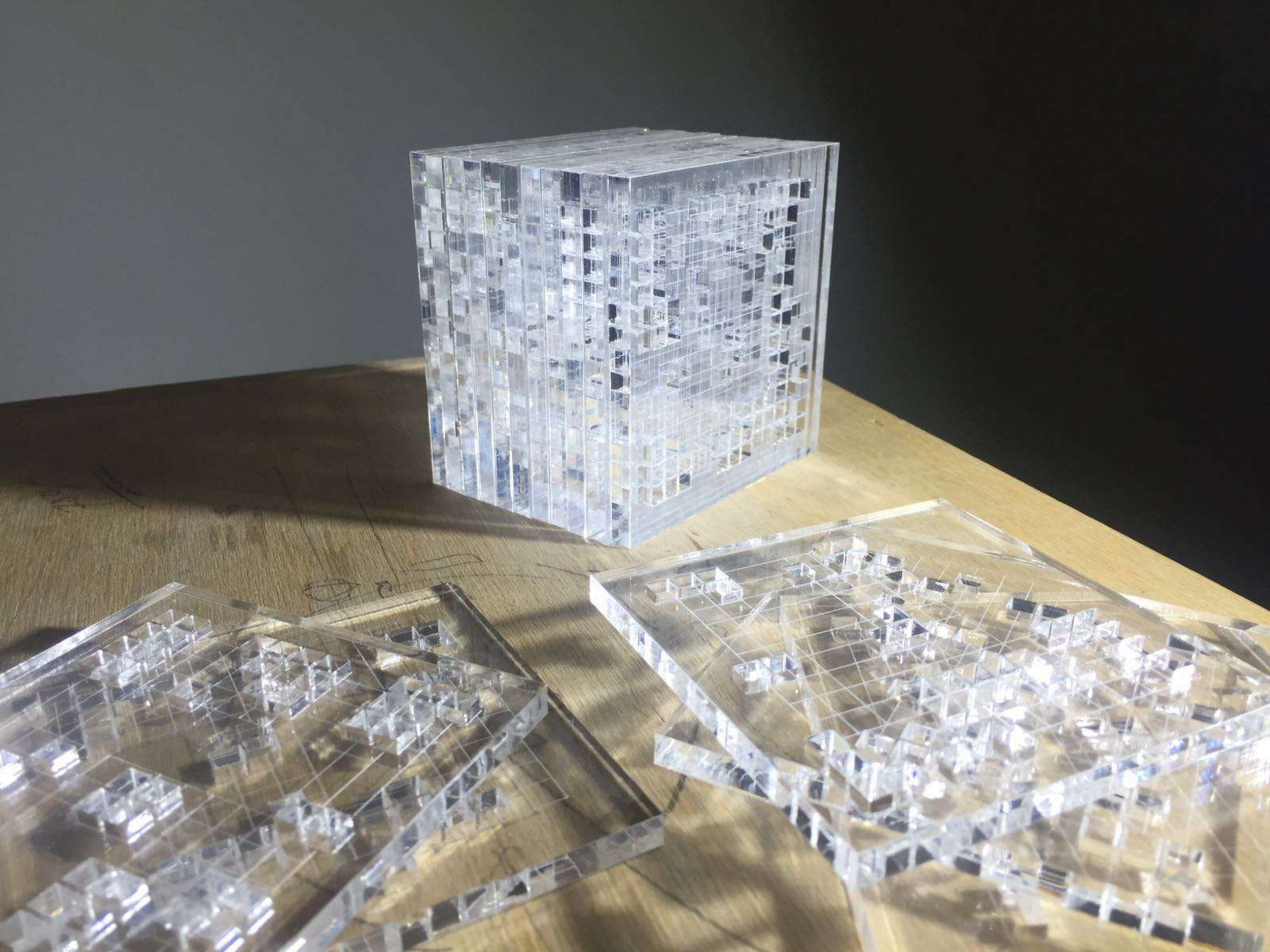


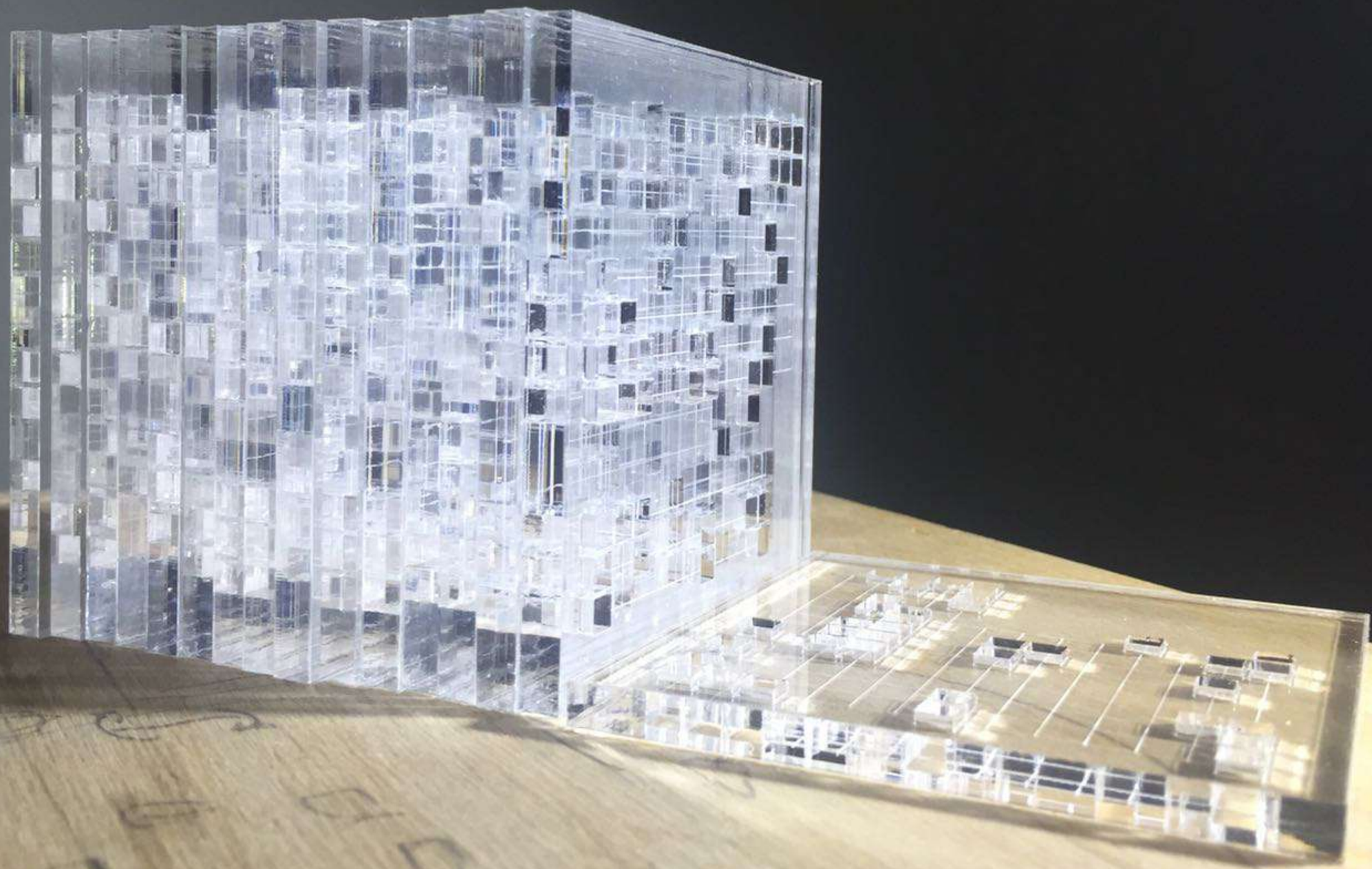


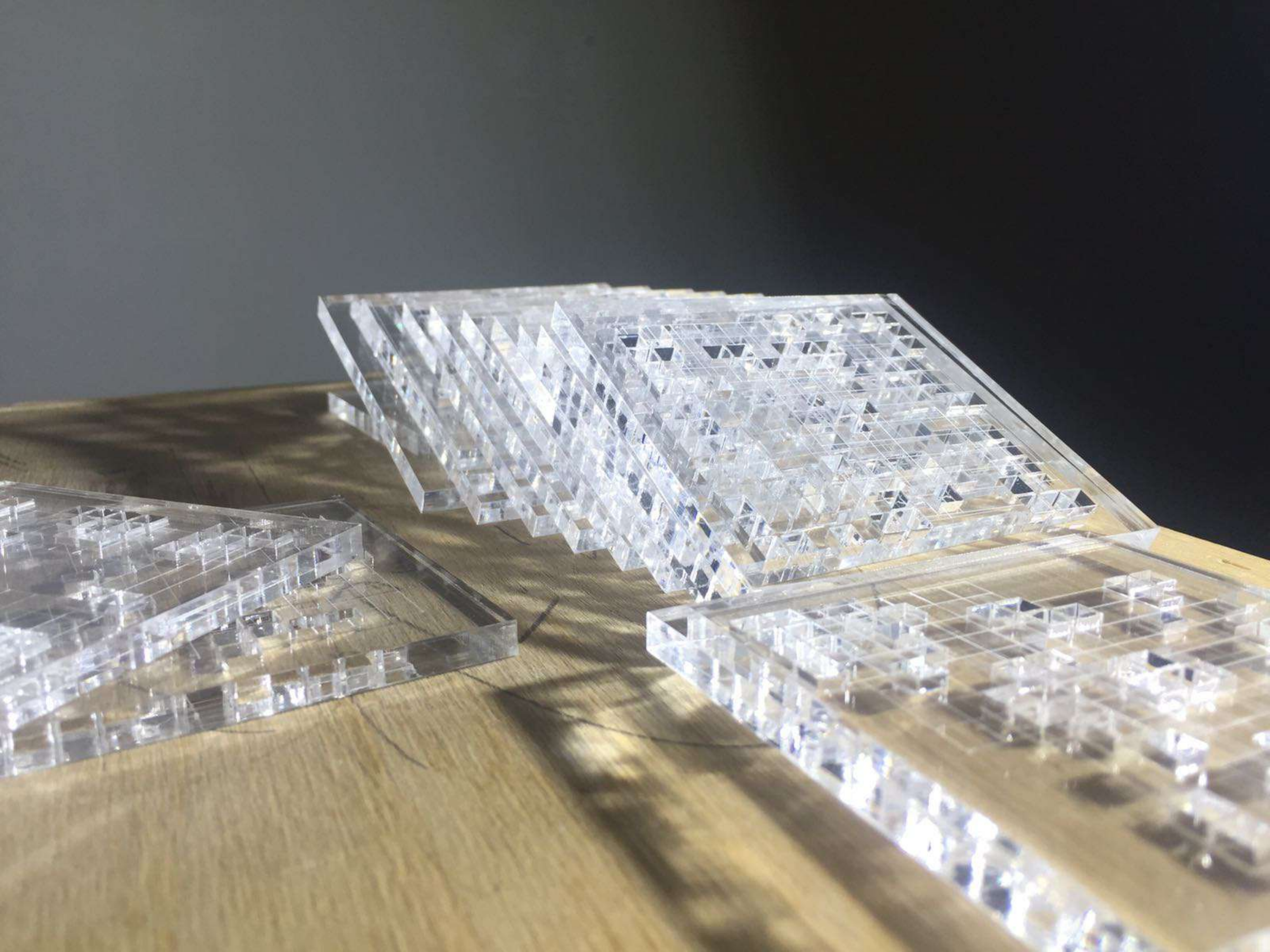
meet your new friend in the experience hall you designed together

8









LEARNING PATHS IN AND IN-BETWEEN CITIES

Hande Öğün

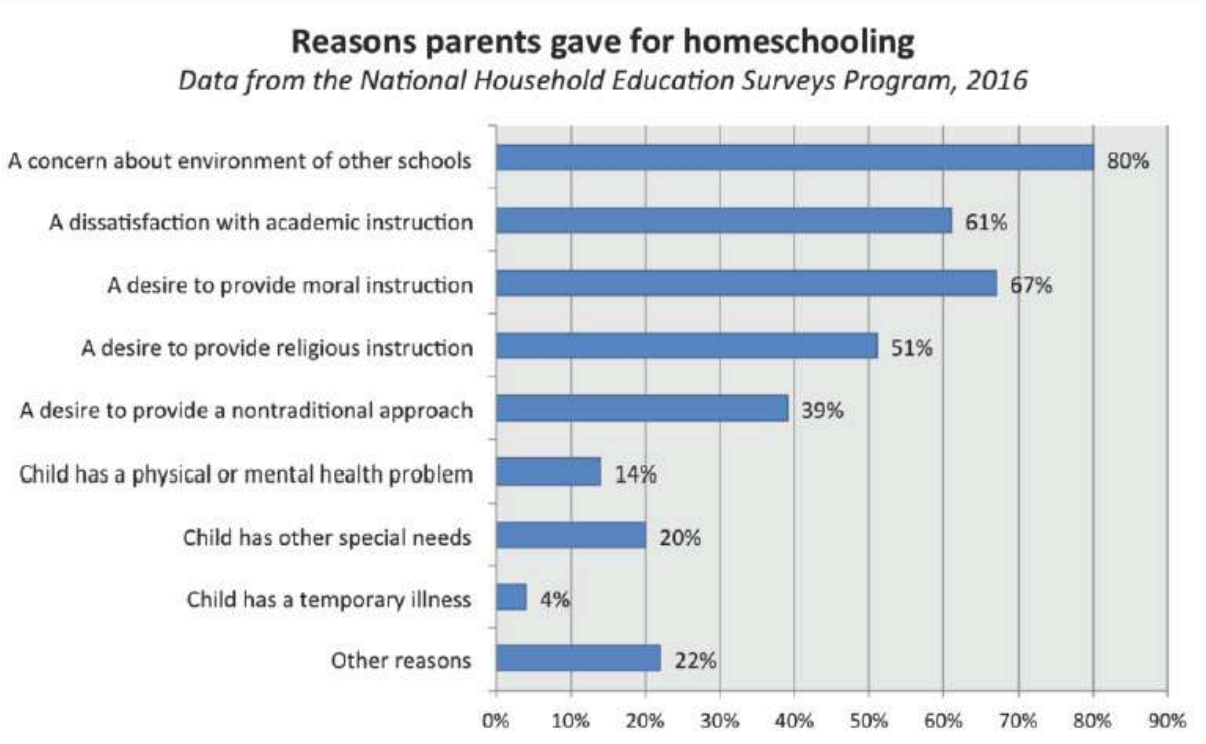
Theory : School of Future
January 15, 2018

LEARNING PATHS IN AND IN-BETWEEN CITIES

Due to the possibility of extending the borders of their workspace some people prefer a nomadic life style, which is actually one of the oldest forms of living for human beings. Some people live this lifestyle as a must because of their working conditions, which includes travelling a lot to different locations in the world. Some of them work online and actually do not need to be in a specific place due to do their nomadic jobs. They enjoy this life style as a result of their mobility and freedom. On the other hand some people with more stable jobs work a lot during a short lifespan and save money to travel while others find temporary-seasonal jobs to make a nomadic lifestyle possible. Many of these people prefer this lifestyle, because they think travelling has a positive effect on discovering themselves, improving their personal learning skills and their wish to become a citizen of the globalizing world. Some of these nomads have children whom they would like to follow the same path, by travelling all over the world and learn-from experiences while moving around. While homeschooling is increasing over all, families who decided to follow globalizing trend of nomadic life style triggers rise of another phenomenon called 'road schooling'.

There are various reasons that families prefer their children to become homeschoolers. According to National Center for Education Statistics (NCES), which conducts a its National Household Education Survey in every four years in USA, some of the reasons are parent's concern about environment of school (%80), their dissatisfaction about academic instruction (%61), their desire to provide different moral (%67) and religious instruction (%51), to provide a non traditional approach (%39) (like uncschooling, roadschooling, deschooling) and physical or mental health problems (%14) or special needs of children (%20) (National Center for Education Statistics, 2016) (Table 1)

Table 1



Even though the number of homeschooled kids in USA has rapidly changed from 1999 to 2012 and there has been 65% increase in children recorded as home educated in the UK over six years (http://www.bbc.com), there are opposing views on homeschooling. (Table 2, Table 3) Robin L. West, who is the Frederick J. Haas Professor of Law and Philosophy at the Georgetown University Law Center, asserted that especially on unregulated homeschooling has various harms to children and society. West claims that homeschooled children without state regulation are at greater risk for unreported physical abuse. Secondly he asserts that they may create a public health risk unless they don't have immunizations. Thirdly he claims, that they are loved unconditionally in family because they are those parents' kids, but they need to be regarded with respect equally to all the children in the class like a model of some core aspects of citizenship. Finally he says that 'The educational harm is the most immediate, direct risk of unregulated homeschooling…..There is indeed no credible evidence that homeschoolers as a group do worse on standardized tests, but contrary to their claims, there is also no credible evidence that they do better.' On the other hand those problems can be solved when the home education is regulated and parents keep records about their activities. For example in Kansas State, it is written as 'Regardless of what state you live in, HSLDA (Home School Legal Defense Association) recommends that you keep detailed records of your homeschool program. These records may be helpful if you face an investigation regarding your homeschooling or your student needs to furnish proof of education.' (https://www.hslda.org)

Table 2

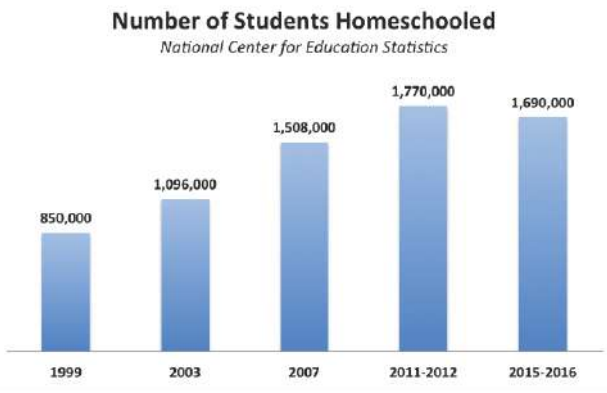
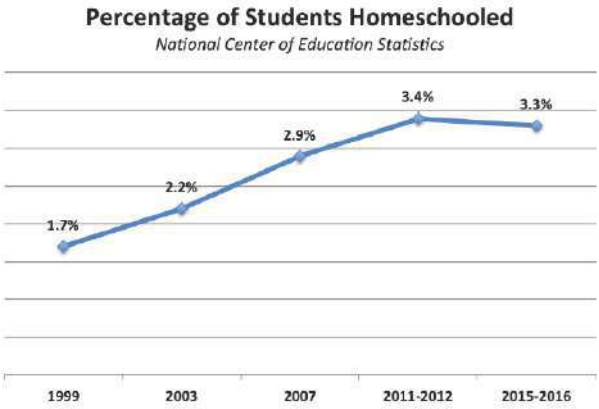


Table 3



There are also socially related critics about homeschooling like the children may become isolated, they don't get in touch with other children at their age and they may become introvert people, when they grow up. Homeschooler parents have answers for this critics 'School isn't the only place or best place for kids to learn how to socialize.' 'We have neighborhood full of kids.' 'They get together with other homeschoolers.' 'We go on field trips all the time.' 'They participate in summer programs and activities with conventionally-schooled kids' (https://pahomeschoollaw.com). Moreover there are whole range of motivations for parents and advantages of homeschooling like giving better education than local school, mobility, protecting from bullying, showing real world, no school rush and flexibility, using time effectively (shorter time for learning,

more time for other activities), one to one education (easy to ask a parent, child is the only audience) and learning in their own pace.

For nomad families homeschooling is obviously a good match and a practical option while travelling with kids. Couple of advantages of homeschooling are explained by a homeschooler parent Alyson who is a mum of two and have a travelling family and the creator of their family blog called 'worldtravelfamily.com'. (Figure 1) She and her husband sold their belongings, created a website and changed her profession to have a life full of travel and freedom of education and adventure, a new profession and a location independent lifestyle. They strongly believe that homeschooling delivers a good education. They are free to travel, live their life in their way and spend more time together and make their bonds tighter. They think that education need to be tailored to the child's interests and progress is at the child's speed. Additionaly they believe that their children have physical freedom to run, jump, climb and play, eat when they're hungry, go to bathroom when they need to, sleep and get up according to individual need. (https://worldtravelfamily.com)

Figure 1

On the other hand it is either homeschooling while traveling, either unschooling while traveling, these nomad parents like Alyson are taking this concept to another stage and want their children to use the whole world as their classroom with the concept of 'road-schooling/world-schooling' which are obviously different from institutionalized classroom learning but also from the home-schooling. Alyson (n.d) writes 'Homeschool probably doesn't mean what you think it does. It is not "school at home" we don't do lessons or distance education. We don't fill the kids up with the same stuff the schools try to teach. We just learn, in total freedom'(https://worldtravelfamily.com). (Figure 2, Figure 3, Figure 4)

Figure 2

Figure 3

Figure 4. Alyson writes 'Socialisation for traveling homeschoolers. They meet and interact with all kinds of people, old and young. We don't keep them locked up all day'

One of the nomadic parents, Ben Hewitt who left the school at 16 and support himself in the building trades, began writing for magazines in his early 20's and writer of five books including 'Home Grown' about learning without school, (2014) defines this concept as 'self directed, adult facilitated life learning in the context of their own unique interests'. (https://www.outsideonline.com) (Figure 5, Figure 6)

Figure 5. Hewitt writes ‘A stubborn calf, Fin and Rye also take care of their own dwarf goats.’
Figure 6. Hewitt writes ‘Fin and Rye drying foraged chokecherries. The boys know where to find wild mushrooms and berries.’

My suggestion is not a concept which replaces existing schools but using roadschooling concept in collaboration with international schools. Since their mottos are intersecting, which is ‘global citizenship, lifelong learning’ and those two can benefit each other (https://hsvdenhaag.nl). My aim is to create ‘moving’ classrooms or ‘expanding the borders’ of classrooms, which expand into the city and the existing international schools as well. According to my proposal, I call these different cities big classrooms and these paths between cities and school learning corridors. These ‘corridors’ will be actual learning paths, which will be defined according to the child’s interests. For example a learning corridor for Alyson’s kids starts from Australia and consist of places like Laos, Prague, India, Guetamala (Figure 7, Figure 8, Figure 9, Figure 10) and experiences in those places. Couple of interesting things that they learn and experiences are seeing blue whales in Sri Lanka, starting learning Spanish in Guatemala, experiencing snow first time and Niagara Falls while frozen (https://worldtravelfamily.com).

Figure 7

Figure 8

Figure 9

Figure 10

Many cities around the world have various international schools like United World Colleges, European Schools, Shell Schools, Dutch International Schools, Yew Chung International Schools (International schools growth and influence-cite) and homeschool counselling organizations. This collaboration can be provided by international homeschool organizations like HSLDA International (Home School Legal Defense Association), which is an international organisation founded my two attorneys and homeschooling dads-Mike Farris and Mike Smith to overcome the legal challenges and oppositions of pursuing a 'nontraditional' education route. On HSLDA website it is possible to reach information about various education systems and legality of homeschooling in different countries. (Figure 11) This organization can contact with international schools around the world to ask if there are willing to have this collaboration with them. This data can be used for creating a map, which shows the locations, facilities and availabilities (maximum number of students) of those schools in this chain. Roadschooling families can sign up and add information (date, duration) about their visits.

Figure 11

My suggestion is to open existing interactive areas in the schools to 'road-schooling kids', redesign existing interaction areas like corridors, sports room, kitchen and designing new interaction areas to create an exchange spot between those two different concepts. Instead of creating new spaces in the city, using existing schools or their connections/facilities in the city for roadschool. Roadschoolers can use facilities and tools of school like sports room, screens, books. Their families can use individual working areas to teach their children and also consult the teachers when they need. During our visit to HSV International Primary School – KSS Location, teachers mentioned that they need parents' contribution for social school activities apart from the curriculum. While roadschoolers are getting in touch with other children during the interactive hours (in the spaces like corridor individual learning and playing areas, art class, sports room, library, kitchen), parents can help with arranging activities for short-period of times in school. Roadschoolers can prepare presentations about their projects or experiences and present those to international school students and improve their skills like talking in front of a community. This is also beneficial for international school students, considering they can learn from travelling kids by exchanging experience. Both student groups can have cooking workshops in kitchen and exchange their informations. Roadschoolers can have another positive effect on the school students by encouraging them to join into their journey in their own city, and inviting them to city, which are the parts of the classrooms of road-schoolers. One of the parents, McDonald who is a home - urbanschooler studied in Harvard University on education administration, planning and social policy and still learns with her husband and four never-been-schooled children, (as cited in Hewitt, 2014) says 'The city is our curriculum, we believe that kids learn by living in the world around them, so we immerse them in that world.' 'Their classrooms are sidewalks, museums, city parks' (https://www.outsideonline.com)

To conclude, my design goal is to redesign interaction areas in school and design new ones, which roadschooling kids will share their experiences with others that they gain through learning corridors between cities and in cities. Herman Hertzberger also emphasized the importance of interaction spaces like corridors in school and he suggested that 'Make more spaces where people meet in informal positions.' in the interview with Insiders. In addition to that he (2008) writes ' If classrooms are relatively static as home bases, the space beyond them has developed from the traditional corridor into something like an educational shopping street, an environment for learning in the widest sense of the word – a learning street' (p.124). On the other hand international school students will share their school's corridors -learning paths- and social areas, which are the interaction and unformal learning areas with roadschooling kids.

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School of the Future

Presentation/Proposal

I-Chieh Liu

INSIDE 1718 student

The Village School

Research

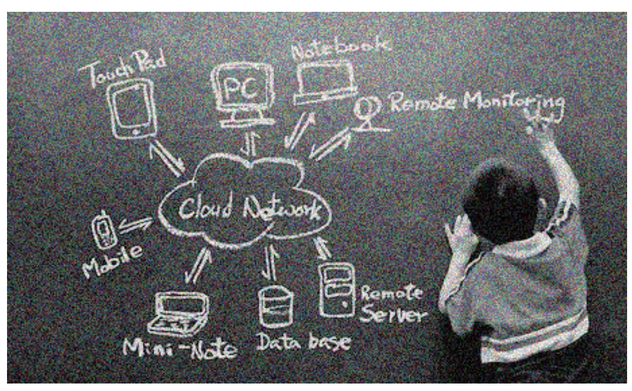
reimagining the classroom to be much more than its traditional limitations

What's wrong with the traditional classroom

Criticisms of Traditional classroom

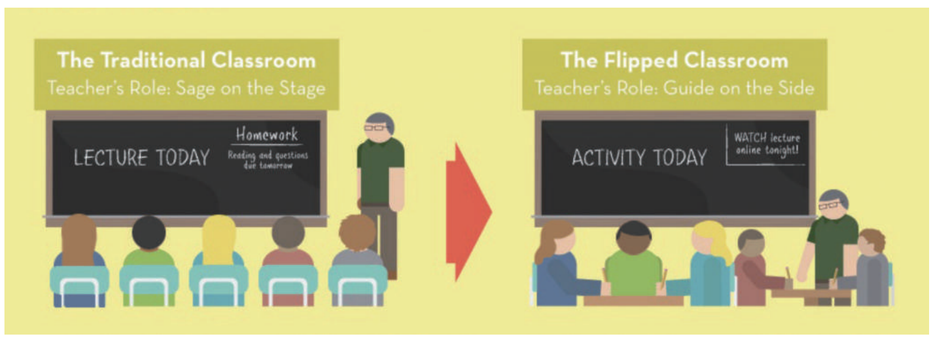
- 'one-size-fits-all'
- limited, inflexible, outdated structure
- set up to meet the needs of industrialism
- lecture-style delivery of a lesson
- pupils are being taught the same thing at the same time

traditional classroom is outdated due to the advancement of technology



Changing Role of Teachers in the 21st Century

Static lecturer → Guide / Mentor / Coach



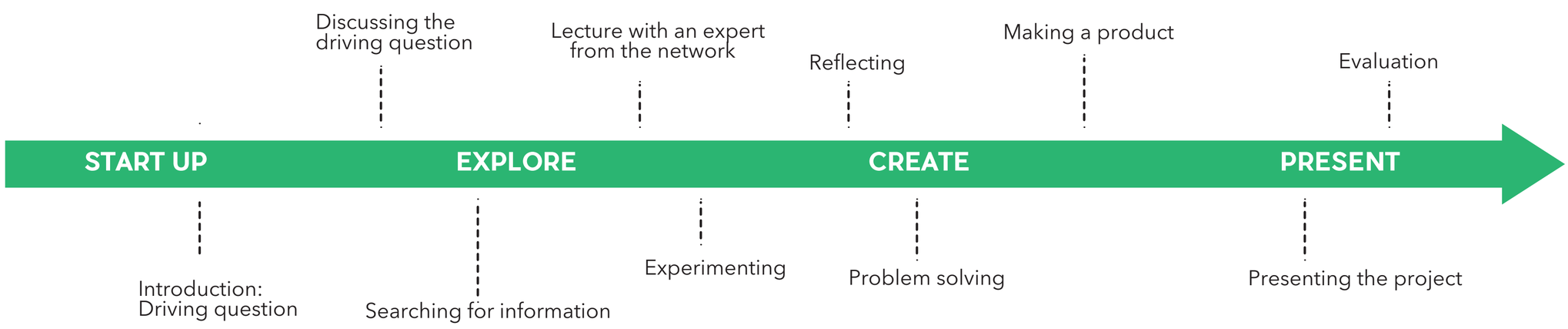
traditional learning environment		new learning environments
teacher-centered instruction	VS	student-centered instruction
information delivery		collaboratiion
passive learning		information exchange
artificial context		real-world context

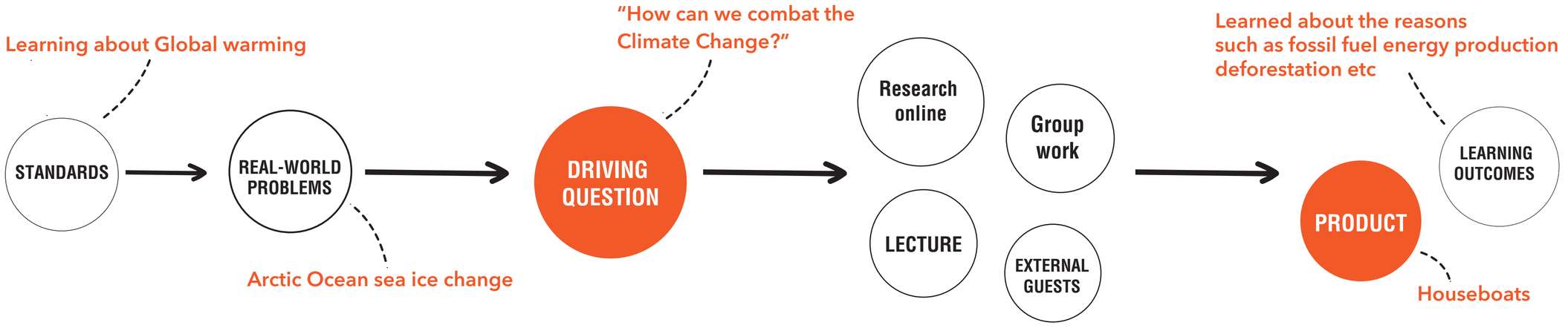
How can we reimagine classrooms

Dynamic learning enivonment

Research has shown that students who engage in active learning environment such as cooperative, interdisciplinary, **project-based learning** retain and understand information longer.

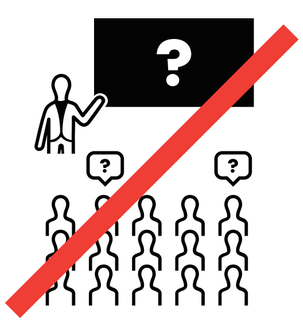
Process in project-based learning





The school for the future has to move away from sterile, traditional classroom, and relate with new educational model to support the new way of learning.

How new educational model can be supported by the physical spaces



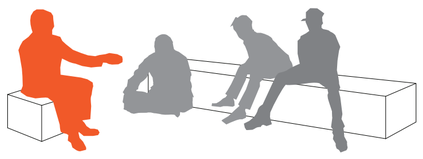
Concept

In the 1990's, David Thornburg
presented an idea about 4 learning environments

CAMPFIRE
place for the lecture

Space for storytelling

LEARNING FROM **EXPERTS**



WATERING HOLE
place for conversations between peers

Space for interaction

LEARNING FROM **PEERS**

CAVES
places for quiet reflection

Space for reflection

LEARNING BY **YOURSELF**

LIFE
places where students can apply what they've learned

Space for testing

LEARNING BY **DOING**

listening watching talking reading writing creating cooperating

ONE LEARNING UNIT

Spatial condition: Agorà-like form
dynamic & open environment

Clover International School, Japan
MAD Architects

Frederiksbjerg School, Denmark
Henning Larsen Architects

Spatial condition: platform for interaction
or exchange

NFB Nursery, Japan
Youji no Shiro + HIBINOSEKKEI

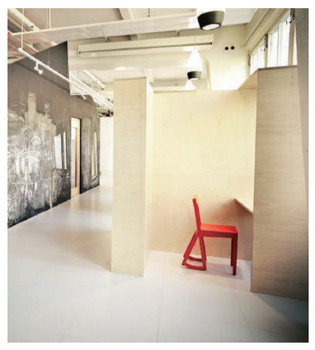
AN Kindergarten, Japan
HIBINOSEKKEI + Youji no Shiro

Clover International School, Japan
MAD Architects

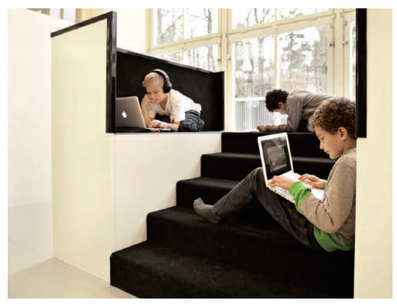
AN Kindergarten, Japan
HIBINOSEKKEI + Youji no Shiro

AN Kindergarten, Japan
HIBINOSEKKEI + Youji no Shiro

Spatial condition: incubator-like
Intimate & closed form



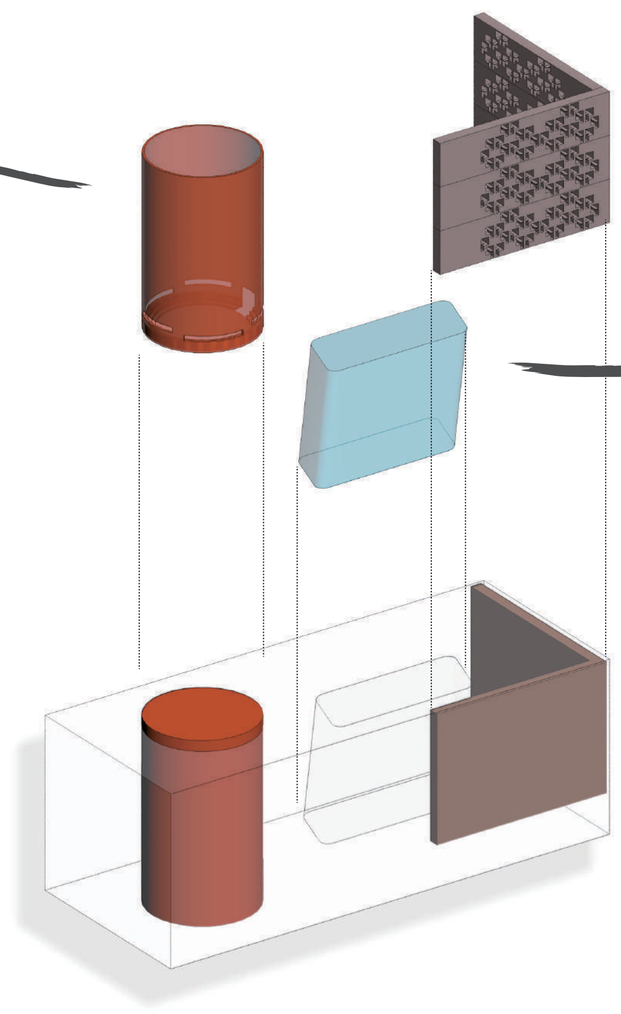
Vittra School, Sweden
Rosan Bosch



Vittra School, Sweden
Rosan Bosch

Spatial condition: flexible furnitures

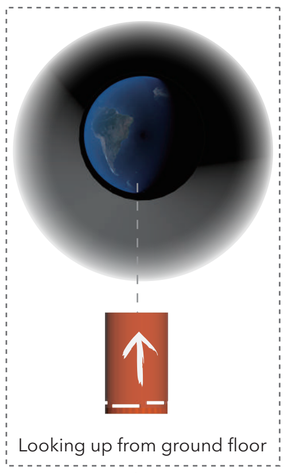
Taleny School, México
Aro Estudio



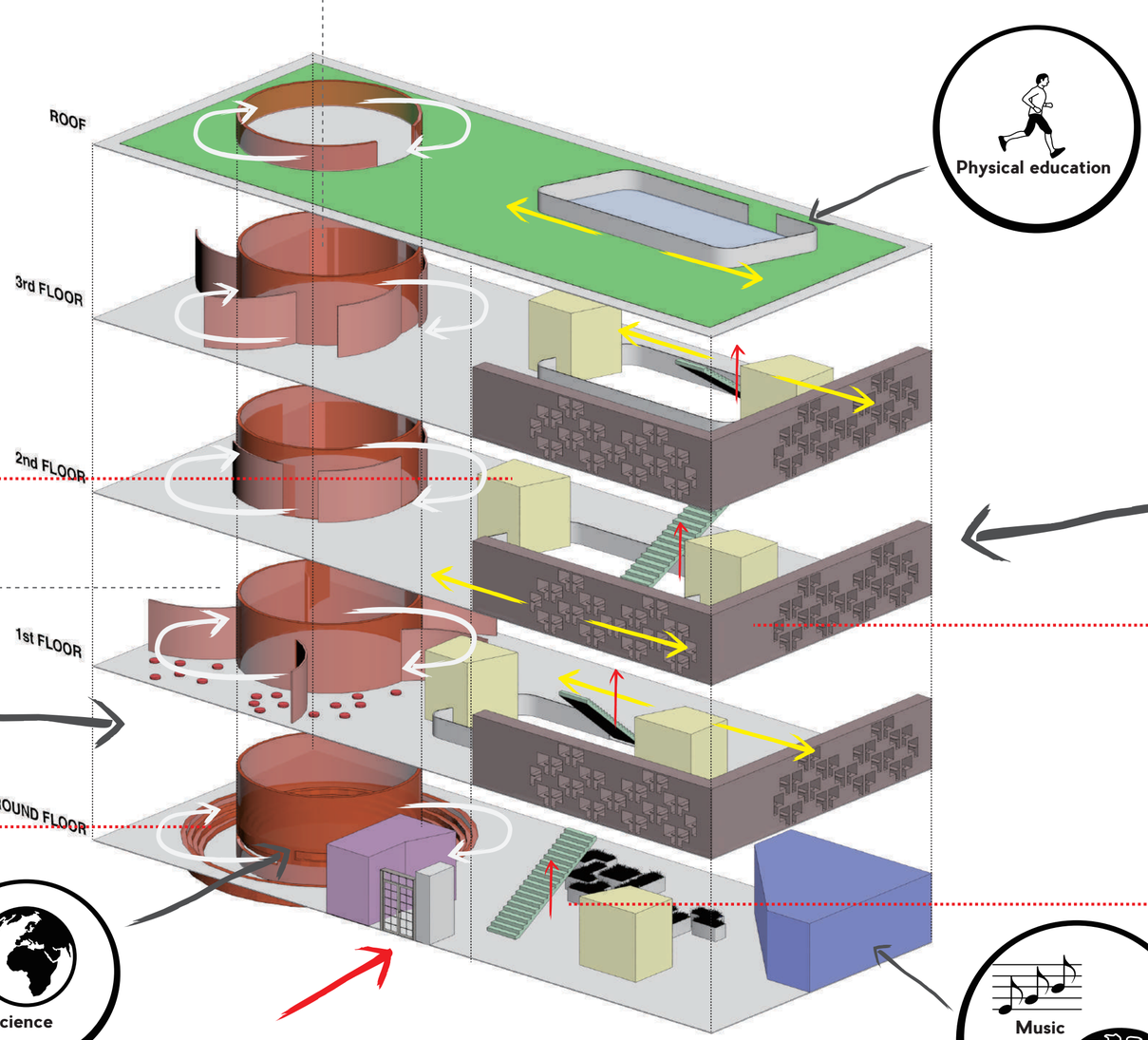
Design

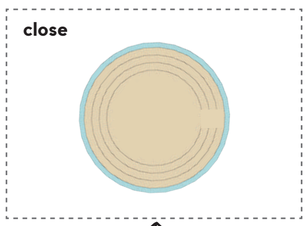
Function

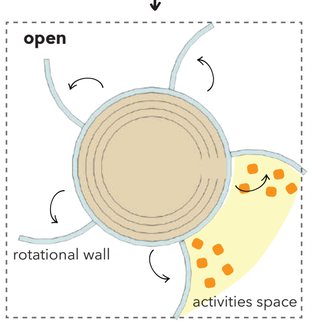
- CAMPFIRE
- CAVE
- RECEPTION
- SPACE FOR TEACHER
- STUDIO
- ROOFTOP PLAYGROUND

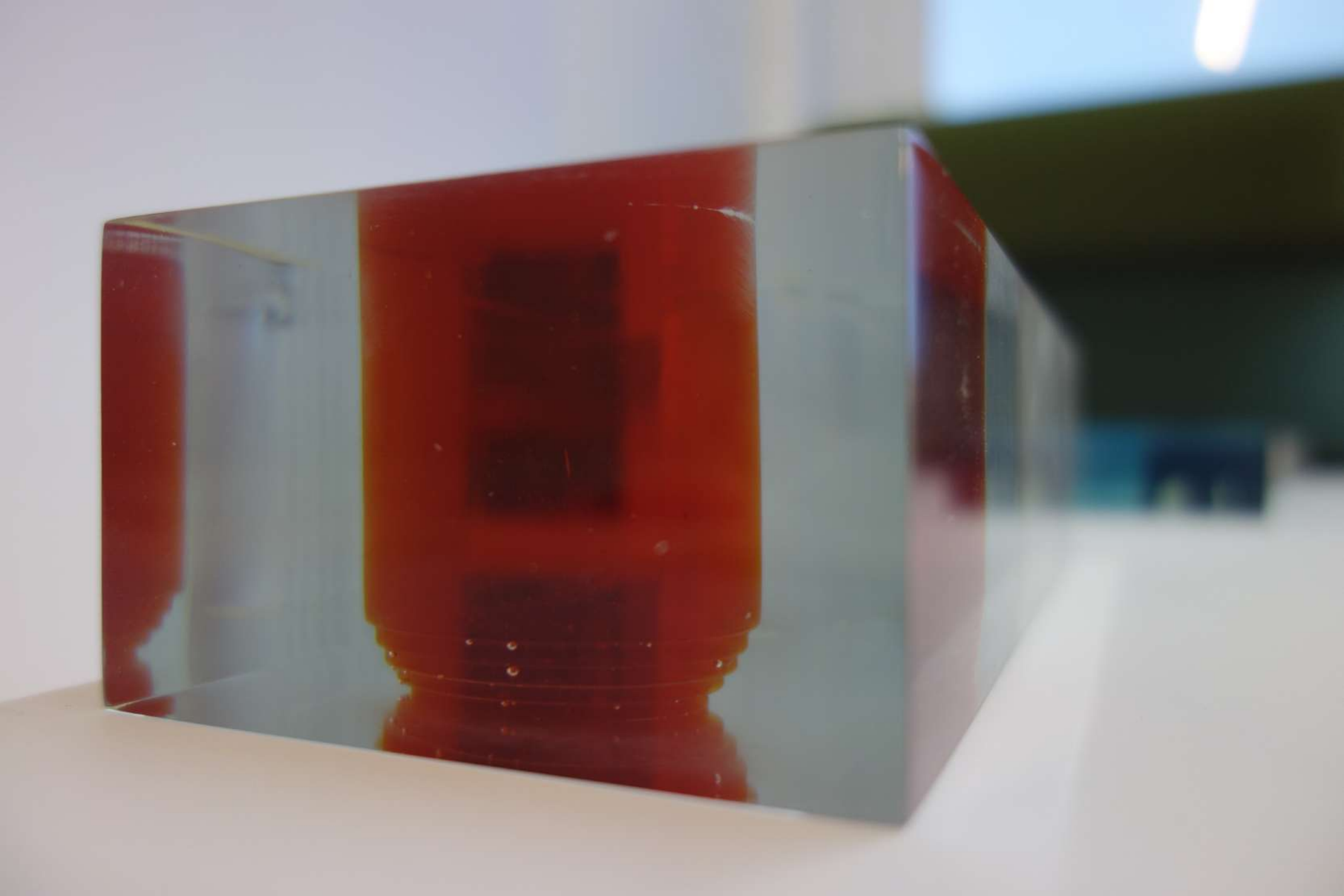


Looking up from ground floor









School of the Future

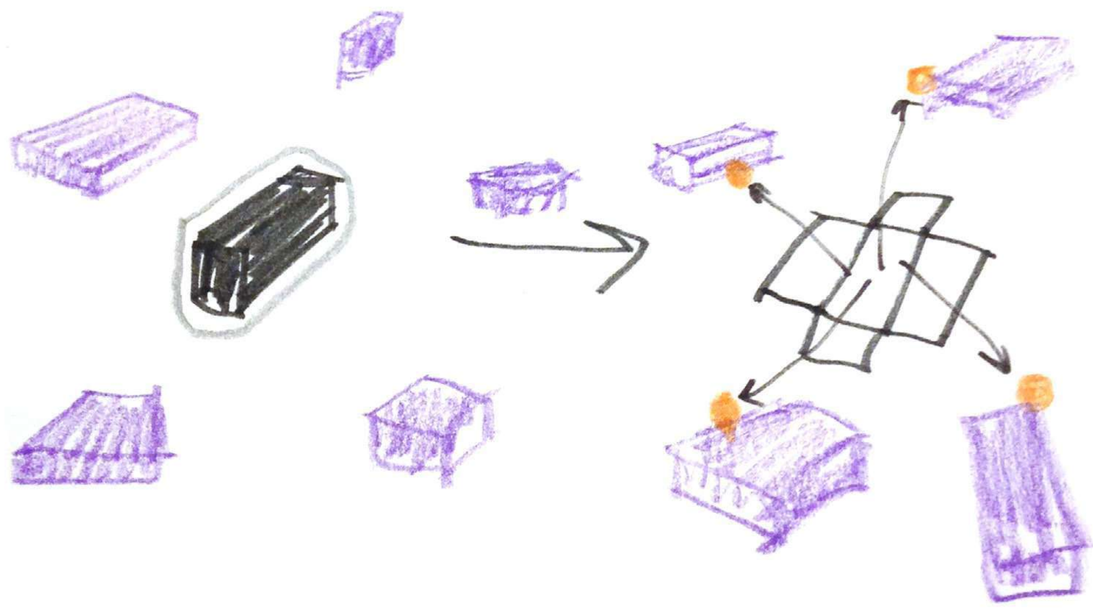
Presentation/Proposal

Jack Bardwell

INSIDE 1718 student

Child as Citizen, City as School

City as Learning Environment



The city is a place rich with opportunity for learning. Social interaction, entertainment, nature, conflict, risk and performance. It is the place in which children are and will live and yet increasingly schools and children become bubbles within the city rather than an integral, visible part of it.

It is not just children who stand to gain from being part of cities. They are the spark for broader community engagement, connecting of institutions and spaces, breaking down social barriers and opening up spaces to the wider community.

What's Missing?

The city is a playground, just not for children...

Forest School

Forest School uses the camp fire as a gathering place for reflection and planning.

Home bases

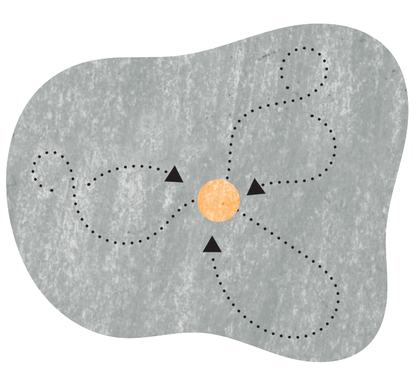
Herman Hertzberger describes how classrooms should become 'home bases' within the school, a "familiar environment to fall back on."

Experiential Learning

David Kolb's Experiential Learning Model suggests the need for time to reflect in order to adapt and develop.

Hierarchy of needs

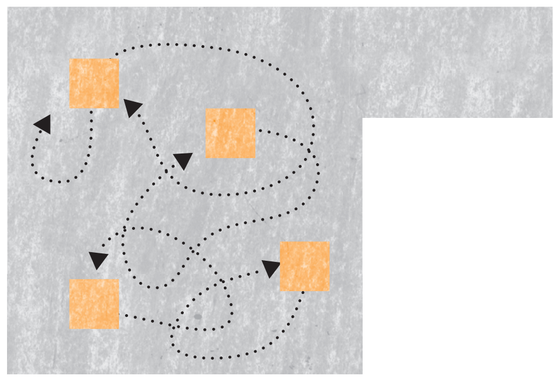
In order for genuine learning to take place certain basic needs need to be taken care of including warmth and hunger (physiological needs)and beyond that needs of safety often in the form of familiarity of environment.
– Abraham Maslow



Forest boundary

Gathering and reflection

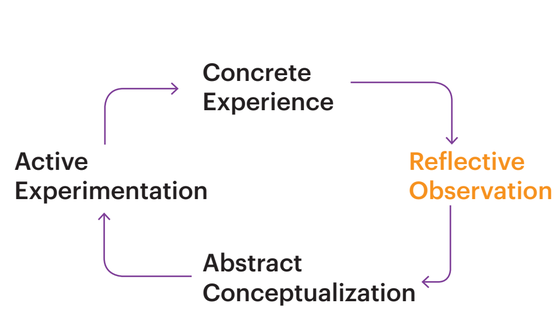
Exploration and experience

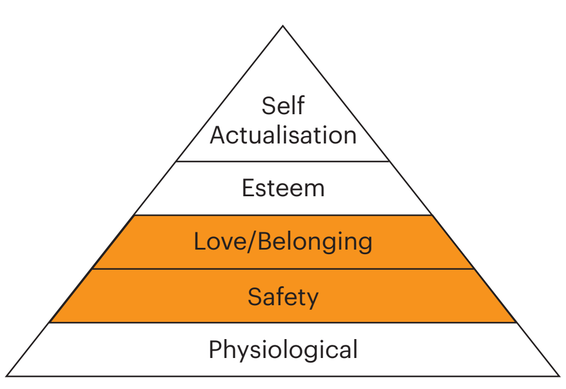


School building

Classrooms

Exploration and experience



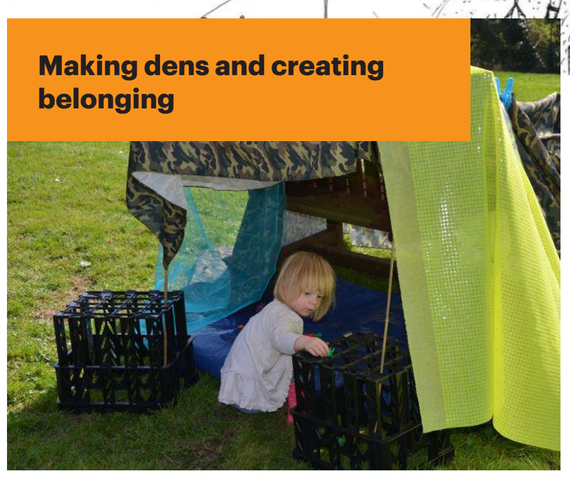


Reference

"Kids are becoming increasingly independent and insightful...Research links outdoor education to sharper critical thinking skills, lower stress levels, and a higher capacity to pay attention." – Forest Schools

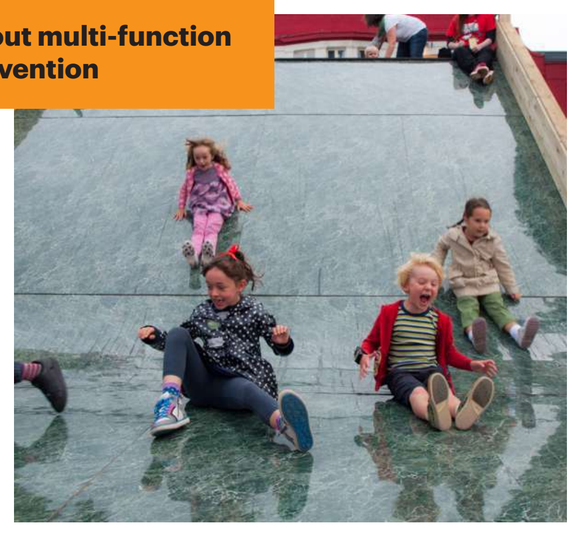
A base for outdoor cultural activity in the city

Observation and reflection in new contexts

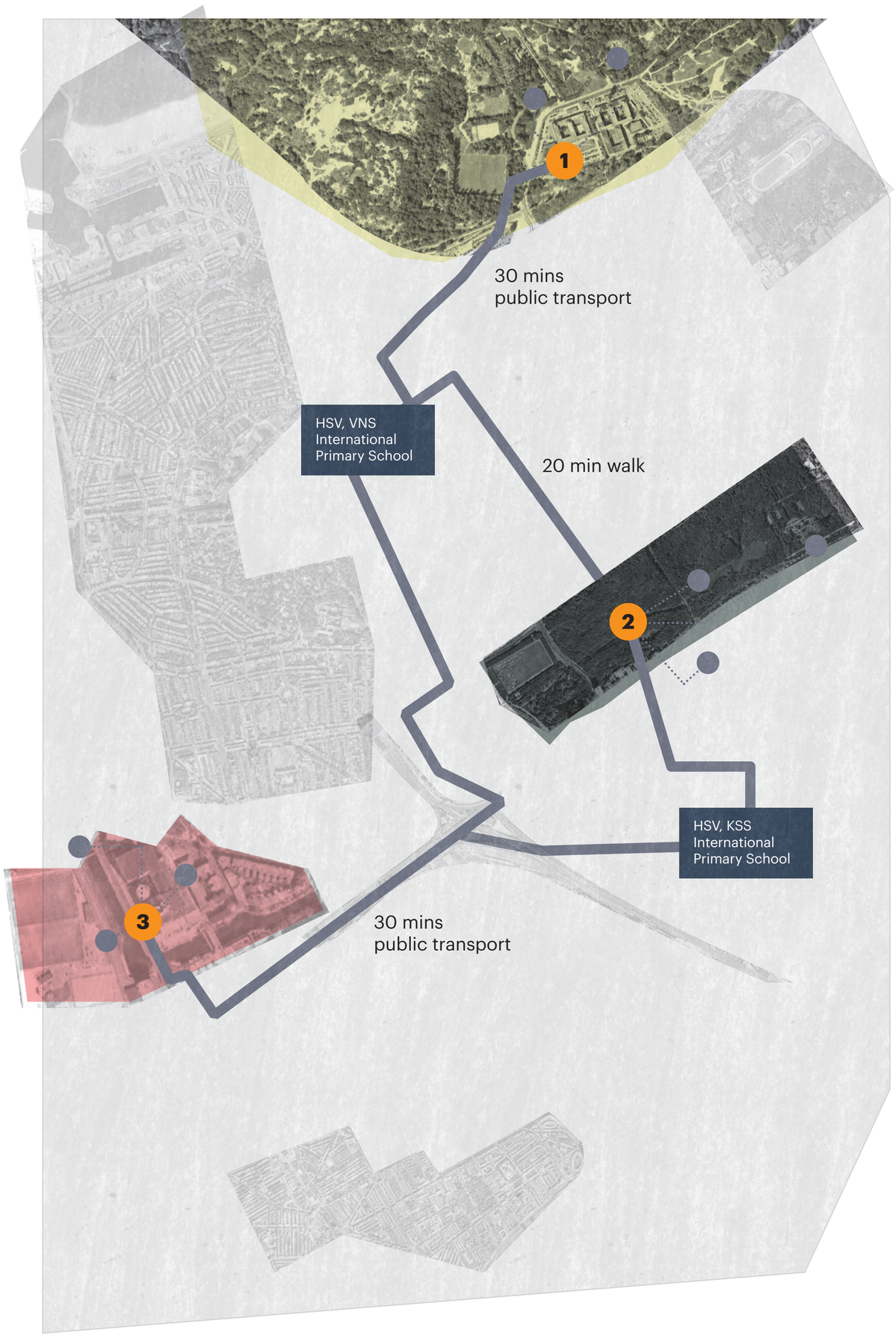


Making dens and creating belonging

Inside and out multi-function public intervention



Network of Nests Across the City



1 Nest in the Dunes

Dunes and Memorials

The dunes themselves are rich in the history of The Hague History and still provide essential coastal defence and the preservation of wildlife.


Museum Voorlinden

A gem next to the dunes this stunning museum of contemporary art can be a stimulating starting point.


2 Nest in the Woods

Haagse Bos

The Hague is home to one of the oldest remaining forests of the country. This site would facilitate learning about wildlife and be focussed around group workshops play and exploration.


Cultural Buildings

There are several religious buildings in this area including the International Church of the Hague. At the end of the woods is also Huis Ten Bosch.


3 Nest at the DCR

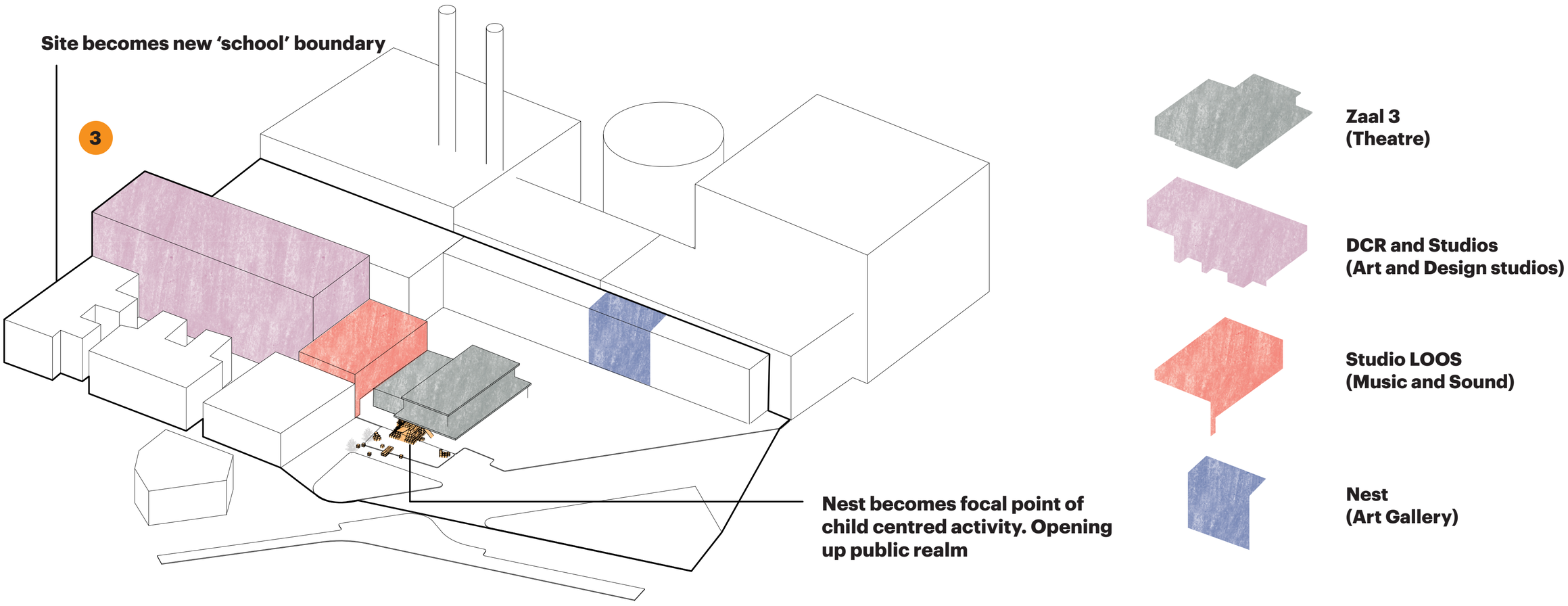
DCR

DCR is a cultural hotspot in the Hague located next to the iconic Uniper power plant. This multi functional spot is home to a theatre, studios, workshops and an art gallery.


Sportpark De Verademing

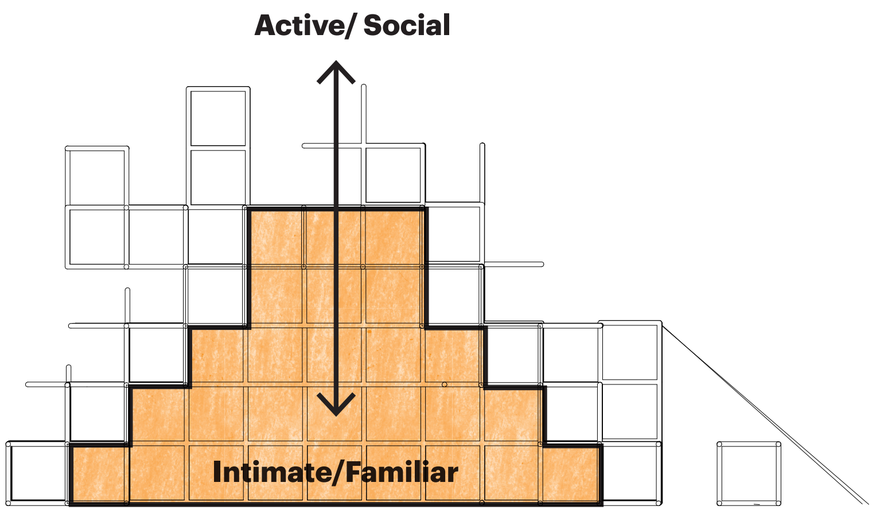
A two minute walk across the canal is a large sports park next to a special education school.

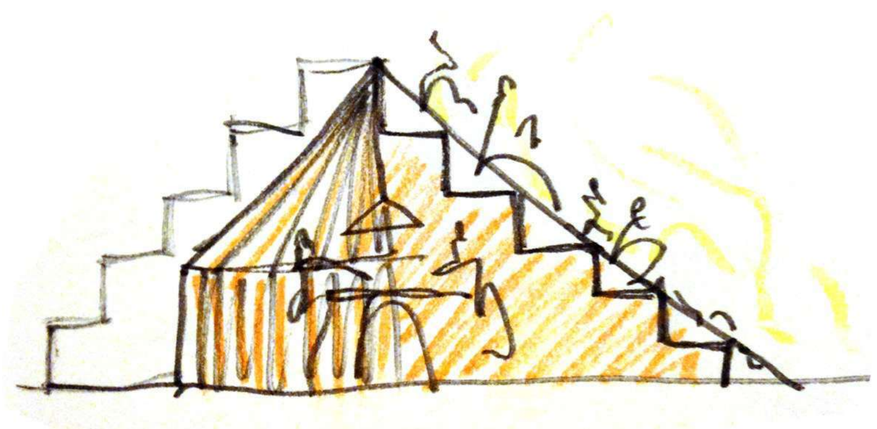
The nest becomes the centre of a social programme



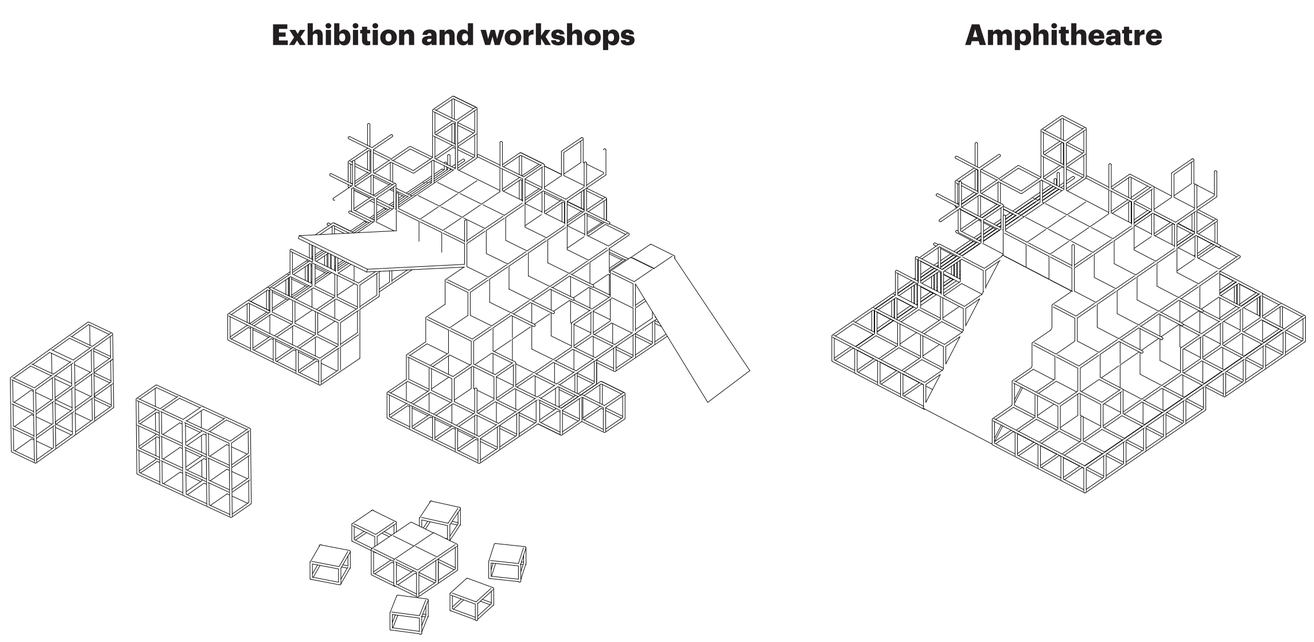
Nested into the city

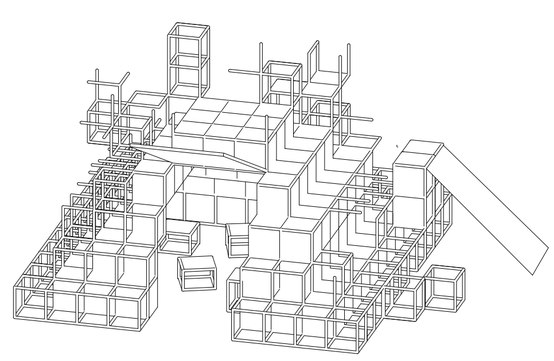
Core Principle

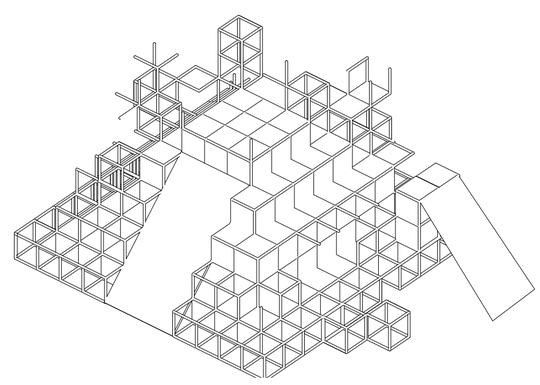


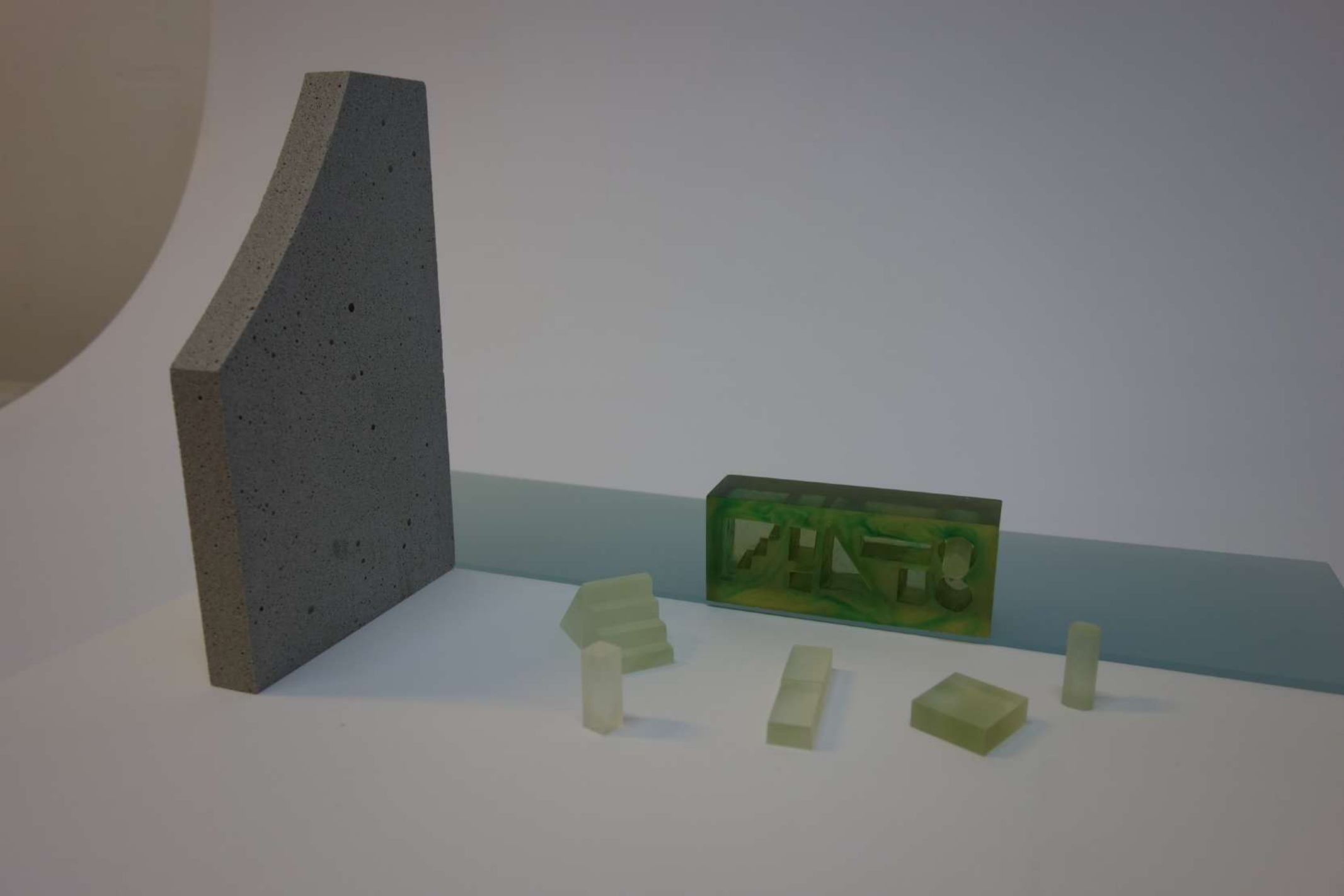


Functions









Child as Citizen, City as School

Jack Bardwell

15/01/2018

The growing global phenomenon of the 'International School' highlights a trend in business driven education that fails to integrate children into the fabric of the city in which they live.

If children are considered a vital part of our cities and society, the design of primary schools should be concerned with transforming our cities into places for learning.

This essay suggests how the existing phenomenon of the school trip and a growing interest in experiential based learning such as Forest Schools, can be used to establish the city as a school for all and the child as an integral part of that city.

Introduction

It's a Wednesday morning towards the end of Summer term and the year three class are buzzing with excitement, today they are not going to 'school' they are going on a trip to the local Museum.

It is a familiar sight, a row of school children waddling along the street being ushered into a cultural institution and the benefits of such excursions are widely celebrated across many different schools, some of which are taking this as the sole form of education. What can the current International School setup, specifically in The Netherlands learn from an existing paradigm, 'the school trip' and how could this become the spark for a change generally in how society thinks about the school as a space for learning.

I recently visited two International Schools in The Hague, The Netherlands. There was a broad range of Ethnicities and the curriculum, although based on the English educational system had themes that were much more globally oriented. The walls, which were covered in the usual creations from the children bordered by wiggly coloured paper, displayed ideas for inventions to solve some of the worlds problems, inspired by designs across the world part of the recent inventions theme. The type of diversity, however that isn't so prevalent in these schools is that of socio-economic background.

Although these schools make up a very small percentage of schools globally (As of October 2017 there were 9,200 International Schools world wide[1]). Their steady and predicted growth I believe highlights a more general and growing connection between education and international business.

These schools originated in the communities of employees of multinational corporations in need of somewhere for their children to attend school while on their "globally-mobile careers"[2] and the desire for them to attend a school that used the growing global language of business, English.[2] This already begins to create a school which exists in a specific location physically but belongs to a different place entirely, connected to business not the city.

The Netherlands' system is unique to other countries in Europe[3] in the fact that the government is investing millions into the schooling for expatriates to ensure that it remains attractive for international business[4].

Meanwhile, these corporations are now offering their own schools. At the time of writing Shell has five of its own schools in the locations of its large scale operations[5]. Although these are situated outside of Europe they also have a stake in European International Schools. 'The International School of the Hague' for example is part funded by Shell[6].

The priorities of such corporations and their stake in the education system will no doubt influence their development towards the needs of a global corporate world rather than any sort of local, social integration and development. The funding from the government shows that this is an accepted route for education subsequently highlighting the government's shifting attitude towards education as a service to big business.

This creation of socio-economic bubbles in the city is a troubling one in terms of performance. A series of surveys in the Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (Pisa) PISA in 2009 showed a direct correlation between the children's performance and the variation of socio-economic backgrounds in the classroom[7].

However 'performance' is a superficial measurement as it is inevitably limited to an assessing against the current system's goals and suggests a value in the directly quantifiable qualities of education, leading to the confusion between grade advancement and real education[8].

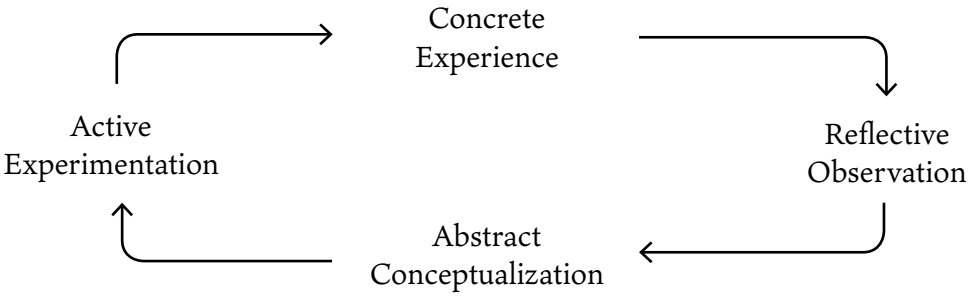
Instead, with another emerging form of eduction that is focussed on connection with their direct environment. I would like to suggest an alternative type of non market based value and the benefit of making children and the physical local city, not business and the workplace, the focal point of education.

Experience and environment based learning

One significant example of experience based learning is the recent growth of Forest schools. First developed in Scandinavia in the 1950s the benefits of an outdoor play based learning has resulted in a recent steady growth in popularity across Europe[9]. This type of learning is routed in the surrounding environment which in the case of Forest Schools is the natural world, where "Children come to know a particular place intimately—[shaping] all of their experiences."[9]

Children gather round a camp fire in the woods. The natural setting for the Forest School education. (Fig. 1)

This focus on experience as the source of learning and development is explained theoretically by the Educational Theorist David A. Kolb.[10] Kolb's learning model shown in Fig. 2 demonstrates the importance of not just experience but the reflection on this experience and the active creation from this reflection. Something which the school trip alone does not always allow for.



David A. Kolb's Experiential Learning Model (Fig. 2)

As it stands the Forest school approach is based around the natural environment but what would this look like on a urban scale? What if this approach to learning was applied to the city? The organisation 'Learning Outside the Classroom' (LOtC) are going some of the way in implementing this approach to the existing curriculum in more traditional urban schools by providing resources and practical solutions for teachers. They believe that this type of exploration of the environment outside of the classroom should not be limited "to the summer or as an 'add-on' after examinations" but rather that students should have continuous access to this type of experiential learning[10].

What's clever about what LOtC is doing is that it isn't creating another specialist eduction system nor is it proposing knocking down schools, radical change like this is unrealistic with so many economically invested stakeholders. Instead it is utilising the current system and providing resources for a more social and active learning style.

I believe however, that this needs to go one step further in providing a more permanent and integrated resource for this type of learning beyond the current school building. I would like to argue that in the same way that developing schools with the workforce in mind is good for business, creating schools with local surroundings in mind is beneficial for society at large. To explain what I mean by this I want to show the false distinction between the child and the adult as citizens.

Children as Citizens

The concept of 'childhood' as Ivan Illich points out in his book 'Deschooling Society' is actually a relatively new phenomenon. Throughout the 18th Century all but the bourgeoisie of the time would have understood or desired such a thing.[11] This recent separation of 'childhood' and 'adult life' as if the former exits only as a passage to the latter has created an attitude towards education that somehow forgets these children will one day become adults or rather that children are a fully fledged form of life, and an integral part of society.[12]

By the same logic the education of children should be spoken about in terms of educating the city and as a result society. As an extension of this, school design becomes urban design with younger people's needs held in equal regard to older citizens. Creating a symbiotic relationship between generations where all learn from each other.

The architect Aldo van Eyke argues in his book 'The Child the City and the Artist' that the child is an infinite source of creativity and inspiration that if allowed to thrive through education could be our only hope in solving the problems of today. Something that he describes as a "re-entry of creativity on the scene of everyday life".[13]

The design of primary schools should therefore move away from being seen as separate 'adult making places' and towards a network of spaces that engage with the city on a physical and social level. If children are thought of as an integral part of the city then 'school' becomes not about educating 'children' but about educating the city and its citizens.

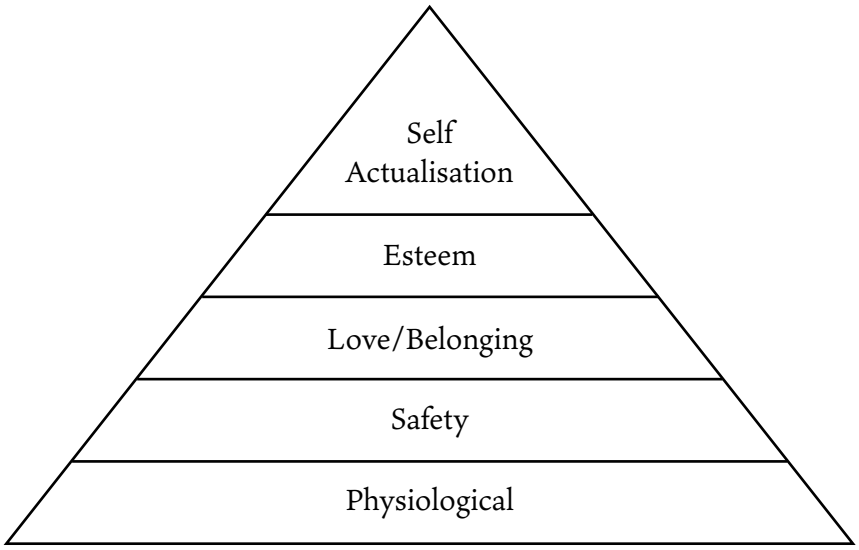
Nests in the city

So what would this look like? Although I am suggesting that the city itself can act as the school, as it currently stands our cities are not for children and as an extension are not for citizens[14] or learning.

In order for genuine learning to take place certain basic needs need to be taken care of including warmth and hunger (physiological needs) and beyond that needs of safety often in the form of familiarity of environment[15].

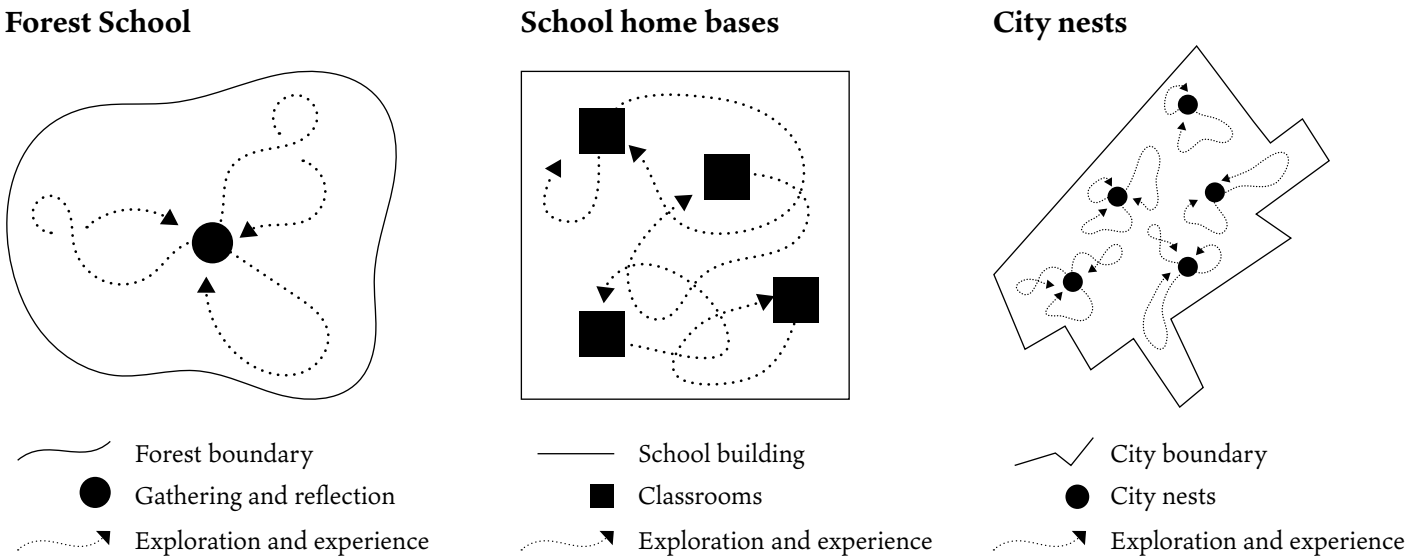
Abraham Maslow's Hierarchy of Needs

(Fig. 3)



The safety level of the 'Hierarchy of Needs' as outlined by Maslow in his theory of Human Motivation are expressed architecturally in the ideas of Herman Hertzberger who describes how classrooms should become 'home bases' within the school, a "familiar environment to fall back on"[16]. I am suggesting that these 'home bases' are the type of spaces that should be created, not within the school building but spread throughout the city. Nested amongst everyday life that allow for exploration, discovery and contact with the city while providing a familiar, safe environment for reflection, experimentation and even performance.

Referring back to the example of the Forest school where the day's events all start and end with a gathering circle a place to plan the days events and return to share stories.[17] It is this 'gathering circle' or 'home base' that is missing from the urban environment as school.



Comparison of Forest School, Hertzberger's 'home bases and proposal for the school as nested architecture within the city.

(Fig. 4)

What then becomes of the existing school building's? The biggest complaint or concern from the teachers at the schools that I visited in The Hague was the lack of space. Teachers desired more space for intimate sessions for children who needed additional guidance. By spreading much of the group learning throughout the city the school building could facilitate more of this type of learning space. School building's are often situated in residential areas on the outskirts of the city which means they are well situated to be the point of connection with families and the local community. As well as acting as the main 'nests' and drop off points for the children they should be the gathering destination for parents and teachers (another difficulty that was mentioned from the teachers at the schools) a community centre if you will. As suggested by LOtC[10] their are activities that can take place within the school grounds and this space should be activated as much as possible with activities that make the child a visible part of the city again.

The teacher instead of acting as an authority figure would become a guide to learning in the city. The programming of events and performance means that citizens become both teachers and themselves students learning from the spiritual and creative forces of the child[18].

Imagine that the child on their school trip at the beginning of this essay had that same feeling of excitement every week, knowing they were going to spend their day in another part of the city, yet uncharted. Each week returning home to tell their parent's what they had discovered, who they had met and what story of the city they had been told. The effects of this sort of interaction with the city will not just be seen when that young girl or boy becomes an adult but right now through the parents who might wish they too were more involved in the city in which they live.

Notes

1 "Latest ISC market data", ISC Research, last updated October 2017 http://www.iscresearch.com/

2 Mary Hayden and Jeff Thompson, International Schools: Growth and Influence (UNESCO: International Institute for Educational Planning 2008), 15

3 Mary Hayden and Jeff Thompson, Growth, 24

4 "Holland Invests In International Schools For Expat Children", Holland Trade and Invest published March 17, 2017, https://www.hollandtradeandinvest.com/latest/news/2017/march/17/holland-invests-in-international-schools-for-expat-children

5 "Shell", WCL Group, last accessed January 15, 2018, http://www.wclgroup.com/school-management/shell

6 "Applications for Pre-Reception and Reception", The International School of The Hague, last accessed January 15, 2018 https://www.ishthehague.nl/page.cfm?p=510

7 OECD (2010), PISA 2009 Results: Executive Summary, 14

8 Illich Ivan, Deschooling Society (New York, Harper & Row 1970), 4.

9 "Forest Schools – Learning and growing in an outdoor classroom", Alive, last accessed January 15, 2018 https://www.alive.com/lifestyle/forest-schools/

10 David A. Kolb, Experiential learning: experience as the source of learning and development (Englewood Cliffs, NJ: Prentice Hall) 1984

11 "What is LOtC", Council for Learning outside the Classroom, last accessed, January 15, 2018 http://www.lotc.org.uk/what-is-lotc/

12 Illich Ivan, Deschooling, 13

13 Aldo van Eyke, The Child the City and the Artist (Amsterdam , SUN Publishers 2008), 21

14 Aldo van Eyke, The Child the City and the Artist, 19

15 A. H. Maslow, A Theory of Human Motivation (Psychological Review 1943), 10

16 Herman Hertzberger, Space and Learning – Lessons in Architecture (Rotterdam, 010 Publishers, 2008), 26

17 "Forest Schools – Learning and growing in an outdoor classroom", Alive, last accessed January 15, 2018 https://www.alive.com/lifestyle/forest-schools/

18 Aldo van Eyke, The Child the City and the Artist, 22

Illustrations

Fig. 1 http://www.leicestergrammar.org.uk/Forest-School

Fig. 2 https://www2.le.ac.uk/departments/gradschool/training/eresources/teaching/theories/kolb

Fig. 3 Jack Bardwell based on A. H. Maslow, A Theory of Human Motivation (Psychological Review 1943), 6–11

Fig. 4 Jack Bardwell

School of the Future

Presentation/Proposal

Laura Frias Muñoz del Cerro

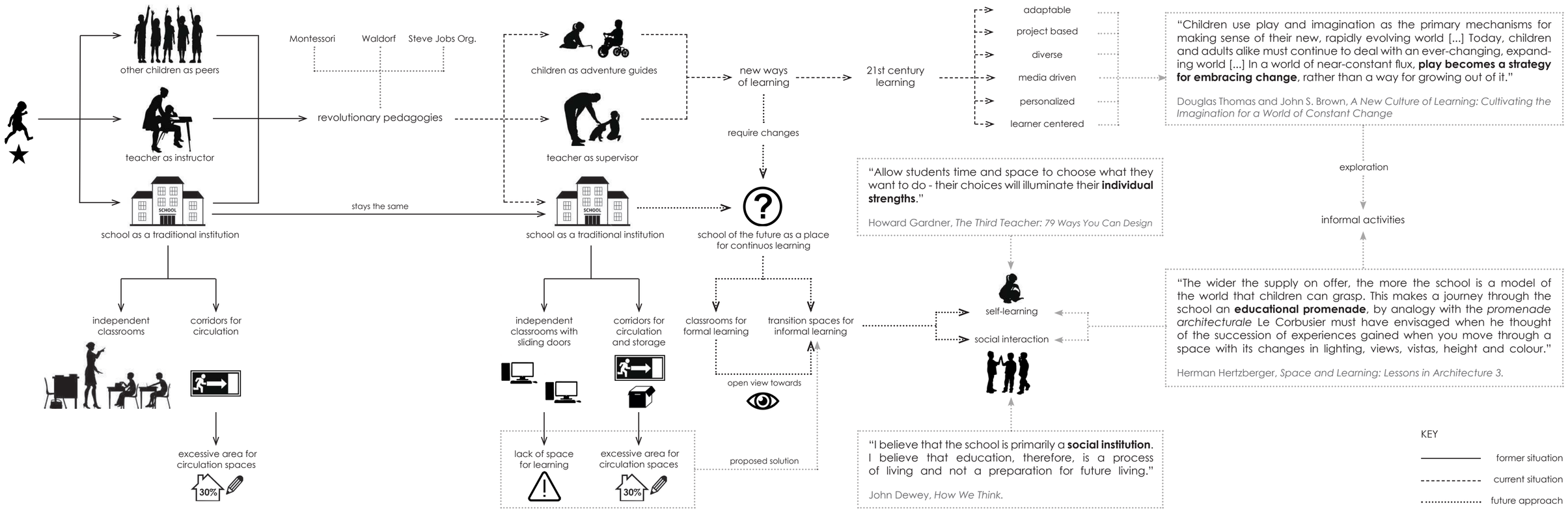
INSIDE 1718 student

01

• THE CONTINUOUS SCHOOL •

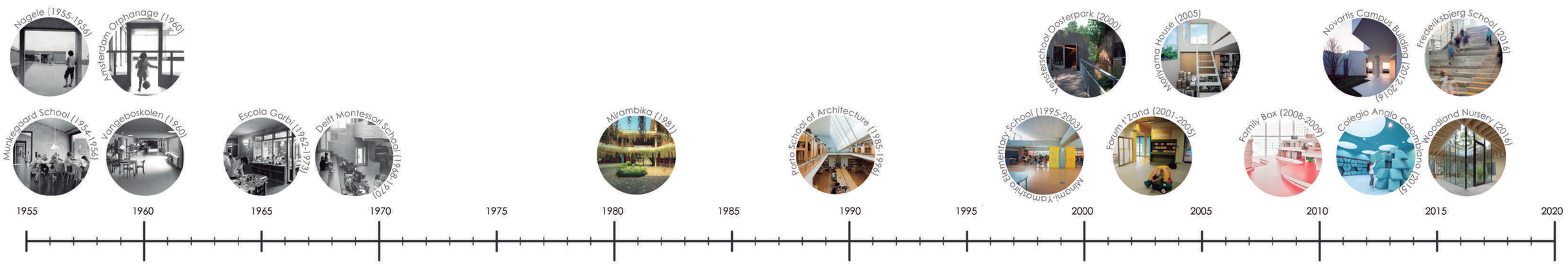
"Informal Learning Experiences"

· Analysis of the learning environment: former and current situations + future approach



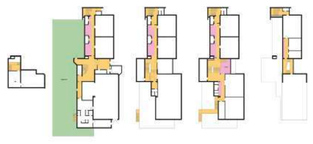
★ *A child has three teachers: firstly, other children; secondly, the teacher and thirdly, the 'space'.* Swedish saying

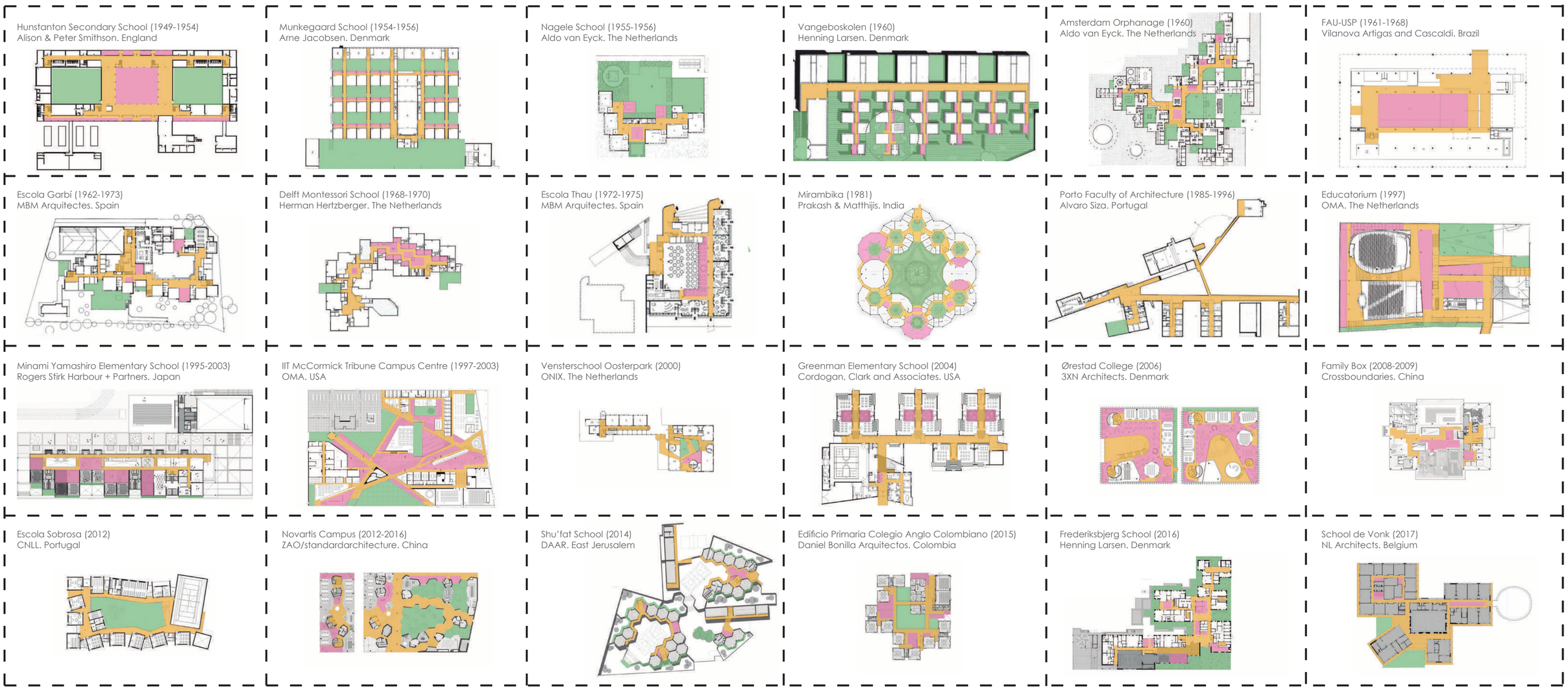
· Catalogue of references: Analysis of circulation, transition spaces and outdoor areas in educational buildings ·



KEY
- circulation area
- transition spaces for informal learning
- courtyard for outdoor learning

HSV The Hague International School
(1920's + 1999 renovation)
KSS location, Koningin Sophiestraat. The Netherlands



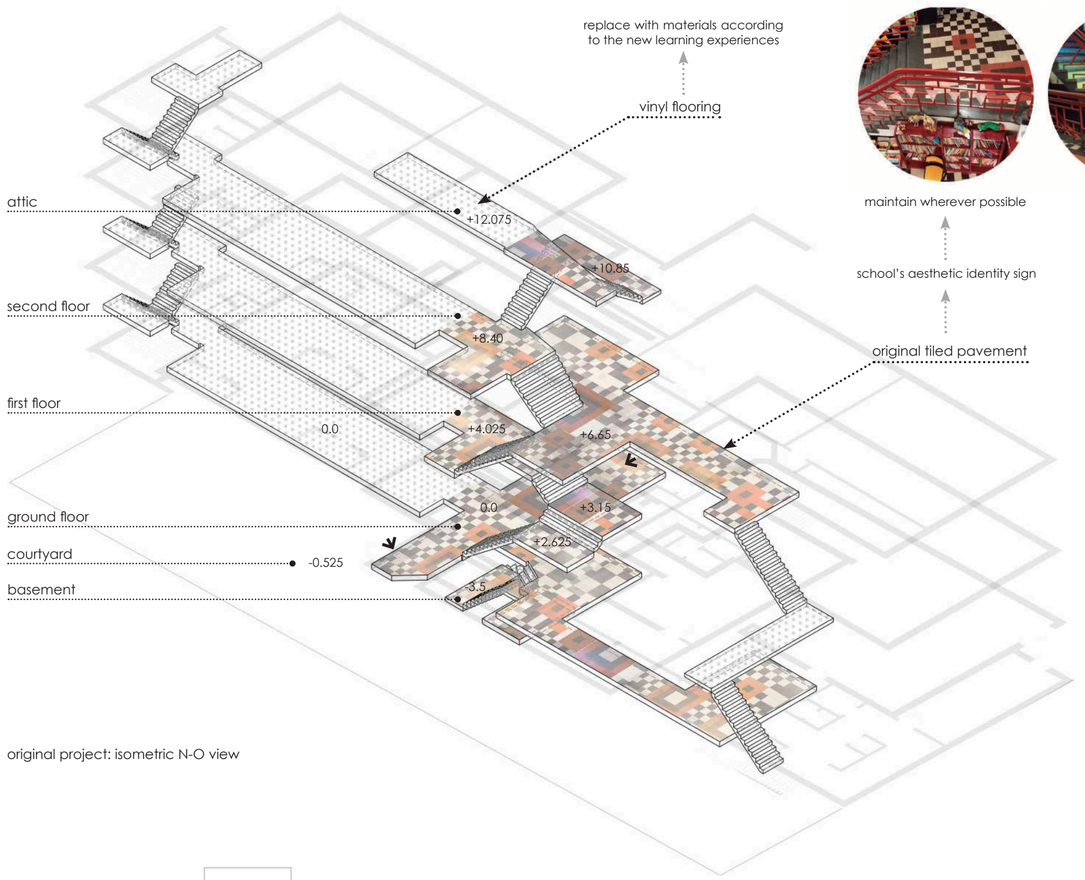


· research ·

02

• THE CONTINUOUS SCHOOL •

"Informal Learning Experiences"



original project: isometric N-O view

maintain wherever possible

school's aesthetic identity sign

original tiled pavement

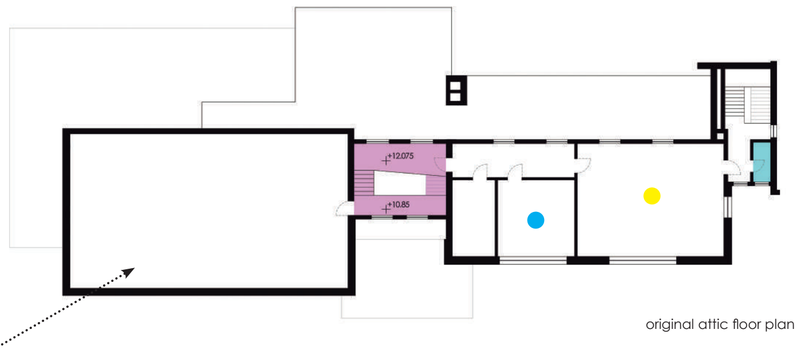
KEY

original tiled pavement

wet areas

staff and management

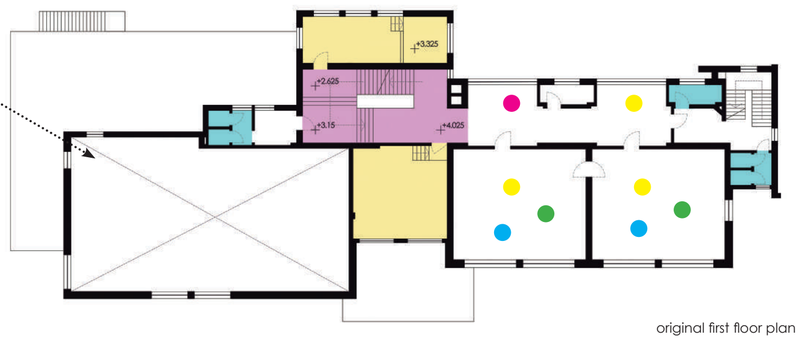
original low height



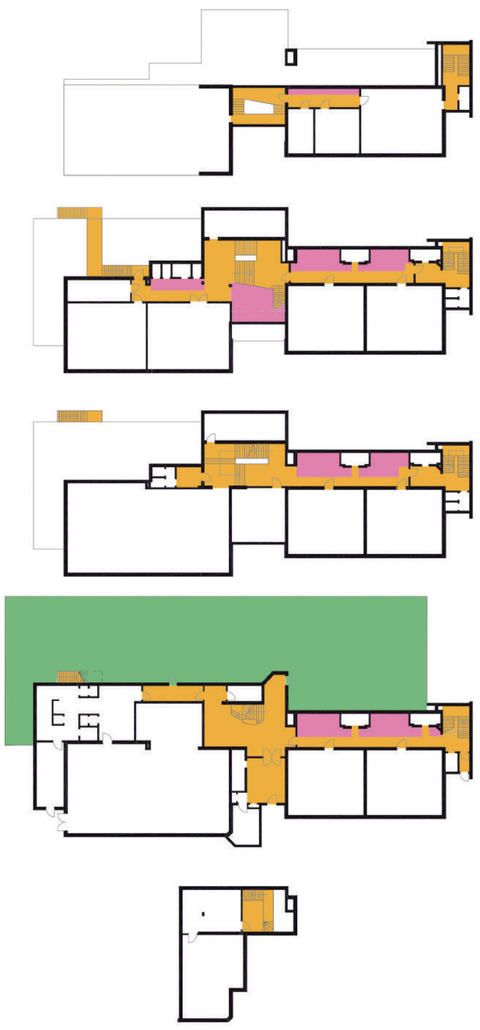
original attic floor plan

original second floor plan

original double height



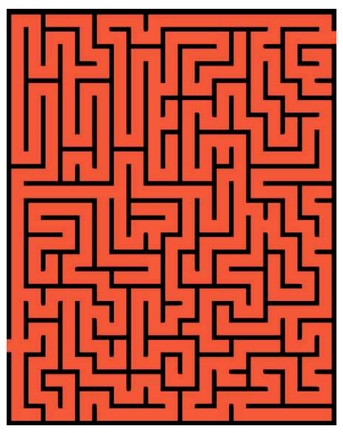
original first floor plan



KEY

- circulation area = 29.1% of built area (320m2 of 1400m2)
- transition spaces for informal learning (mainly used for storage, additional desks and library)
- courtyard for outdoor learning (no covered area)
- concept: a continuous school for informal learning circulation areas = transition spaces = outdoor areas

THE MAZE AS A CONCEPT

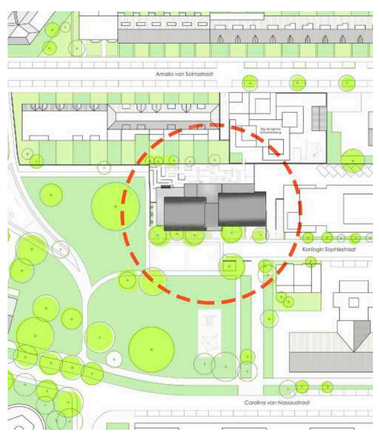


A FULLY INFORMAL CONTINUOUS SCHOOL

"Pupils' proposal for improvements in the school centre on the need for **escape, relaxation and fun**; perhaps indicating perceived stress in the school programme."

Mark Dudek, *Children's Spaces*

APPLIED TO HSV SCHOOL IN KSS LOCATION



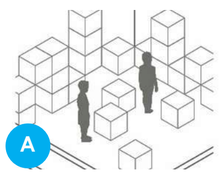
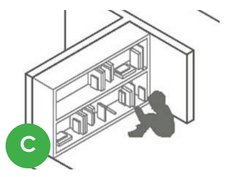
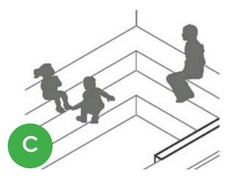
A CONTINUOUS INTERNATIONAL SCHOOL

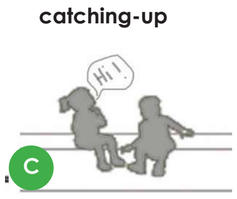
original ground floor plan
e:1/250

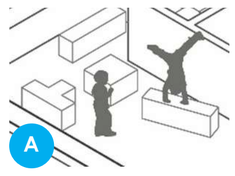
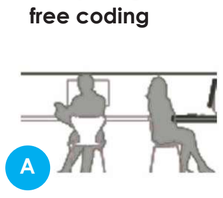
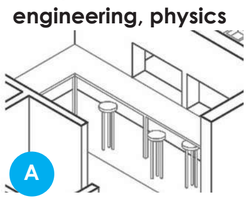
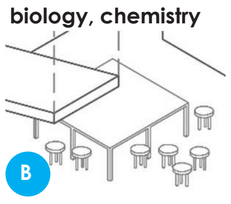
· Catalogue of informal activities ·

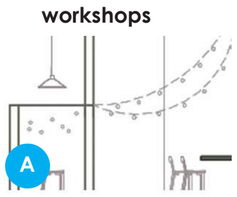
CATEGORIES

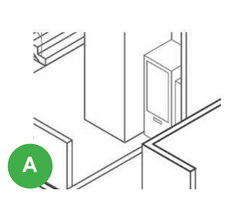
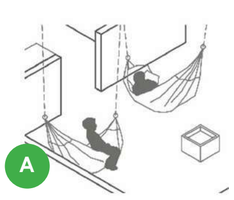
- Sports: A. Motor & Perceptive / B. Cooperative
- Arts: A. Plastic Arts / B. Scenic Arts / C. Music
- Sciences: A. Engineering / B. Natural Sciences
- Human studies: A. Civics & Ethics / B. Social Sciences / C. Language

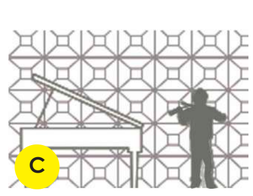
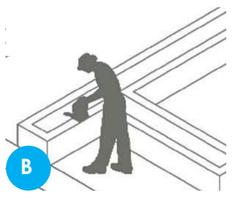
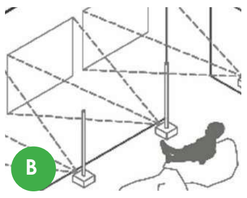
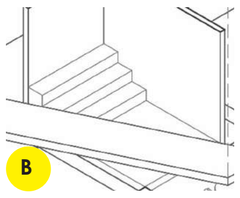
1. solving puzzles — A

2. reading — C

3. storytelling — C

4. drawing and painting — A

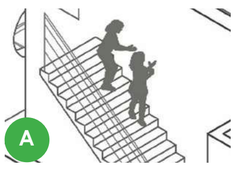
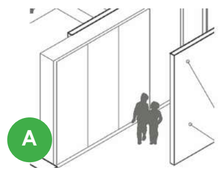
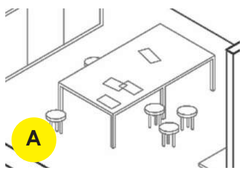
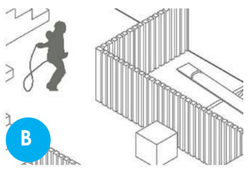
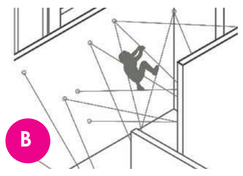
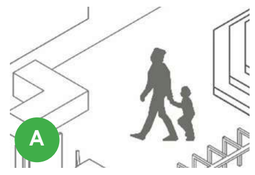
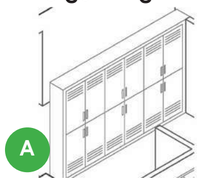
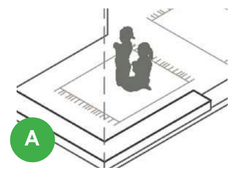
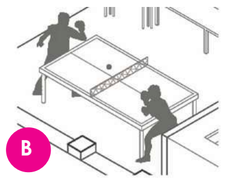
5. chatting and catching-up — C


6. building — A

7. computing and free coding — A

8. experiments 1: engineering, physics — A

9. experiments 2: biology, chemistry — B


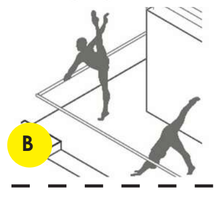
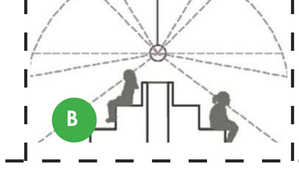
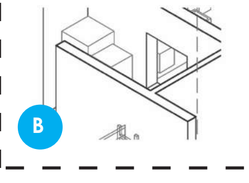
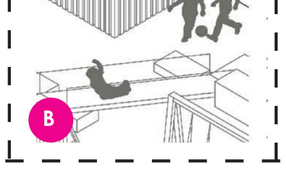
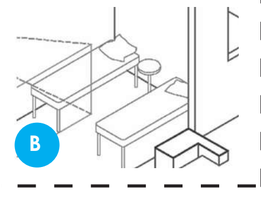
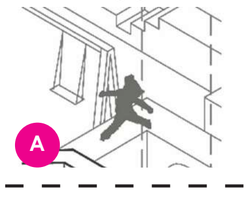
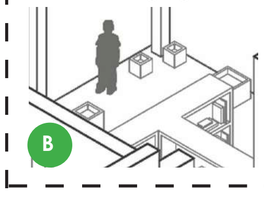
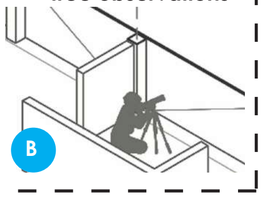
10. technological workshops — A

11. social eating — A

12. having a drink — A

13. taking a nap — A

14. listening to music — B

15. playing music — C

16. gardening — B

17. watching a movie — B

18. drama play — B


19. observing — A

20. displaying the work — A

21. handicraft workshops — A

22. outdoor living — B

23. gymkana — B

24. meeting teachers and parents — A

25. storing and organizing — A

26. thinking, praying and meditating — A

27. indoor playing — B


28. climbing — A

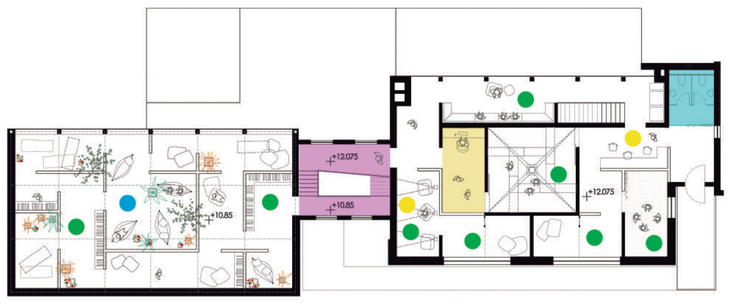
29. dancing and singing — B

30. virtual traveling — B

31. cooking and baking — B

32. outdoor playing — B

33. nursing basic lessons — B

34. jumping and running games — A

35. borrowing and exchanging — B

36. astronomy: free observations — B


· concept ·

03

• THE CONTINUOUS SCHOOL •

"Informal Learning Experiences"



proposed attic floor plan

proposed second floor plan

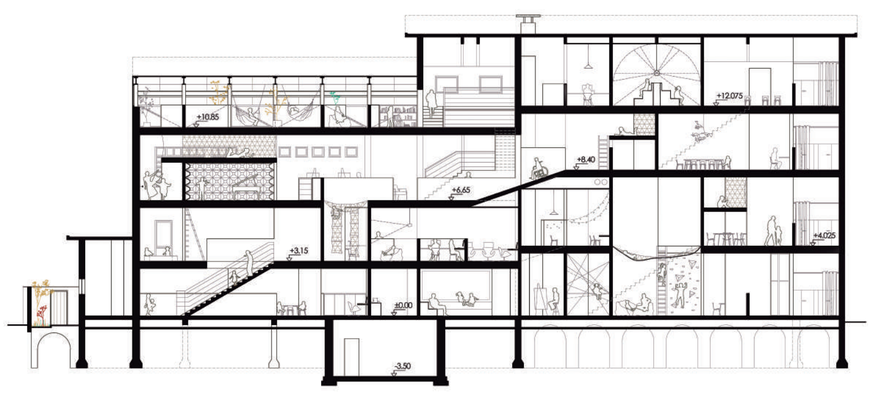
proposed first floor plan

back entrance
for Stg. Haagsche
Schoolvereenig students

main entrance

accessible entrance

proposed ground floor plan
e: 1/250



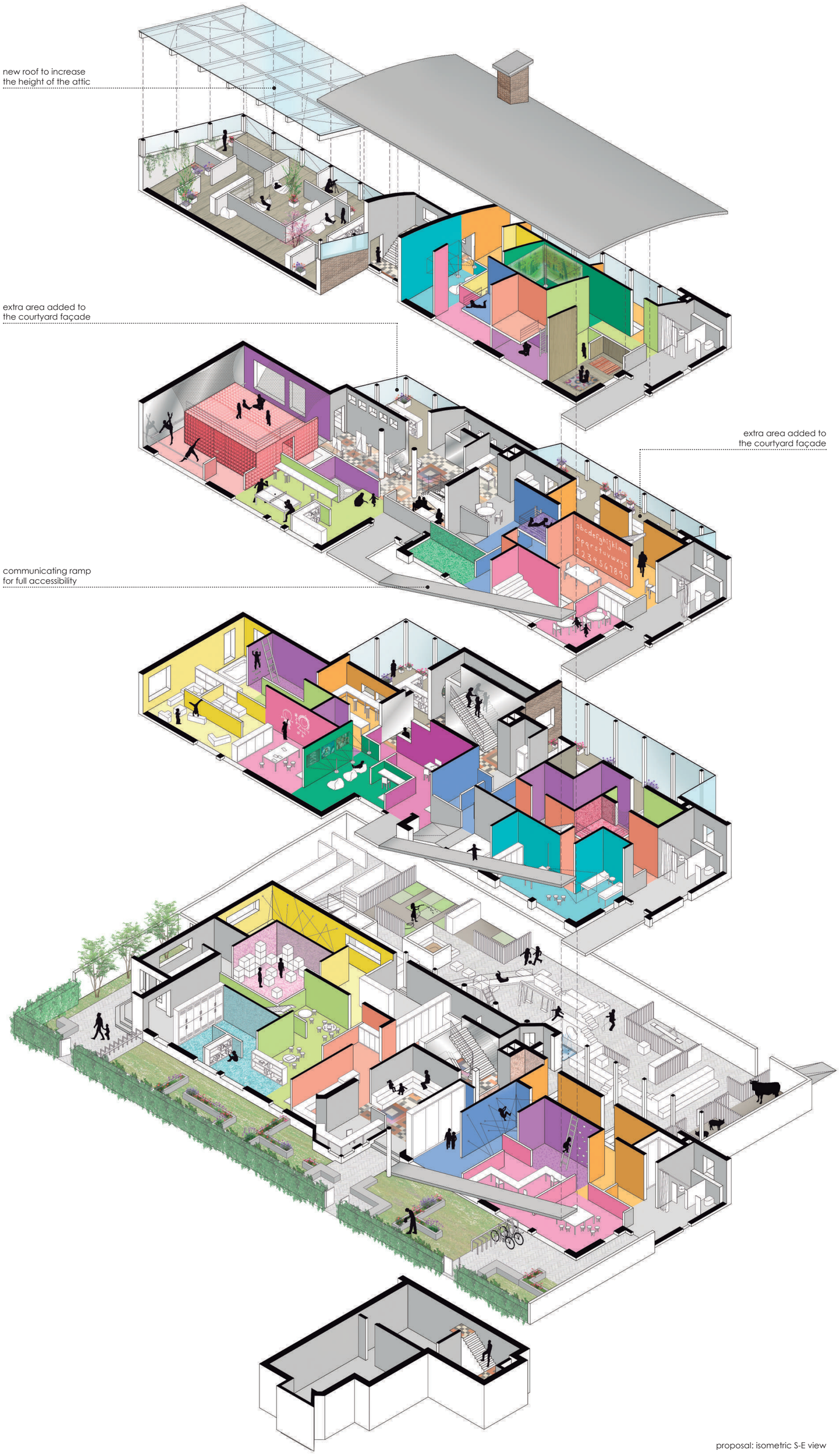
proposed section AA'
e:1/250

new roof to increase
the height of the attic

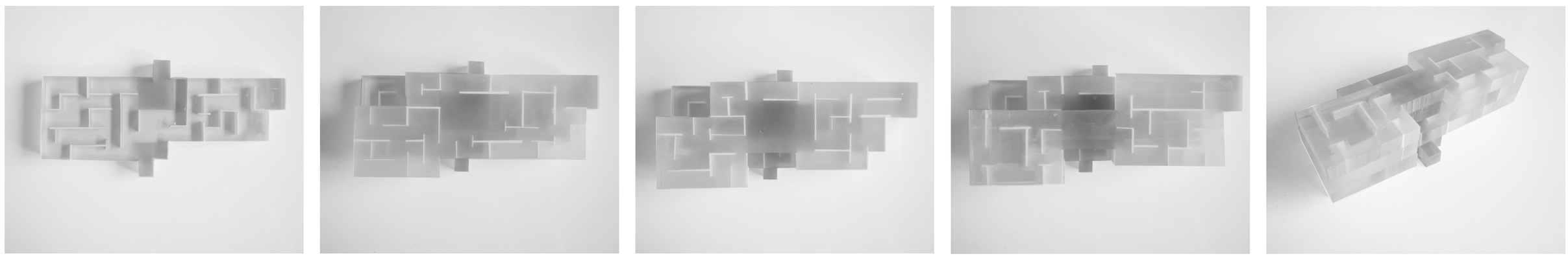
extra area added to
the courtyard façade

extra area added to
the courtyard façade

communicating ramp
for full accessibility

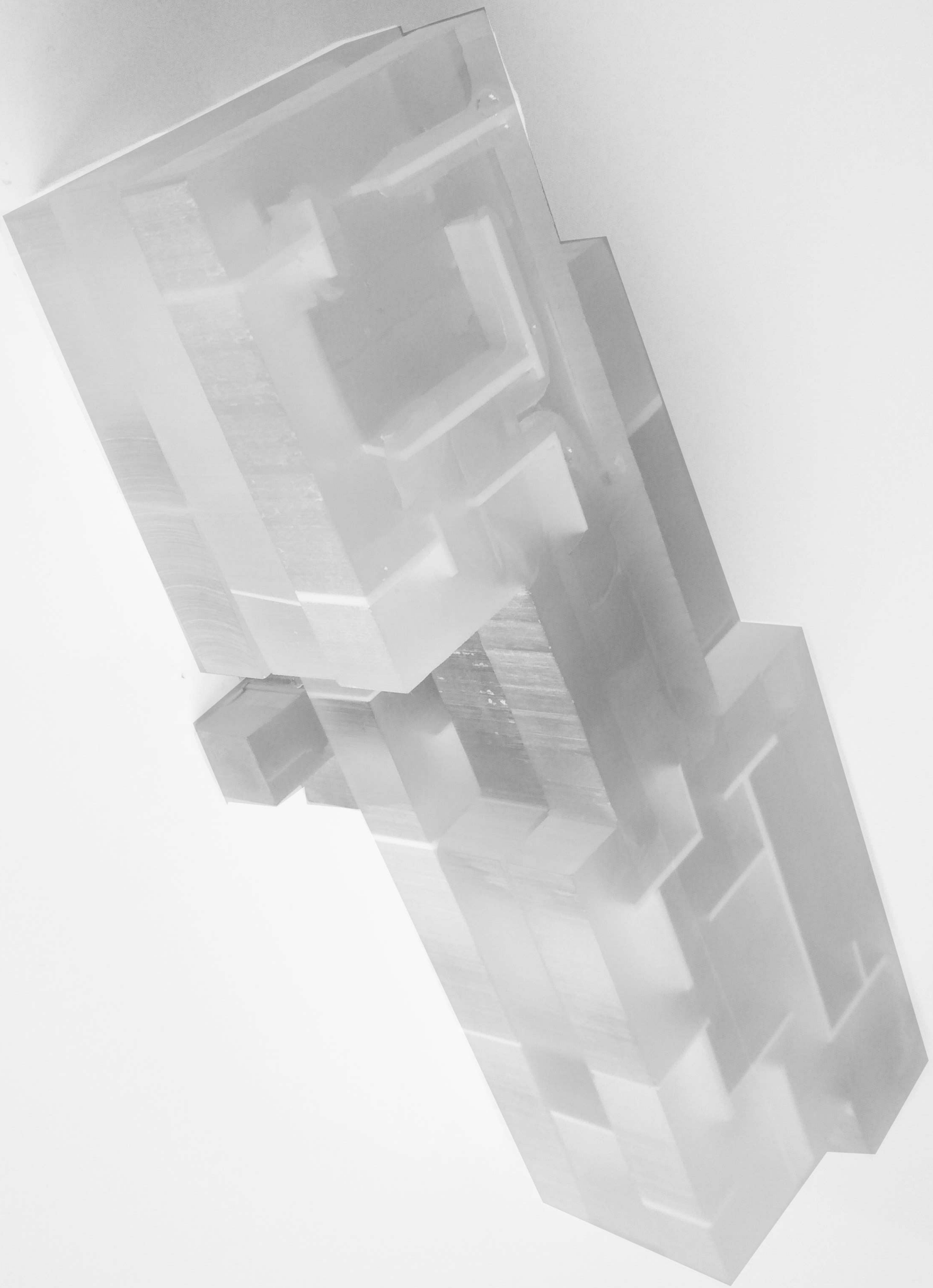


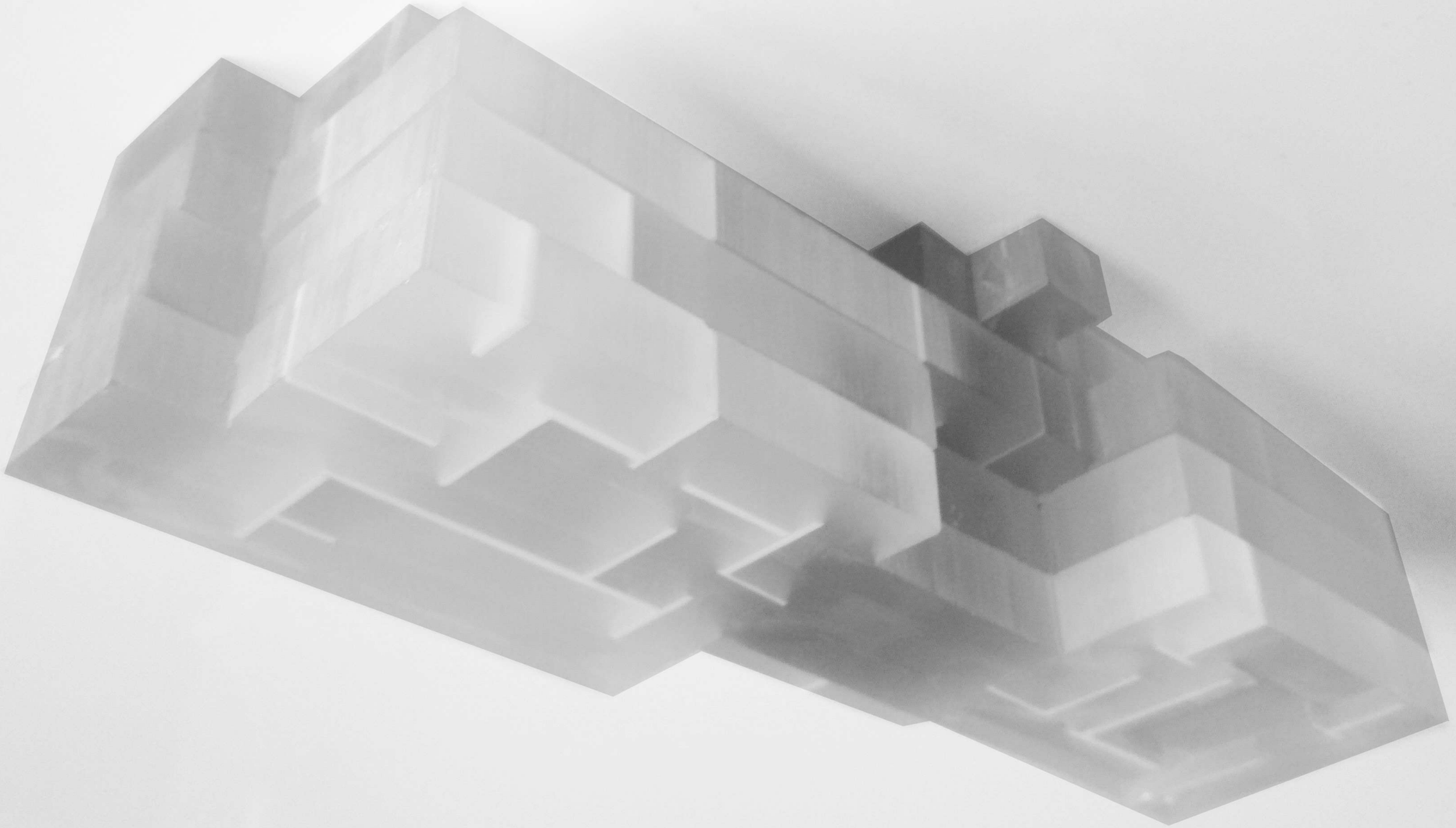
proposal: isometric S-E view



proposal: conceptual model

· design ·





[The Continuous School]

Essay on the School of the Future

15/01/2018

Laura Frías Muñoz del Cerro
Tutor: Anne Hoogewoning, KABK

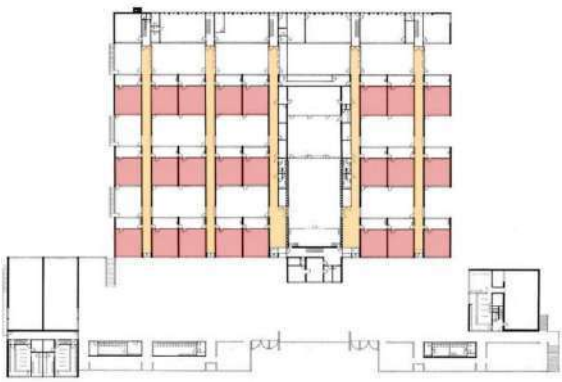
[Introduction]

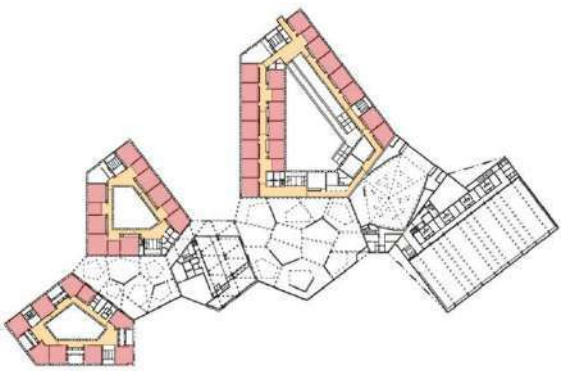
Let me start this writing with an old Swedish saying, quoted by Otto Seydel in *Schulen in Deutschland*, which reads: "**A child has three teachers: firstly, other children; secondly, the teacher and thirdly, the *space*.**"

The relationship between *children with other children* and *children with teachers* has changed a lot over the last decades since new pedagogical methods have appeared in scene. Some of the most revolutionary pedagogies such as the Montessori method (which relies on the child's independence and freedom), the Waldorf education (which emphasizes the role of imagination in learning), or the Steve Jobs Schools Organization (which develops a new system for teaching using only ipads), allow children to get a more customized education based on their own interests. Then the teacher becomes more a supervisor than an instructor, and other children become more adventure guides than peers.

However, even in schools where these pedagogies have been adopted, the *space* where learning takes place has not changed much over the last hundred years. How could this happen? It is true that traditional classrooms have changed a bit from the one-size-fits-all model towards a more "flexible" classroom (usually articulating the space of the classroom or adding sliding doors and moving furniture). But the general organization of the school still remains the same: long corridors with identical independent classrooms.

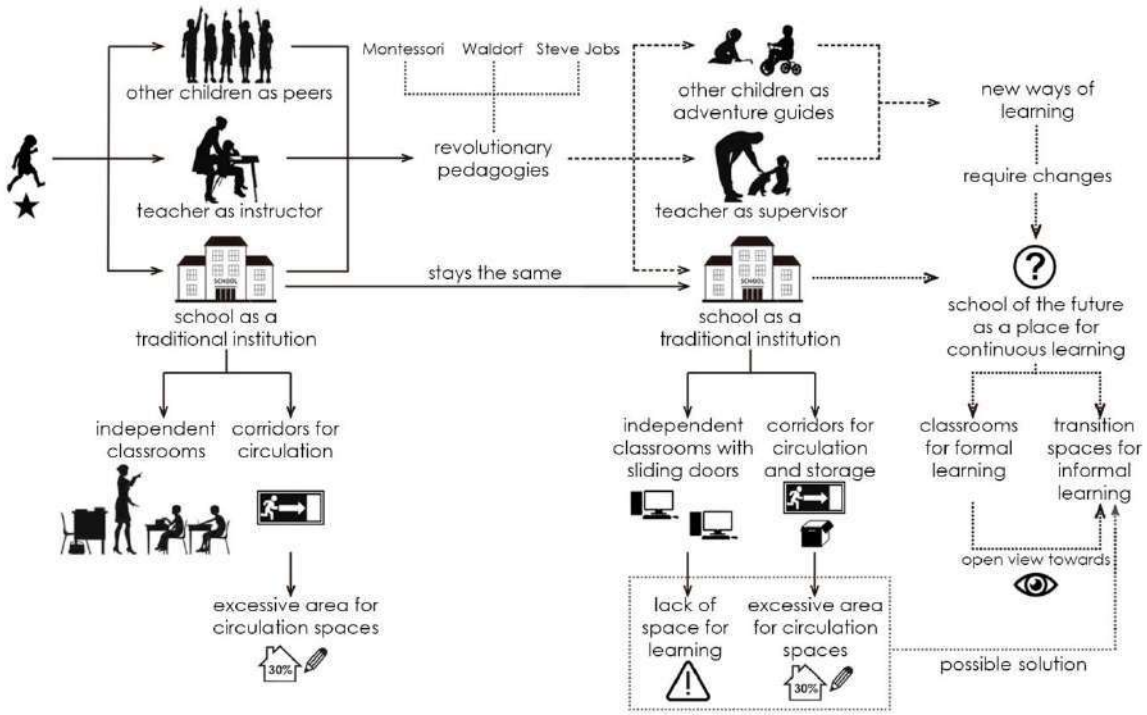
See examples: Munkegaard School (1954-1956) and Deutsche Schule Madrid (2009-2016)





[Images 1, 2, 3 and 4]

Then the new figure of the teacher as a supervisor or mentor relates to the students in the same area of action as the traditional teacher or instructor does. And the same happens with the social interaction between children, which stays inside the classroom. To clarify this, see the analysis of the former and current situation of the relationships between children with the teacher, children with other children, and children with the space (along with the problems that these entails), taking place in the learning environment and shown in the diagram below:



[Image 5]

As shown in the diagram, the area of learning performance today is still limited by the area of the self-contained classroom, staying stuck inside its walls. So learning, including the arising way of learning known as *informal learning*, ends when the pupil leaves the classroom. Then, the aim of this essay will be leaving the classroom aside and exploring the options of the residual circulation spaces for learning.

[Body Text: Part 1]

But what is exactly "**informal learning**" and why is so relevant?

After a deep research on the topic, I have come across this answer: "informal learning" is not confined to scheduled classroom spaces and times. It can happen anywhere at any time as the whole school is potentially an effective learning space. It can also happen outside the school, in the streets, at home, in the public transport... But in order to design the school of the future, I have to narrow down the possibilities of informal learning to those only happening within the school area. Also because education, that can be described by John Dewey in *The Third Teacher* as "a process of living (through experiences) and not a preparation for future living", mostly takes place in the school, which is primarily a social institution.

The strategy to implement or improve informal learning in schools has led to rethink the design, use and location of the learning spaces. Some of the educator Malcolm Brown's ideas to apply informal learning into the traditional education system suggest that learning spaces

should be more than containers for a few activities and subjects (the so-called self-contained classrooms). In addition to it, learning spaces should provide a wide range of activities to choose, even those happening spontaneously. Learning spaces should ensure **social interaction** for problem-solving in teams, and curiosity for **self-learning**. They also have to provide different environments for students and teachers, and be inclusive and suitable for all types of attention, including children with learning difficulties. Then these learning spaces should offer multi-sensory learning experiences, an environment rich in sensory experiences to help students retain and retrieve what they learn.

Informal learning is getting more and more relevant over time. From my own point of view, there are two main reasons:

Reason 1: Educational goals for the twenty-first century are very different from those of earlier times. In the nineteenth century education was based on instruction focusing on the mechanics of repeatedly doing something (as writing), while in the early twentieth century the challenge was providing mass education structuring efficient classes. By contrast, today education focus on learning rather than teaching. The new educational methodologies named before (which involve some changes in the roles of both students and teachers) together with different psychological theories such as the Optimal-collaborative and Project-based Learning Experience, suggest that children need to learn by themselves, understand their knowledge, form their own ideas and make decisions. This *think hands-on* hypothesis can also be found in the book *The Third Teacher*, where the learning experience is translated into "places where children of all ages can learn by touching, manipulating, and making things with their hands".

Reason 2: Digital technology has helped to catalyze this current situation because it is leading the formal learning. However, informal learning cannot be taught properly through technology, so children need to learn this at school or in other places. As Douglas Thomas and John Seely Brown state in their book, "In the digital world, we learn by doing, watching, and experiencing [...] In a world where things are constantly changing, focusing exclusively on the explicit dimension is no longer a viable model for education [...] We learn simply absorbing knowledge from the things, events, and activities around us."

[Images 6, 7, 8 and 9]

In other chapter of their book, they also refer to **playing** as a mechanism for self-learning: “Children use play and imagination as the primary mechanisms for making sense of their new, rapidly evolving world [...] Today, children and adults alike must continue to deal with an ever-changing, expanding world [...] In a world of near-constant flux, play becomes a strategy for embracing change, rather than a way for growing out of it.” Children learn through play because play promotes reasoning, independence, understanding of terms like privacy and safety, the development of the sense of ownership and wellbeing, and an increase of the cultivation of the imagination and fantasy.
When children are granted the opportunity to educate themselves, they generally do it happily and successfully. Through their play and exploration, they obtain the skills, knowledge and values needed for success. As Peter Gray expresses in some of his books and essays, a huge amount of children's education occurs before they start school because they follow their own instincts and curiosity. Thus children need to be freed from the curiosity-killing institution constituted by the traditional school.

[Body Text: Part 2]

Now the main issue about schools in different European countries comes forward as a consequence of the increase of the number of pupils along with the lack of investment in public education. The raise of the number of pupils is the result of more children being schooled (decades ago not everyone could afford education) and the replacement of low-density residential areas by high rise buildings, increasing the number of children in the neighbourhood. As a result of poor educational policies, less and less new schools are being built and then, old buildings are forced to take in more students. For all this, traditional schools suffer from stuffy and over-crowded classes, and, consequently, from **the need for more space for learning**. So educators try to find secondary spaces within the building which allows them to gather different groups of pupils for various activities, including those which promote informal or self-learning.

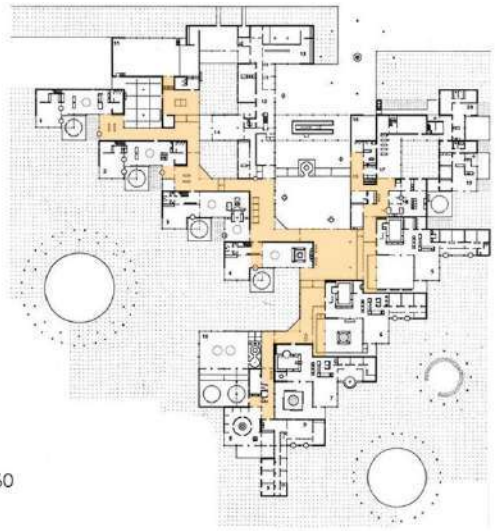
As Kenn Fisher writes in *Research into identifying effective learning environment*: "In order to provide for alternative education strategies, the school needs make possible a variety of pedagogical approaches inside the facility. In order to achieve this, we would need to look outside the domain of the standard classroom. Pedagogy needs to be translated into many different learning spaces to get a variety of learning settings for various modes and group sizes open to students."

So leaving aside the domain of the standard classroom, if we look at the typical school building, the main entrance, staircase and hallways are often quite wide. Around 30% of the built area has the only purpose of circulation (sometimes also the extra purpose of storage placing here lockers, coat racks and handicraft tools). In spite of the need of more space for learning in the school, why are these **circulation spaces** not being redesigned for that purpose?

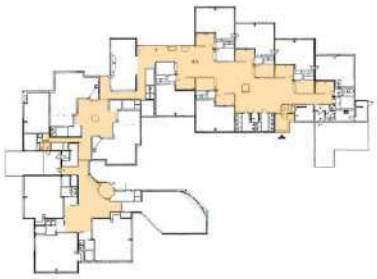
As stated before, the traditional school with independent classrooms must change. But what interests me the most at this stage is not the classrooms, but the continuous space that leads students to their classrooms (also known as circulation or transition spaces). The improvement some evolved classrooms could offer in the future is not interesting enough to me. So in order to find more interesting possible solutions to the current lack of space, I have to study the potential that the circulation or *transition* (defined as: movement, passage, or change from one position, state, stage, subject, concept, etc., to another; change) space can offer to

the school of the future. This space has to be attractive to children towards to provide a good atmosphere for informal learning. As Herman Hertzberger would say, "it becomes an ***educational promenade***, where children see other children and get curious about the informal activities going on there, making them interact with each other and learn by themselves."

Evolution of the *educational promenade*:

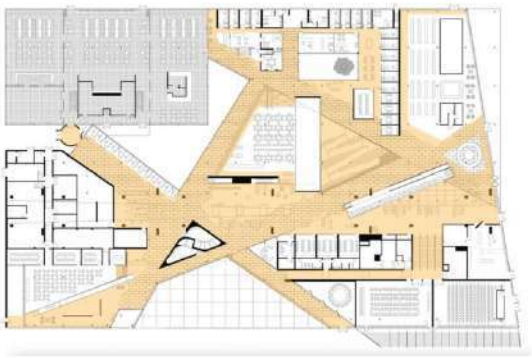


1960



1968-1970

1995-2003



1997-2003

2015

2016

[Images 10, 11, 12, 13, 14 and 15]

Continuing on this topic about effortless circulation and transition spaces for informal learning, Herman also adds: “The wider the supply on offer, the more the school is a model of the world that children can grasp. This makes a journey through the school an educational promenade, by analogy with the *promenade architecturale* Le Corbusier must have envisaged when he

thought of the succession of experiences gained when you move through a space with its changes in lighting, views, vistas, height and colour." In other words, **transition spaces encourage informal learning** because they can offer variety, visibility, dynamic and social encountering involving kids of various ages. This last one refers to "Age-mixed" play (named it under Peter Gray's definition on his *article Special Value of Children's Age-Mixed Play*), which is the normal social play for children in society, actually missing in the traditional school. Age-mixed play is fundamental for informal learning as older kids learn to develop leadership and nourish their creativity in contact with younger playmates, while younger children learn from older kid's mistakes and get emotional support from their older peers.

See two different examples of informal learning happening in transition spaces:

[Images 16 and 17]

[Conclusion]

After analysing the current situation of the learning system, I believe that self-learning and social interaction will be the only things left to be learned at school, as formal learning is being digitalized. Then, the model of school of long corridors with identical independent classrooms is obsolete since formal learning may end up disappearing, leaving the whole space of the school for what really matters today: the informal learning. Therefore the school of the future could be fully informal, and informal learning spaces such as circulation or transition spaces could be extended in order to form a continuous *promenade* where children could *learn in transition*.

Then I wonder what my role as an architect is to approach the challenge of designing the school of the future. And, after considering all the thoughts and references shared on this essay, I can sum up and give some insight in the design aspirations I am contemplating. My main goal is to design a **continuous school** for informal learning, where children will be able to learn through play anywhere at any time. In the continuous school of the future social interaction between kids of different ages will be possible. This school will be stimulating and changing, offering different alternatives so children can decide what to do every day. To conclude this insight with an appropriate quote, I chose this one from Howard Gardner which says: "Allow students time and space to choose what they want to do - their choices will illuminate their individual strengths."

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[Images]

Front Cover. Nevit (2012). Maze. Wikimedia Commons. Extended by Frías Muñoz del Cerro, L. (2018)

1. Unknown (1956). Munkegaard School (Arne Jacobsen). Soborg, Denmark

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3. Munkegaard School Ground Floor Plan, Arne Jacobsen, 1954-1956. Soborg, Denmark.
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4. Deutsche Schule Madrid 1st Floor Plan, Grüntuch-Ernst Architekten, 2009-2016. Madrid, Spain. Coloured by Frías Muñoz del Cerro, L. (2018)

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10. Amsterdam Orphanage Ground Floor Plan, Aldo van Eyck, 1960. Amsterdam, The Netherlands. Coloured by Frías Muñoz del Cerro, L. (2018)

11. Delft Montessori School Ground Floor Plan, Herman Hertzberger, 1968-70. Delft, The Netherlands. Coloured by Frías Muñoz del Cerro, L. (2018)

12. Minami Yamashiro Elementary School Ground Floor Plan, Rogers Stirk Harbour + Partners, 1995-2003. Kyoto Prefecture, Japan. Coloured by Frías Muñoz del Cerro, L. (2018)

13. IIT McCormick Tribune Campus Center Ground Floor Plan, OMA, 1997-2003. Chicago, USA. Coloured by Frías Muñoz del Cerro, L. (2018)

14. Edificio Primaria Colegio Anglo Colombiano Ground Floor Plan, Daniel Bonilla Arquitectos, 2015. Bogota, Colombia. Coloured by Frías Muñoz del Cerro, L. (2018)

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The Continuous School: Essay on the School of the Future

Laura Frías Muñoz del Cerro (2018). KABK

School of the Future

Presentation/Proposal

Lotti Gostič

INSIDE 1718 student

INSIDE

the smart school

have fun everyday

info

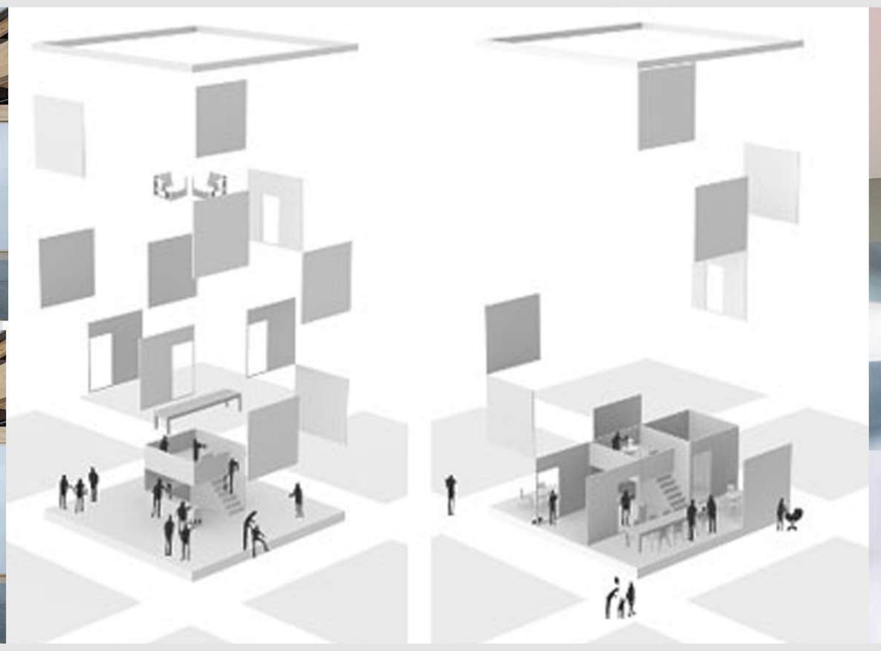
HSV school
VNS Location

Build 1930

existing situation

flexible space

Aki Hamada - mixing residence and multi-purpose offices
The majority of building elements have been designed to be reconfigured to the wishes of users.



The Hanging Room by TILT
A complex rigging system of different panels or partitions and screens allows the space to be easily reconfigured for different uses, such as a café, lecture theatre, cinema or champagne bar.

Hypno Chamber
Extruded by layers

Attic apartment by Elii Architects
The way this wall and the ceiling was used and layered is a good example of how you can use the elements that exist now and give them more functions for the future.

Oyster chair by Kawamura Ganjavian
As the elements of architecture are being flexible we can't forget about the furniture.

The world will not get any bigger in the future but the number of people living on planet Earth is expected to increase. That's why we need to change the space that we're using now for more flexible one.

learning in school

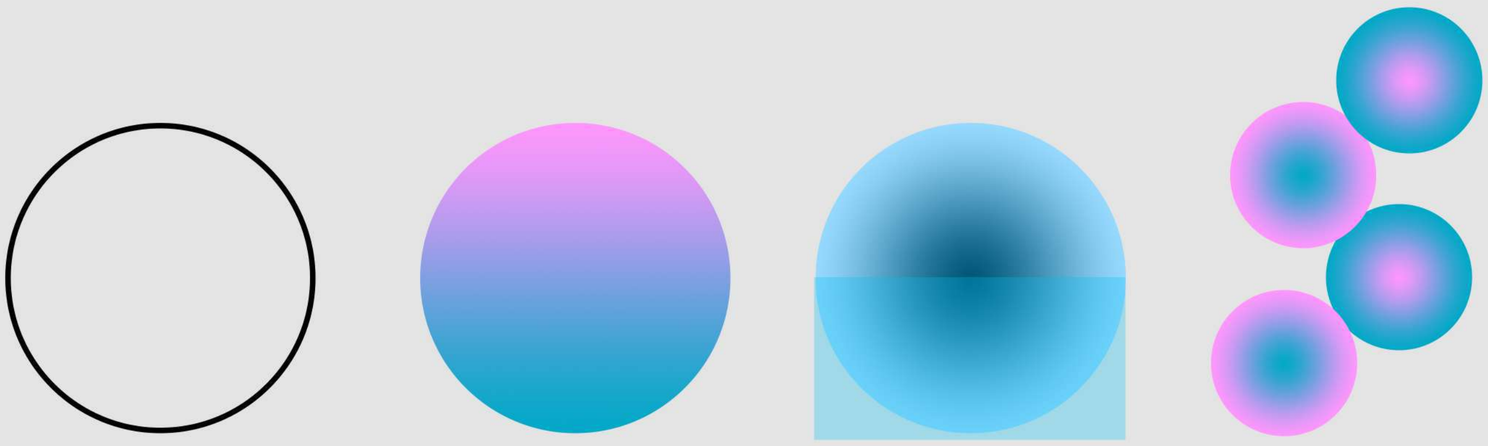
In the future, the way pupils are being learned will change. Right now the children in HSV schools are already using computers for 25% of the time. Teachers in other schools are using Hololens to travel the world. Steve Jobs schools where iPad is the main tool are a regular practice in countries where the education system is on the highest level.

A classroom should be prepared for more technology that's coming in the educational system. We, as designers, creatives, architects need to plan how technology will be used in advance. We also have the power to take away the concerns that technology brings to the classrooms - children not interact with eachother, looking at the screen the for too long...

basic shape

Curriculum HSV school
“The teachers provide a stimulating, fun environment where play forms a basis for learning. Learning takes place on the carpet or in a circle where song, rhyme, discussion, books and games are the order of the day. The children also work together in small groups with adult support and have the opportunity to direct their own learning through a range of learning activities on offer in the class. Much emphasis is placed on playing together and developing social skills and independence.”

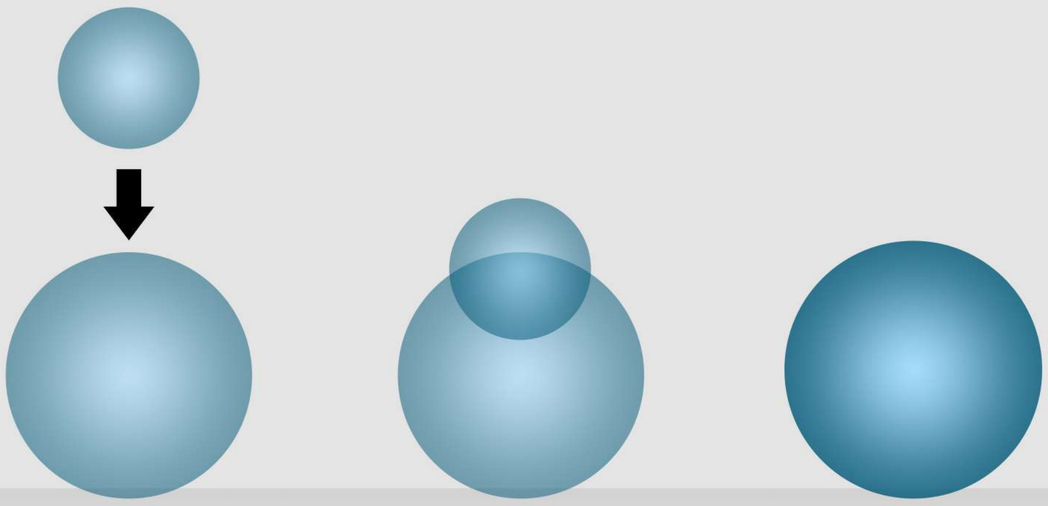
From Curriculum of HSV school, I adopted the circle shape, evolve it and used it as my design guidance.



Variations of the shape

smart bubbles

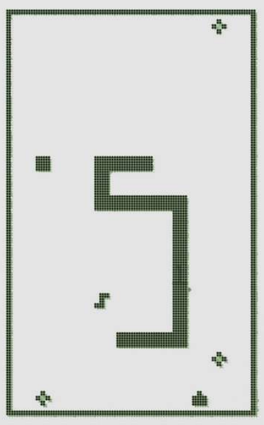
Based on the functionality of Babushka, the Russian doll I designed flexible bubbles that can be stored in one another.
Because this project is about the future this material absorbs the bubble that’s coming in and the shell becomes slightly thicker.

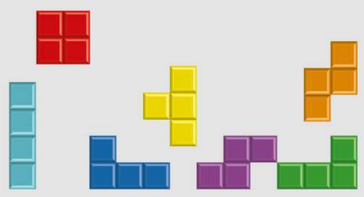


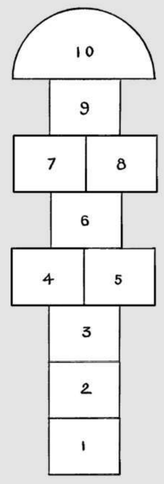
interactive floor

The floors of the building are interactive.
In communication space, children are able to play games that appear on the floor and disappear when the game is over.

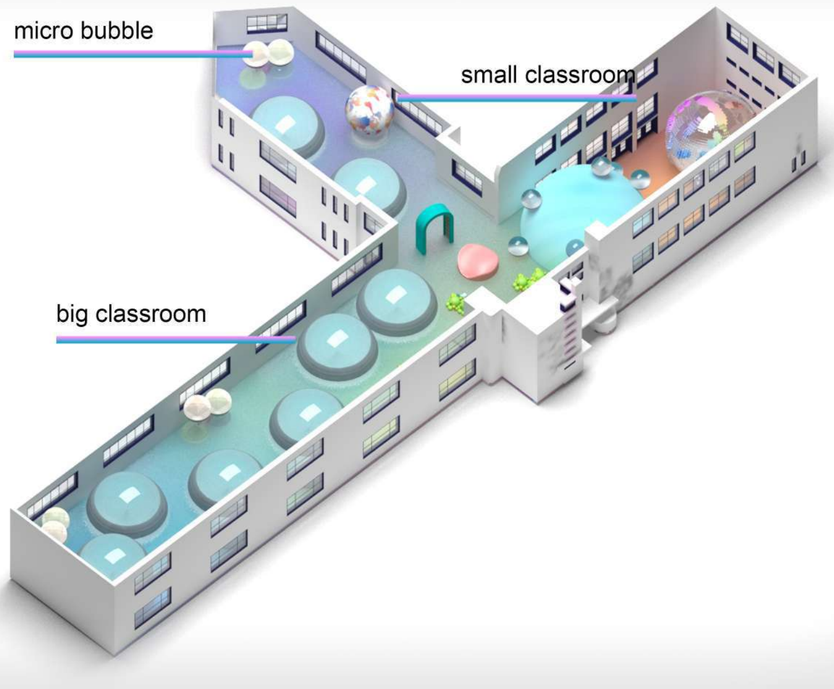
The games encourage children to move, run and socialise.

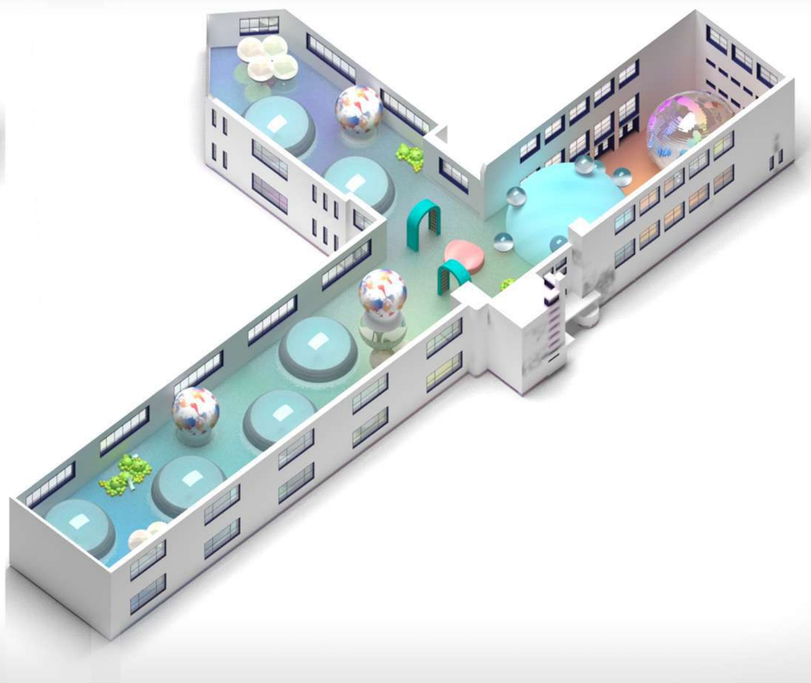


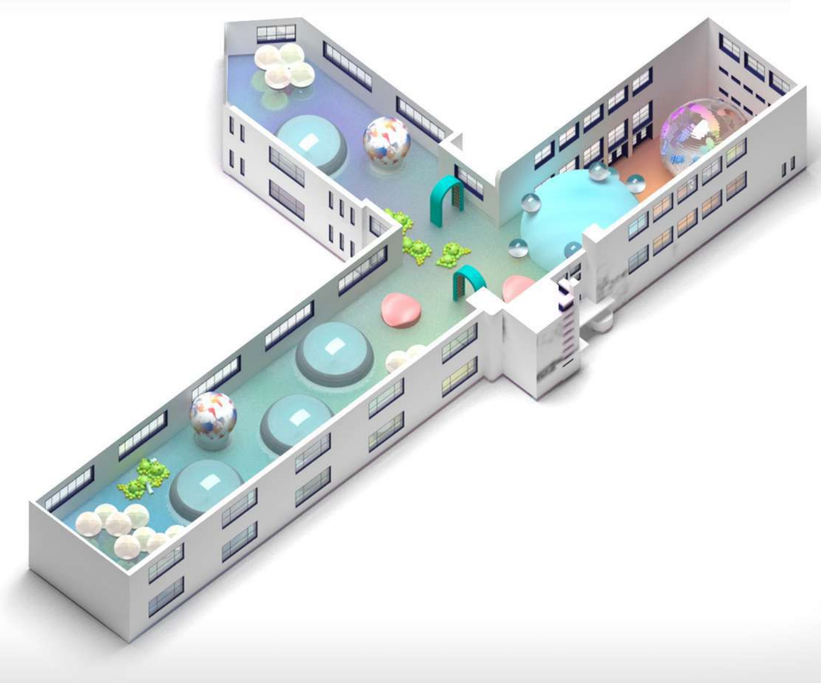




scenarios





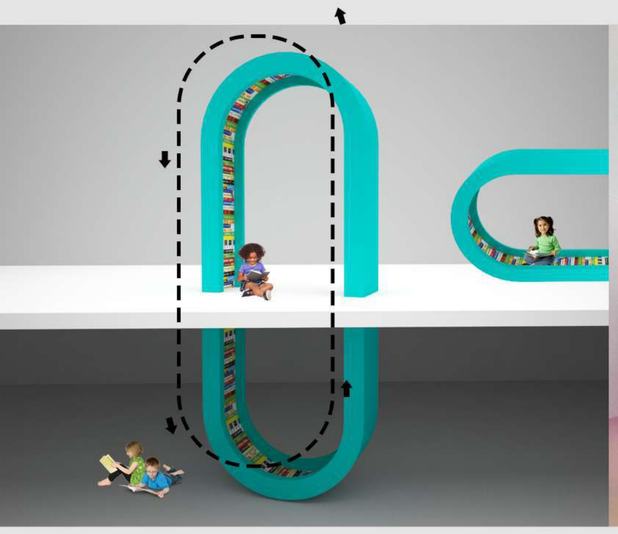


Situation:
450 pupils
18 classrooms min
25 pupils per class

Situation:Situation:
240 pupils
12 classrooms min
20 pupils per class

Situation:Situation:
120 pupils
8 classrooms min
15 pupils per class

Capacity (look at board 3):
Small classroom 10-15
Big classroom 15-25
Micro bubble 4-5



Smart library
Pupil: “Ok, library can you give me book about bugs?”
Library: “Sure let me spin that for you.”
The library can spin books around.

Gym bubble
IInstead, of regular gym children now have a bubble made for climbing.
Inside the ball, there are water sprinklers.
When children live the wet platform they get dried by super fans, just like the one we have in public toilets for drying our hands.

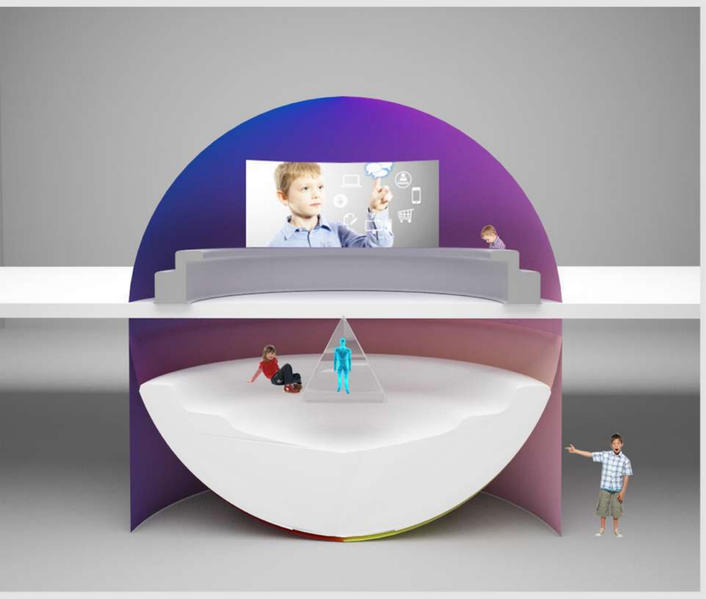
Small classrooms
Small classrooms are used for smaller classes, 360 cinema, storage space for music, art classes...

360 cinema
It’s a 360 degrees cinema. It can take children anywhere in the world.

Art bubble
The bubble is meant to storage all the craft materials possible, there are also two sinks in the middle. While this is a storage place children can make their art outside of this bubble.

Music bubble
Music bubble stores instruments. There is even a small practising space on the top floor.

Micro bubbles
Used for individual learning, quiet reading, pupils can use them during art class...

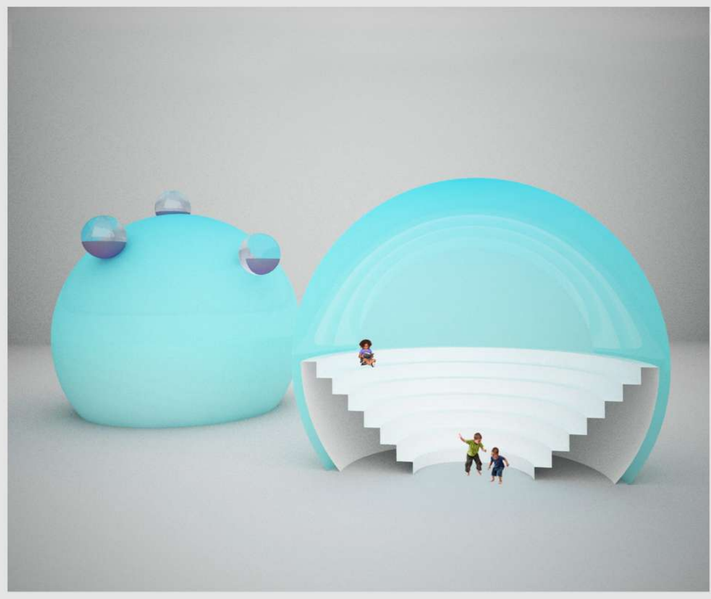


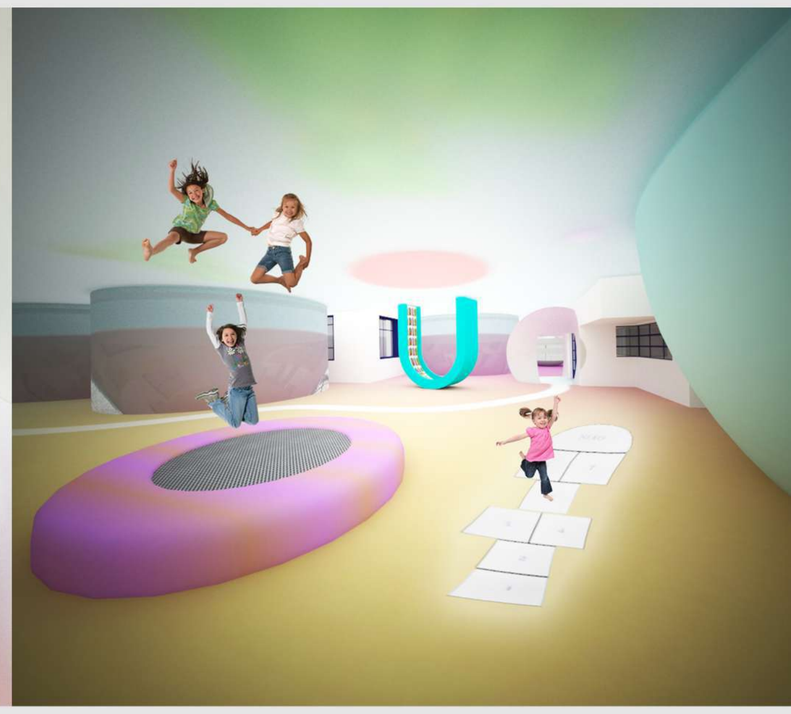
Big classroom
It’s the biggest classroom.
It’s divided into two floors.
On the top floor, there is a classroom where seats are designed in the shape of a circle. It is possible to sit on both sides of the table.

In the bottom floor, there is a hologram room. A hologram projection for more theoretical classes.

The screen can be turned on anywhere as the shell of the bubble is an interactive screen made out of the same material as floors. It can be used as light, mirror, screen, board...

Theatre + AES bubbles
The inside of a bubble is used as a theatre.
The shape comes from the shape of the amphitheatre.
On the top, there are bubbles for children who need additional classes.
These bubbles are placed on “premium” location the inside of a theatre can be visible thru them.





smart school

enjoy your every day in school

Author: Lotti Gostič
INSIDE MA Interior Architecture

The Hague, 2018

“There’s always going to be school because parents will always need to go to work. “ - teacher at HSV school. The teacher was explaining to us – a group of Interior Architecture students, why teachers profession isn’t in jeopardy and why schools are always going to exist. Another teacher stated that primary school is a place where children get a basic education for their life. The school offers a pupil emotional and social development that is necessary for any human being. I would refreeze their statements by saying schools are always going to exist because children will always have to learn basic knowledge to live in society and environment that will be given to them, no matter the time. However, changes that will occur with time in the school system could bring a different way of working and that will affect how space is being used.

Future factors

Thinking about future brings predictions that are based on statistic data of the past. These predictions are not certain to happen but just because there is a chance they don’t come true they shouldn’t be ignored until they happen. One of the predictions for the future is that by 2030, our current 7.3 billion of people living on planet Earth will have increased to 8.4 billion. That figure will rise to 9.7 billion by 2050, and to a 11.2 billion by 2100 (1). The consequence for the educational space could be that there will be the need to fit more pupil in the same amount of space.
The second prediction that I came across is that 47% of jobs are at risk of automatisation (2). Which means that more parents will need to find another way to spend time. This could cause a shorter school week because the parents would be able to take care of the children. The consequence for the school could be empty space for longer periods of time. The solution could be that the same space can be used for more than just educational purposes.
There are more predictions than just these two. Deciding on which one of them is most likely to come true is gambling. That’s why a space in the future should be flexible. Schools should be design so that space will adapt to the needs of individual. Space can be moved, folded or stored at any time. The need for the classroom needs to be redefined and space should be movable so that it will fit different actions no matter the time. The same space needs to be a classroom, a gym, a staff room...

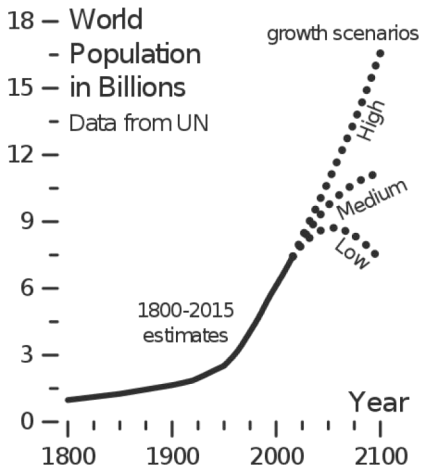


Image_1: World population estimates from 1800 to 2100, based on "high", "medium" and "low".

In the project School of the future by MVRDV, I will show how flexible space can be used to solve this future challenges. The ones that can be predicted and the ones that can’t. It will be a system of flexible elements showing how an HSV International Primary School – VNS can work in the future.

References

During a visit to Het Meervoud school that was build by Marlies Rohmer, I could see she thought about how the same space can be used for different purpose. She interpreted translucent shower curtains in the space that would separate children playing on one side and a communication hallway on the other side. After the play, curtains can be folded together and playground can be opened for everybody to enjoy. When stored, we get an open plan space that can fit a larger amount of people. There are stairs in the lobby being used as a theatre or as a sitting place. Some part of the school is used for nursery and some rooms can also be rented out for different purposes. With this, school becomes more open to the public and more people can take advantage of its facilities.

Image_2: Shower curtain in Het Meeryound school.

The Hanging Room by TILT (3) is a concept for a working space of the 21st century. TILT studio designed a space that can be reconfigured to fit the current needs of employees. In different design options, the same space can be used as a lecture theatre, cinema, café or champagne bar. This is the kind of flexibility that needs to be used in the schools of the future. It has a potential to solve a problem of spaces that we don’t use every day but are necessary for our way of working. In the same space, there can be a gym, auditorium children wardrobe… This spaces can be stored and only used when needed. Although this is a concept it raises a question of how

would a space like this work. Where do you store your walls? What kind of material is being used so that this kind of space could be used in everyday life, not just as a concept presentation but also in real life practice? Space needs to be moved by someone or something and there needs to be time for that. With changing a floor plan of public spaces there is also a security, fire safety regulations issues that need to be solved.

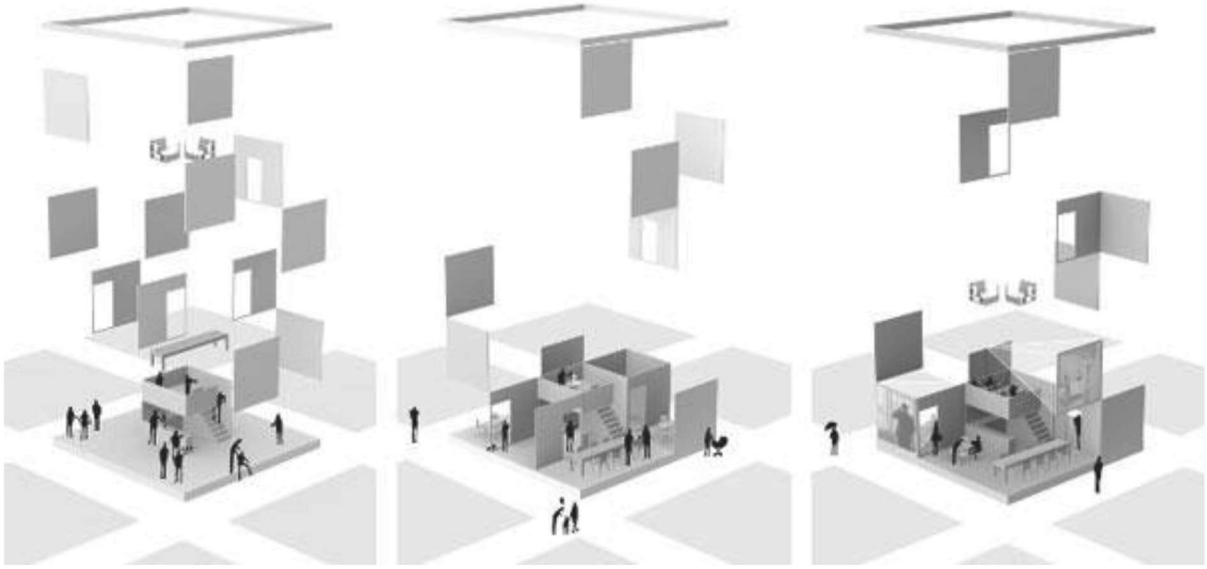


Image_3: The Hanging Room by TILT.

In Japan, there is a building realised by architectural firm Aki Hamada that has elements of flexibility (4). Elements like wooden walls have been designed so that they can be reconfigured by the wishes of users. This building is an office – residence type. Because it has multi-purpose it had to be designed so that space can move. Walls are put in tracks and can be slid, just like sliding doors - left or right. The walls help to get an endless combination of the spaces that we can build daily, depending on the needs. Because the walls are made of wood they are also a good acoustic material that we need for offices and schools. Although this building is flexible it is built for the presence. Spaces are still spacious and tracks on the floor are not flexible but fixed. In the future, there should be taken another step towards achieving the maximum flexibility of space, not just with sliding walls that can be moved left or right but also with tables, chairs, bookcases, lighting... Every element that can be found in an office or school.

Image_4: Aki Hamada residential offices. Kanagawa Prefecture, Japan

An attic apartment was renovated in Madrid Spain by Elii architects (5). This apartment has a one step further elements of flexibility compared to Aki Hamada offices. There are not just walls that are being slid left or right, there is also furniture coming down from the ceiling and elements like a mirror being stored in the floor closet. Because this is a home and there are elements like fans, swing, hammock being stored in a flexible space I'm worried that they won't be used much once this person gets tired of them. These examples of flexible spaces show how space can get smaller and still functions as a whole. It's a base on which can be build.

Image_5: Attic apartment by Elii architects.

Curriculum and space

In the curriculum of HSV International Primary School – VNS (6) I looked for needs of teaching that include physical space. My focus when designing a new school is how to improve the way children learn in a more fun, interesting experience. In geography class, seventh graders of a primary school in Eagle Grove, Iowa used HoloLens to get a 3D experience of the places that they most likely never to go to (7). Although this is a good experience for the pupils, the HoloLens closes pupils view of the actual space. The thing that I want to avoid in the future school is technology that enables pupils to interact with other pupils.

Image_6: Pupils using HoloLens

That’s why in the school of the future I designed a cinema that will look like a bubble. Children will be inside the bubble looking at 360-degree cinema. This kind of shape gives us the experience where pupils can interact with one another while having fun and interesting experience travelling the world. The bubble is a flexible element that can be stored on the ceiling and used just when needed. This is just one example of flexible element of the future school. I decided to develop a catalog of ideas based on subjects, pupil needs and facilities needs.

Image_7: Concept for the cinema in HSV International Primary School – VNS

Conclusion

The school curriculum can change through the years yet the space where pupils are learning stays the same. With designing flexible elements for the school we get excellent facilities for the future. The aim of my design for the HSV school of the future it’s to design a school where there would be no layout. Floorplan as usual will not exist. The flexibility will be maximized to that point that layout won’t be known. I believe that this kind of thinking should be used not just in schools but also in public spaces, family homes, students housing and so on. With designing a new space in an old shell there will be no need to build new schools. Because the number of people living on planet Earth is increasing drastically (1) space needs to be saved and that’s what the new school will enabled.

Footnotes

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School of the Future
Presentation/Proposal

Lucinda Zhang
INSIDE 1718 student

PERSONAL-IZED SCHOOL

RESEARCH

STUDENT/ Lucinda
TUTORS/ Mick,Asher,Anne

WHY

one-size-doesn't-fits-all

Susan Cain (1968),
TED talk: The power of introverts
She calls on the society to make a better environment for introverts in her book.

Different learning habits demands for various spaces

It is an obvious problem that children cannot learn efficiently because of different levels of their achievement and their different learning habits. Studying in the same classroom with teacher in front the only resource of learning is a big reason behind it.

The personalized school concept is based on the context of future, but also proposed to apply to a local primary school building. (the HSV international school in De Hague). It aims to create a learning environment where each child can have their own learning spaces to respect individual difference at the most extent in a physical aspect. Meanwhile, it gives chances to unleash children's creativity and potential in the early age when their characters ae not shaped completely.

WHAT WE'RE DOING NOW

CORRIDORS AND CLASSROOMS SEEMS LIKE RULES

It is hard to believe that the school structure didn't change much (with classrooms and corridors) while this world has experienced considerably shift in the past 200 years

ONLY BOARDS AND DRAWERS FOR KIDS TO DOMINANT

classroom,open air school,Netherland.

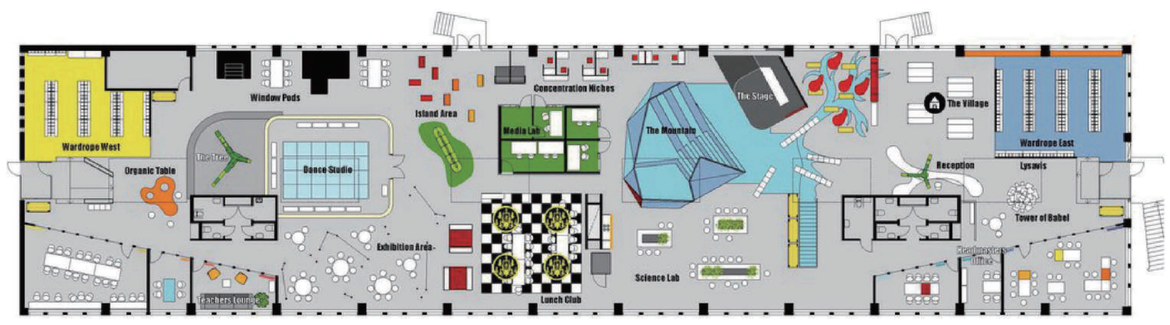
places like display boards and wall, showcases, drawers that shows children's creativity.

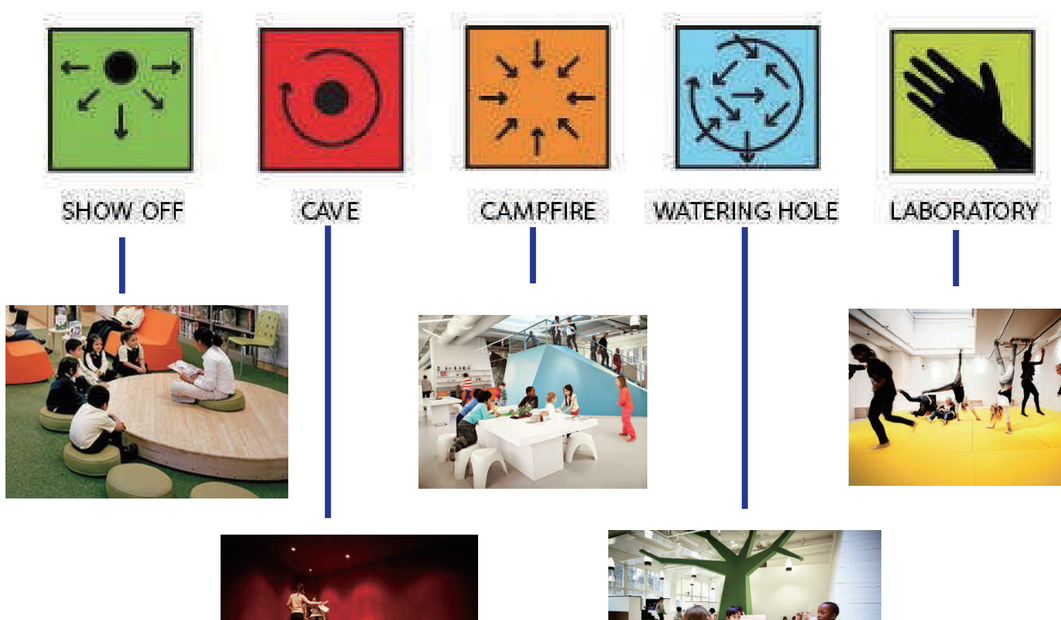
DIVERSE THE SPACE TYPE

VITTRA SCHOOL TELEFONPLAN, Denmark, 2011

This Swedish school was designed on the base of vittra's educational orientation, instead of a classic classroom setup with desks and chairs, a giant iceberg with a cinema, a platform and room for relaxation and recreation accommodates many different types of learning situations.

WHAT WE ALREADY IMPROVED

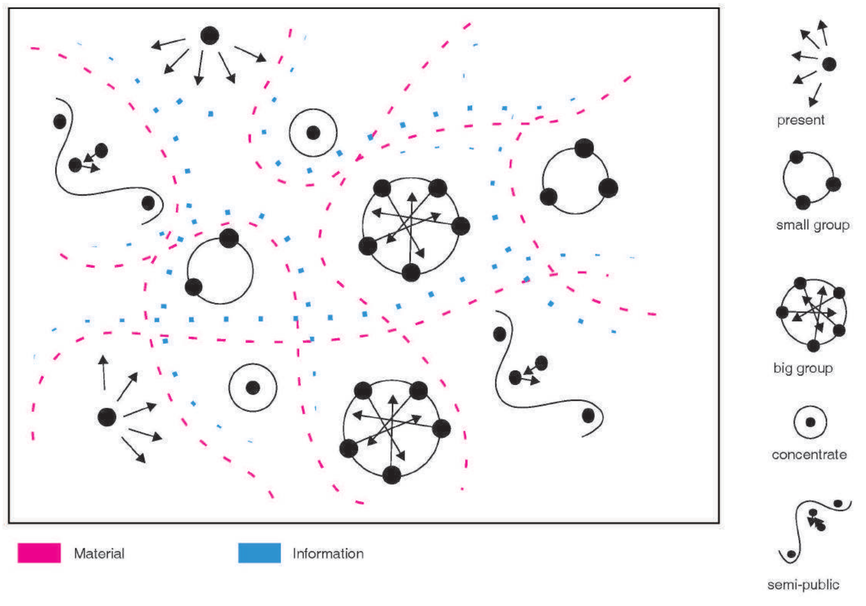




DIVERSE THE EXPRESS WAY

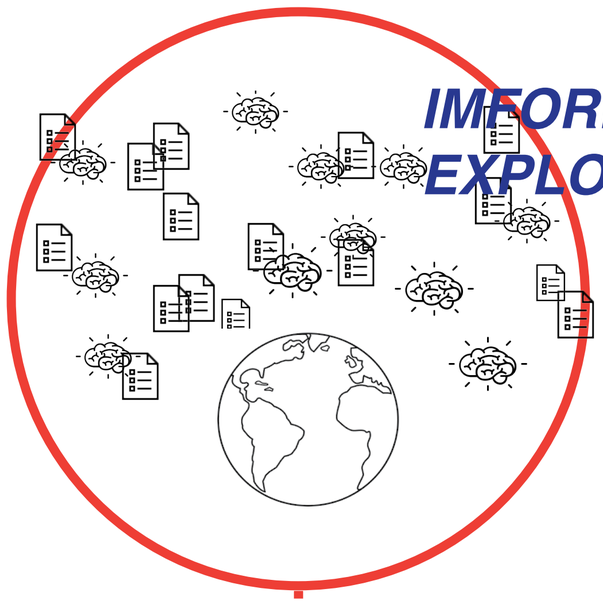
Reggio Emilia primiry school

As the environment is regarded as the "third teacher" in Reggio Emilia approach, the emphasis is on supporting "complex, varied, sustained, and changing relationships between people, the world of experience, ideas and the many ways of expressing ideas.

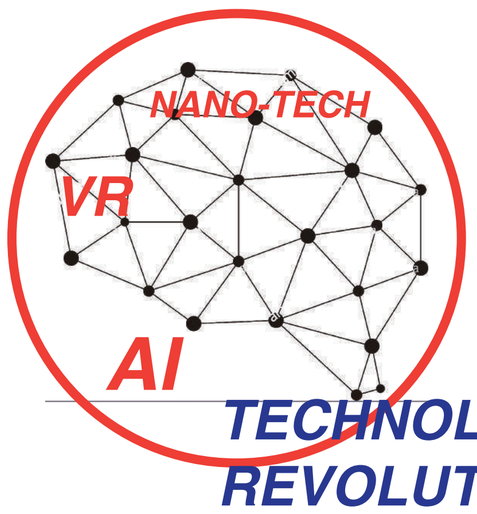


WHAT IS THE FUTURE ?

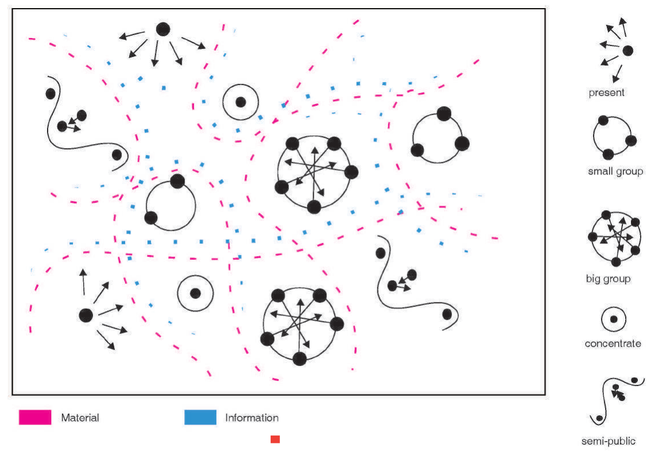
CONCEPT

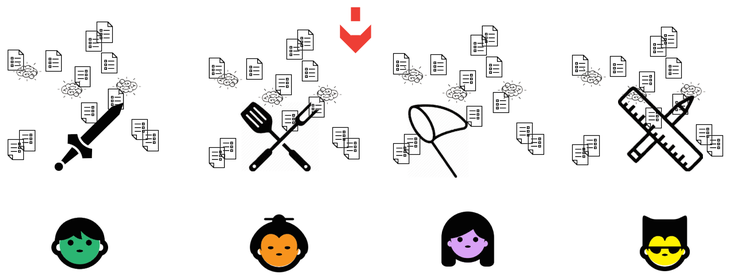


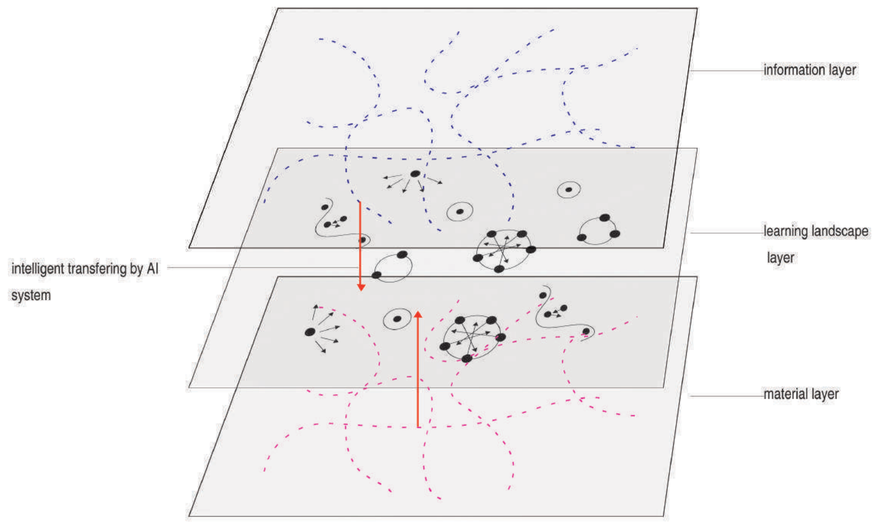
IMFORMATION
EXPLORDING



TECHNOLOGY
REVOLUTION

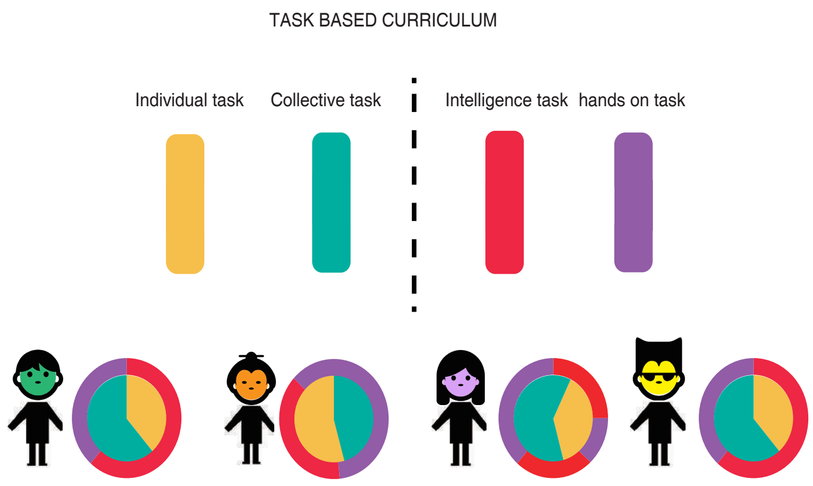






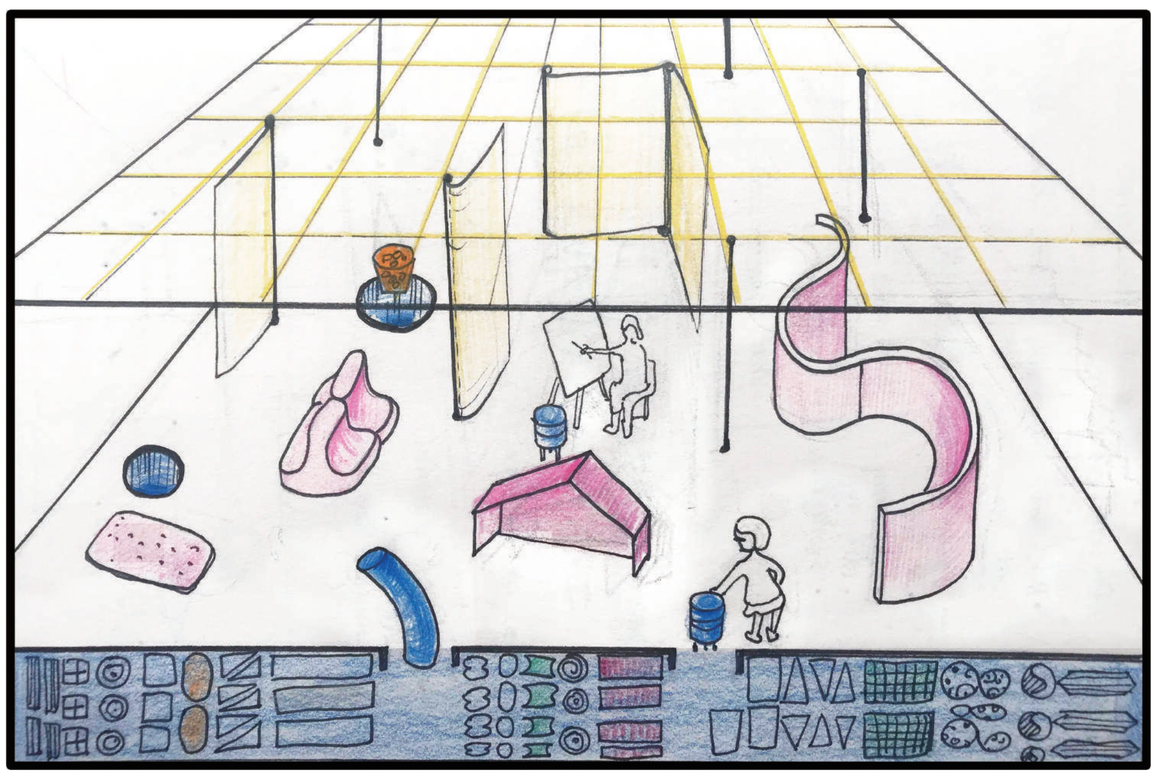
SELF-DRIVEN CURRUCULUM

LET CHILDREN DESIGN



In task based curriculum, children can chose what task they want to do but the flexibility still under a certain degree

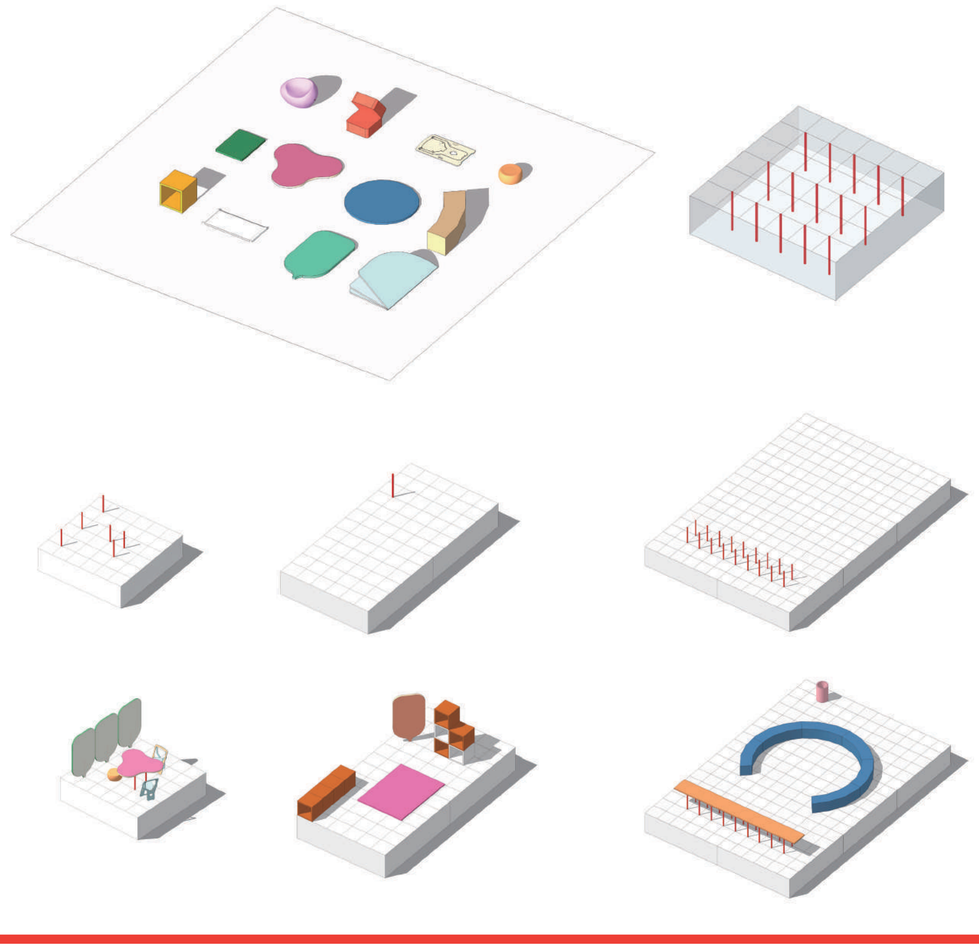
SELF-DRIVEN SPACE

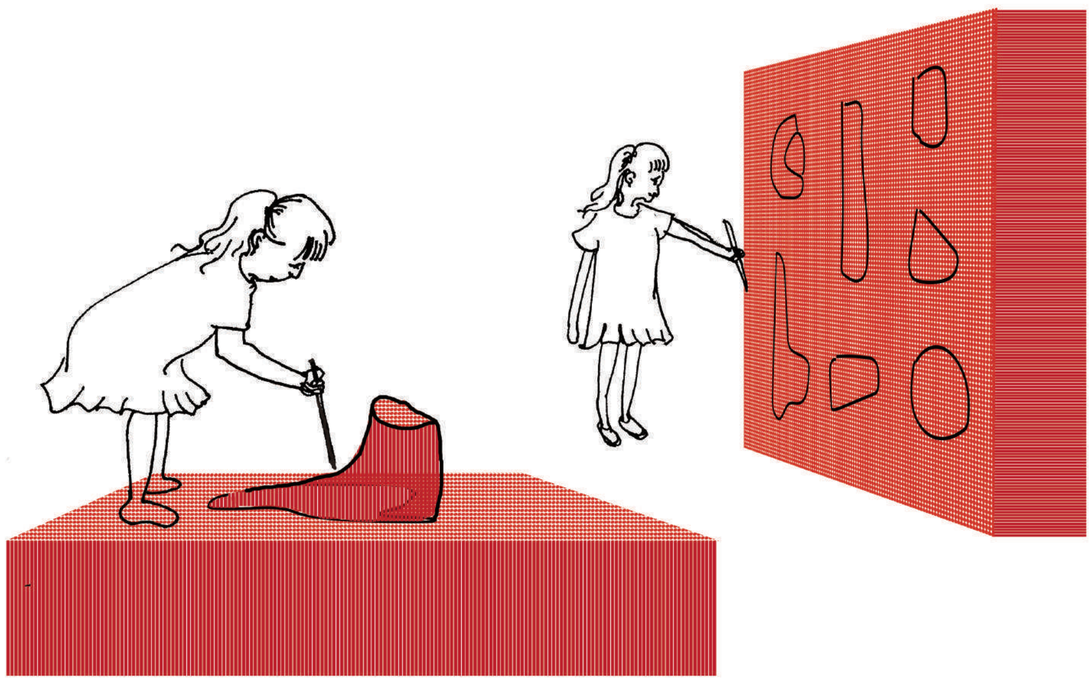


CONCEPTUAL MODEL

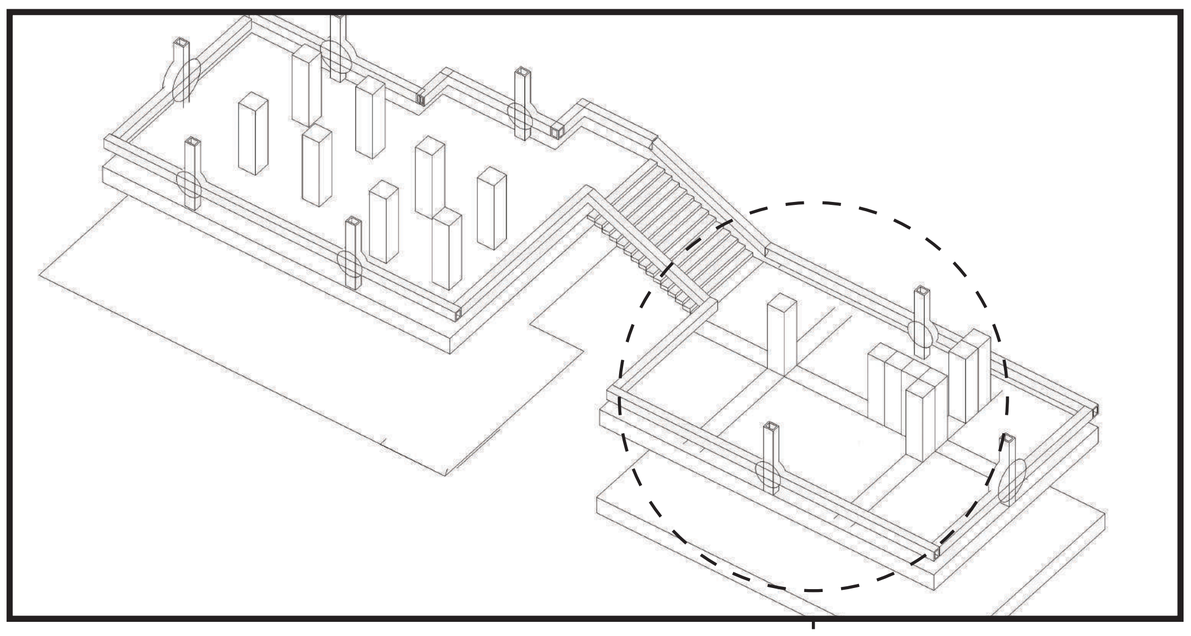
CONCEPTUAL DRAWING

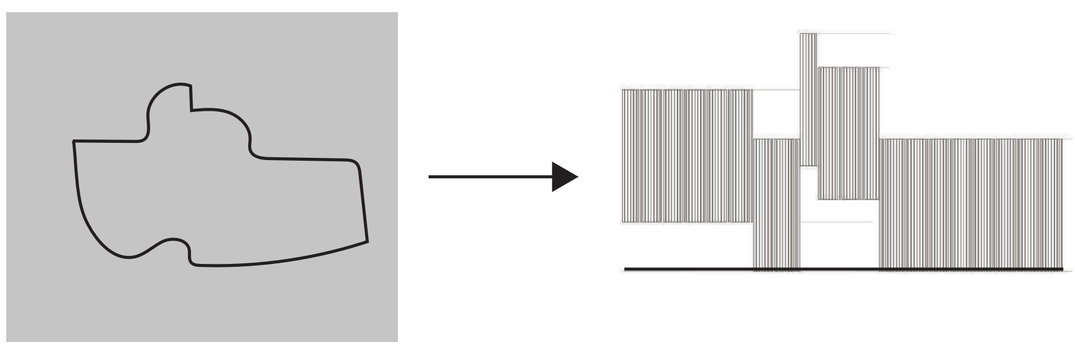
This concept uses an floor storage system with different elements are flowing inside, children can take the elements they like from several reception spaces, by combine those elements, they can make their own space.

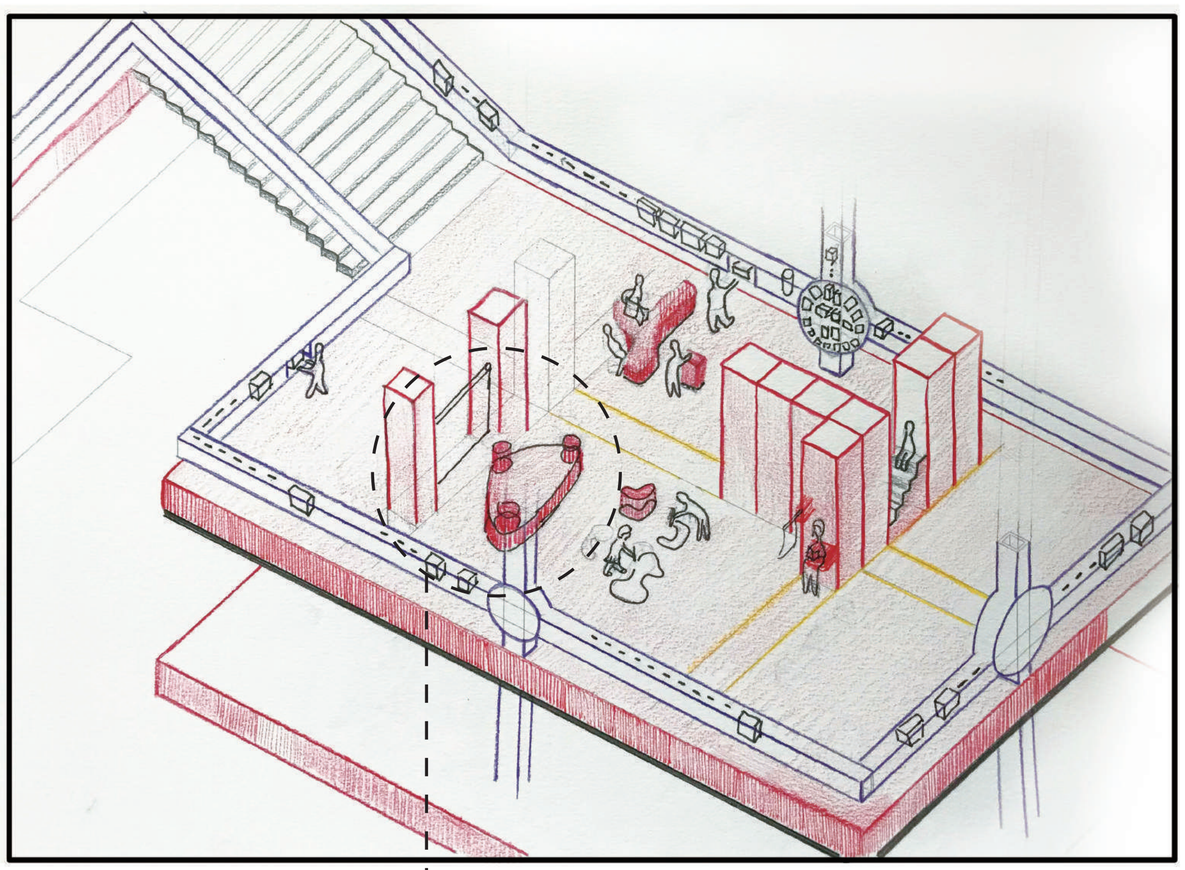


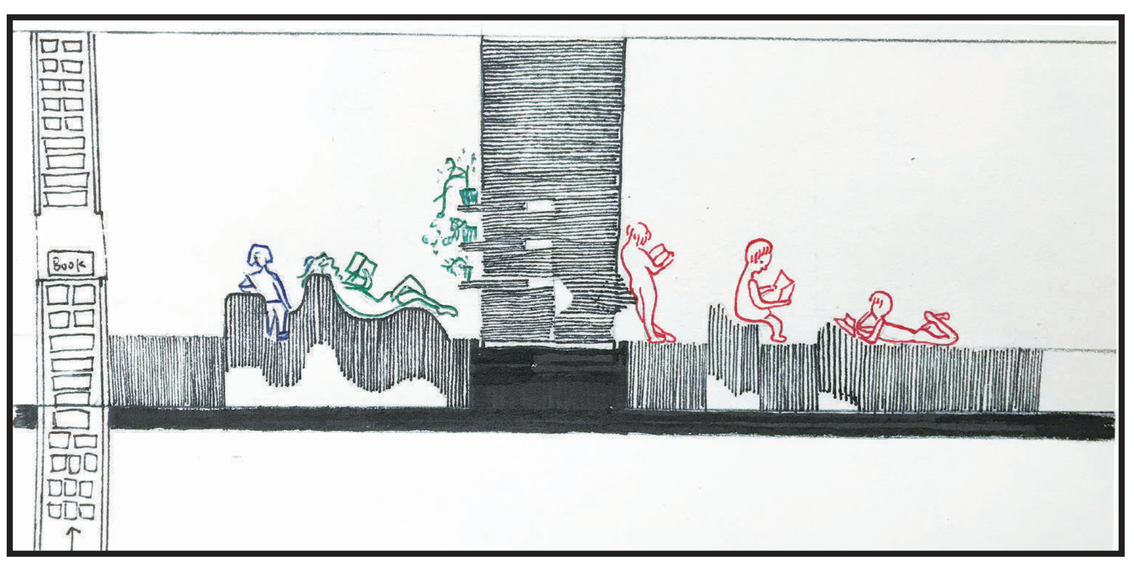


elements + supports going up and down → ***why don't let children design those elements?***

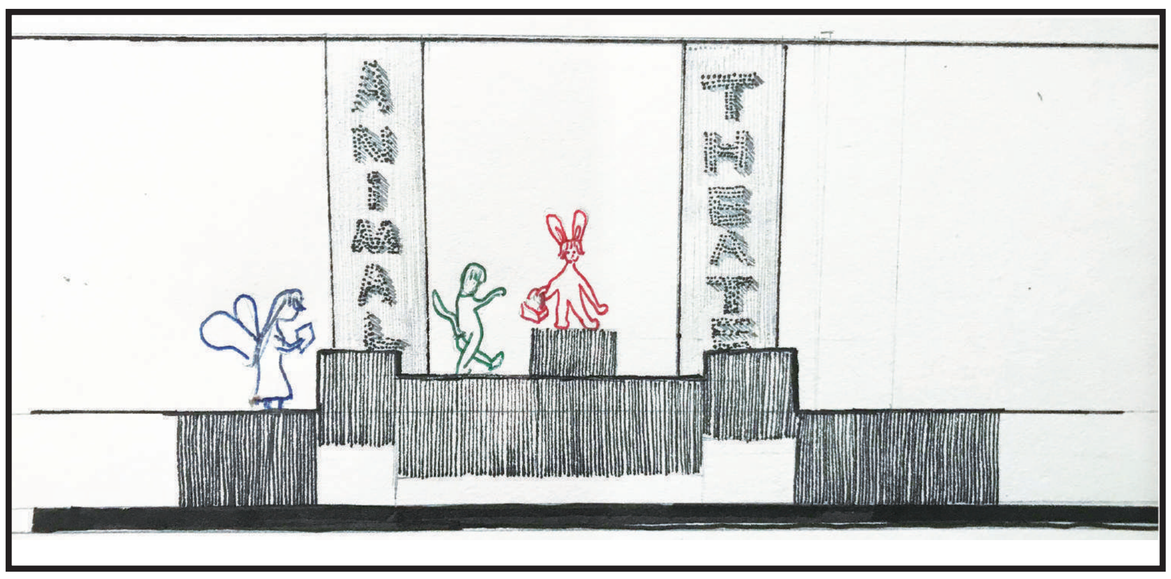




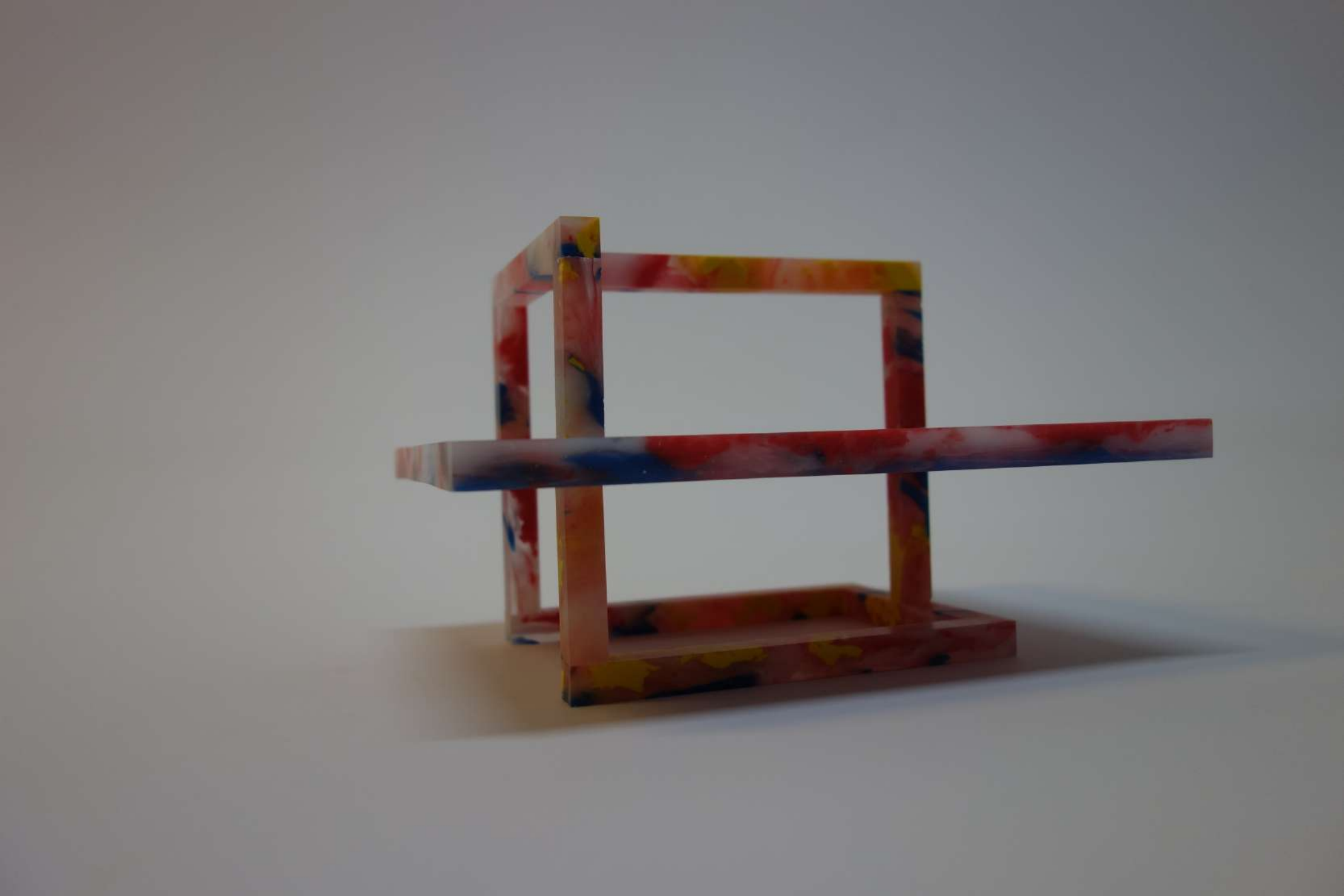




scenario 1
Alike to keep notes while reading, B enjoy more relaxable way, and she like to read in a natural environment. C also choosed to read, but he is a really active boy, he like to move and change his position very often.



scenario 2
Today,A,B and C choose to turn a story that they read before into a performance, depending on the story that there are main 3 roles, they decided to make a triangle stage with three coners hihger, so each of them can act seperately and then come to the middle together.



PERSONALIZED SCHOOL

LUCINDA

15.01.2018

PERSONALIZED SCHOOL

CONCEPT

The personalized school concept is based on the context of future, but also proposed to apply to a local primary school building. (the HSV international school in De Hague). It aims to create a learning environment where each child can have their own learning spaces, to respect individual difference at the most extent in a physical aspect. Meanwhile, it gives chances to unleash children's creativity and potential in the early age when their characters ae not shaped completely.

1. Future Context

1.1 21st century — Knowledge exploding and Information overload

21st century is a century with staggering pace of change, even right now there are hundreds of new theories and billions of new information uploading every day, In the future, with so much knowledge to grasp, the basic knowledge like language and math shouldn't take up that much time as right now in the primary school, or in other word, they should be taught in a more efficient and comprehensive way. In a future filled with uncertainties, the goal of education would be more to teach child how to learn by themselves instead of transfusing the existed knowledge.

1.2 Schooling in an international environment

Along with the globalization, international school will only become more instead of less, the differences among each student will be enlarged, respecting each person's personality traits then become particularly important. In the meantime, how to maintain students own cultural characteristics in an internationalized and diversified environment is also crucial for cultural diversity.

1.3 Technology would change the way of learning.

E-books instead of books, google classroom, iPad for every child… Technology has already brought its influence into today's classroom. Although the effect of this high-tech teaching way is still in the process but it's sure to say that integrate technology into education is a method that can prepare the children better for the future. With the help of even more smart future learning technic, school design will be changed along with it.

2. The Reason of Personalized School and Its Positive Impact

2.1 Different learning habits demands for various spaces.

It is hard to believe that the school structure didn't change much (with classrooms and

corridors) while this world has experienced considerably shift in the past 200 years. From my own teaching experiences and my interview with other Chinese teachers, I found out it is an obvious problem that children cannot learn efficiently because of different levels of their achievement and their different learning habits. Studying in the same classroom with teacher in front the only resource of learning is a big reason behind it. (illustration 1)

illustration1 (drawled by author)

For example, according to Susan Cain (1968), in her TED talk *The power of introverts*, she said she had a bad school experience because of the promotion of group working while herself prefer reading in a nook or studying on her own. She calls on the society to make a better environment for introverts in her book.

"The classroom is crying out for a solution that is less one-size-fits-all "said Susan in her interview with IDEAS.TED.

2.2 Helping teacher to develop customized mentoring method by observing children's personalized study spaces.

According to a research by American psychological association, by looking at people's offices and bedrooms people can accurately assessment certain traits such as openness and conscientiousness (base on big five traits theory[1]). Same as offices and bedrooms, a self-dominate study space can also show children's personality, which can make teachers understand each child better.

2.3 Increasing the sense of responsibility and belonging of children to school.

Personal means something that the owner has complete autonomy of. With classroom disappearing entirely to be taken up in an open learning landscape, a personalized learning space can bring children a home feeling, a place they feel responsible for.

'It is not enough to have lockers in anonymous surroundings so that pupil wander daily through the building like nomads, there has to be a place they can engaged with others of their group or year'. (Hertzberger, 2008)

Personal drawers in HSV school De Hague

3. Research

3.1 Pedagogy Study

3.1.1 Develop the talent of individuals — Montessori education

According to the Association Montessori International (AMI) and the American Montessori Society (AMS) cite these elements as essential in Montessori education

- Mixed age classrooms.
- Student choice of activity from within a prescribed range of options.
- Uninterrupted blocks of work time, ideally three hours.
- A constructivist or "discovery" model, where students learn concepts from working with materials, rather than by direct instruction.
- Specialized educational materials developed by Montessori and her collaborators often made out of natural, aesthetic materials such as wood, rather than plastic.
- A thoughtfully prepared environment where materials are organized by subject area, within reach of the child, and are appropriate in size.
- Freedom of movement within the classroom.
- A trained Montessori teacher who follows the child and is highly experienced in observing the individual child's characteristics, tendencies, innate talents and abilities.

3.1.2 The potential shortage of Montessori education

Montessori method gives children a lot of freedom to choose, which shows a lot respect to every child's personality and allow them to study in a way of their preference. However, if we put it in the future context, it still has some shortage in terms of the following aspect:

- excessive freedom of curriculum choice
  Children can choose any activities they like to start their learning in a Montessori classroom, but this might make some children tend to go overboard on one or some subjects. In my conversation with an architect who went to Montessori education, he said he was drawing all the time at the end.
- Not enough sound insulation
  Open area is good for children to explore and play, but when there are different type of activities going on in one classroom, sound insulation is needed to ensure the concentrate activities having the certain conditions.
  A study by Russell Geen (1984) shows that the extroverts did best when the noise was louder, and the introverts did best when the noise was softe
- Still situated in a classroom bubble
  By using specialized Montessori educational materials, children learn by doing. However, in a future context with globalization and technology, learning by doing would be more like learning by participating or learning by experiencing, in this case, classroom would be a limitation of variety of participation.

4. CASE STUDY

Case study look into some existed school design to analysis their way of providing an environment for individual difference.

4.1 Diversify learning spaces —— VITTRA SCHOOL TELEFONPLAN, Denmark, 2011

This Swedish school was designed on the base of vittra's educational orientation[②], instead of a classic classroom setup with desks and chairs, a giant iceberg with a cinema, a platform and room for relaxation and recreation accommodates many different types of learning situations. Designer Bosch used five space types (illustration 2) corresponding to the five educational principles about the watering hole", "the show-off", "the cave", "the campfire" and "the laboratory", understood in a special way, they are: present space, concentrate space, meeting space, semi-public space and hands-on space.

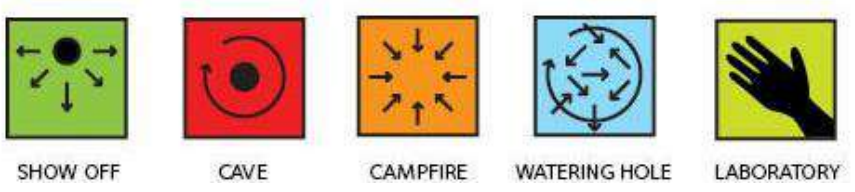
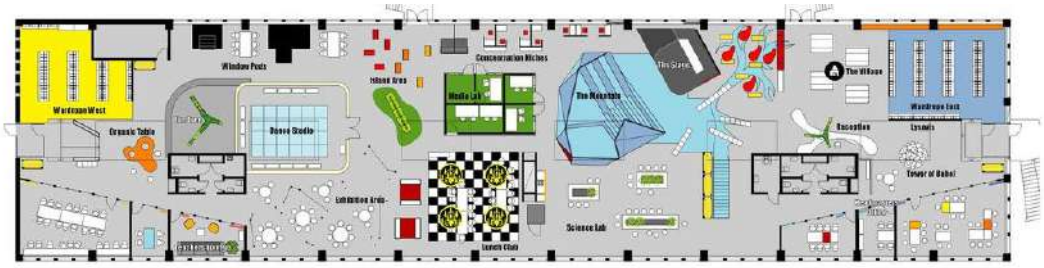


illustration 2



Plan

Physically, it shows as custom-made furnishings, learning zones and room for the individual student to facilitate differentiated teaching and learning.

Semi-public (opportunity) space

concentrate space

4.2 Diversify learning and expressing tools—Reggio Emilia approach School

The core of Reggio Emilia approach[③] is an assumption that children form their own personality during early years of development and are endowed with "a hundred languages", through which they can express their ideas. The aim of this approach is to teach how to use these symbolic languages (e.g., painting, sculpting, drama) in everyday life.

All Things Play, Classroom Equipped with Materials

As the environment is regarded as the "third teacher" in Reggio Emilia approach, the emphasis is on supporting "complex, varied, sustained, and changing relationships between people, the world of experience, ideas and the many ways of expressing ideas.

Physically, Classroom interiors are characterized by displaying of project work interspersed with arrays of found objects and classroom materials.

This inquiry-based learning is good at motivating children doing creative work. Compare to last case which makes laptop as the main tool for kids to learn, this approach remains the joy of learning.

However, it makes organizing space become a curtail work for teacher, teacher need to take great care to maintain the orderness. In addition, it doesn't change too much of the conventional classroom layout, and it also need more variations of study space considering intellectual learning and concentrate learning.

St. Michaels University School junior school

5.Design proposal in future base

5.1 A changeable learning landscape

The freedom of make choices is what we can learn from the above two cases. However, since the furniture and partition are often pre-designed and physically permanent, even though children can choose their space, it cannot reflect their creativity. My proposal aims to make space be possible changed by children, moldable material and flexible furniture can be an approach for this.

5.2 Creativity become the main skill, play remains crucial

In the future when digital work and virtual stuff is everywhere, it is paly which makes human more creative than robot. Material will still be a big part of the open classroom

5.3 AI as a space organizer of providing learning materials and information.

With the emergence of AlphaGo, Artificial Intelligence is the future we can feel now. As we know, the core ability of AI is to gathering, processing, selecting and release information. If we abstract the plan of vittra School combined with Reggio Emilia approach School, it can be seemed like a layout placed with various learning space surrounding with material and information (illustration 3).

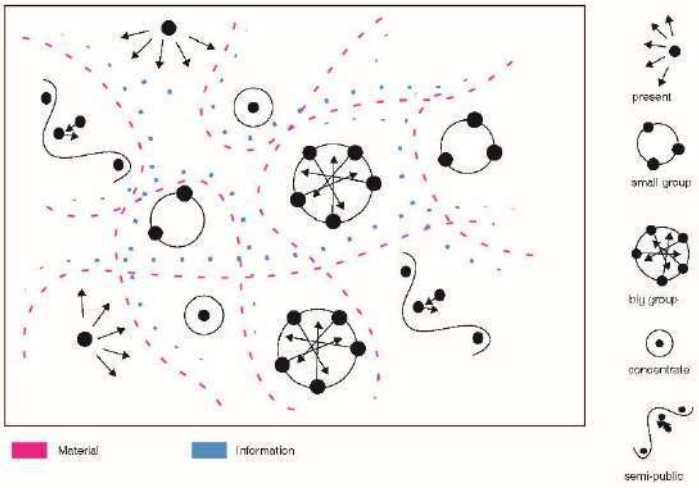


Illustration 3

When organize these material and information is a lot of work for teacher right now, if we separate material and information on the underneath and above layer of learning landscape, integrating AI as an organizer to shift them in a vertical way, it would leave the learning landscape layer more flexible, like a playground. (illustration 4)

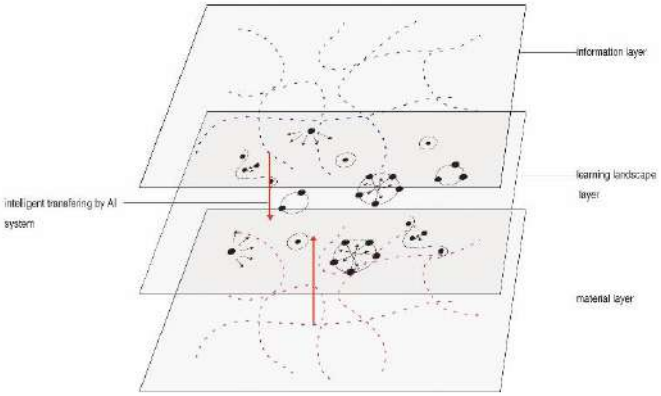


Illustration 4

5.4 Transparent stairs as a dominant display space and social space

'It is important for children to be able to display things they have made in, and they should be able to leave unfinished work exposed without there being the danger of it being move or tiled away be strangers' ((Hertzberger, 2008).

When everything is constantly customized, the complete dominant and fixed space become necessary. Stairs, with the fact that has many steps, that it is a place for children to meet, can be a best place for display when it is transparent. (illustration 5)

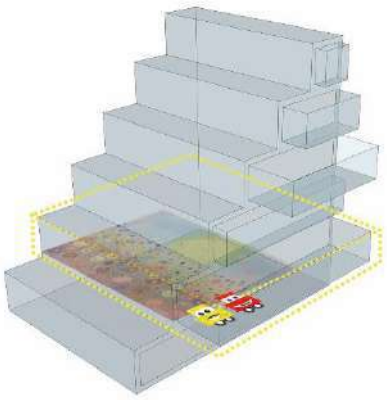


illustration 5

Conclusion

Whenever it is in the past, nowadays or future, individual difference is always a thing we need to face in education, thus school design or classroom is calling for a revolution. There are already some great educators has invented innovative pedagogy which put emphasis on respecting each child's personality and unleash their talent, and there are also some schools been designed for this education revolution. But in a future with knowledge exploding, in a base that technology is challenging almost everything we see as a given, we need to think boldly, we can take the advantage of the technology and use it to design a more efficient, more inclusive and more inspiring learning environment for every individual.

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① Big Five personality traits, a model based on common language descriptors of personality, consist of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism

② Vittra's educational orientation is based on Maria Montessori's teachings, but also in Reggio Emilia's, with the competent child and lifelong learning as the starting point and the goals.

③ Reggio Emilia approach was developed after World War II by psychologist Loris Malaguzzi and parents in the villages around Reggio Emilia, Italy.

School of the Future
Presentation/Proposal

Yunkyung Lee
INSIDE 1718 student

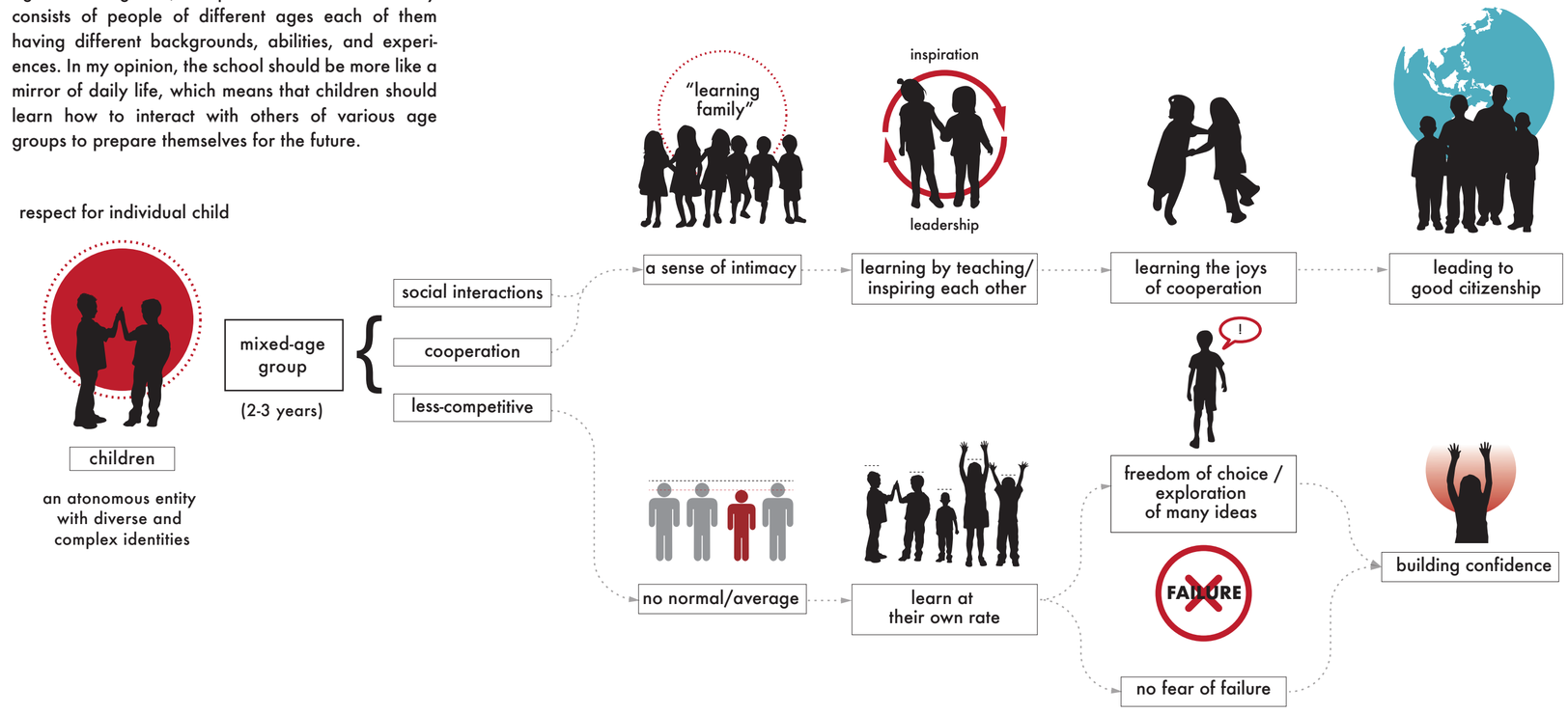
The Vertical School

The School of The Future

Mixed-age classroom

; classrooms with students from more than one grade level

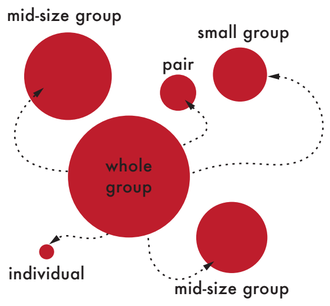
In society at large, there are no groups of the same age bound together, except in the school. The society consists of people of different ages each of them having different backgrounds, abilities, and experiences. In my opinion, the school should be more like a mirror of daily life, which means that children should learn how to interact with others of various age groups to prepare themselves for the future.



Learning in mixed-age classrooms

; view learning as an interconnected, ongoing, lifelong process

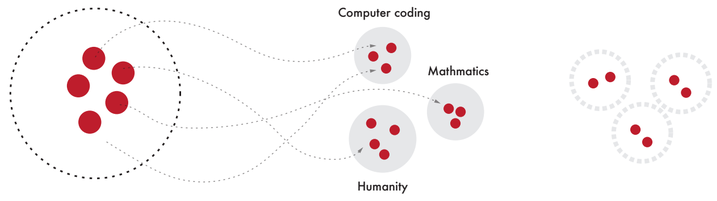
Classrooms should reflect children's everyday lives. At the same time, it should facilitate and scaffold each other's learning. Also in the classrooms, creative activities are common.



seamless curriculum
+
basic curriculum

Flexibility in the classroom

Learning Family (core group)	Small group (based on ability & intrests)	pair (specific activities)	Individual (portfolio,documentation,self-evaluaton)
3-5 children max. 4years gap fixed composition Family-like atmosphere secure / confidence	temporary group they can be clustered together based on their intersts & abilities this kind of group for workshops or intellectual subjects e.g. Mathmatics, Language children can study own thier rate	temporary group more specific activies such as	Children should record thier process and progres of learning themselves. They can set their own achievementin the end of the semester or year. They can get an advices about their phase of learning from mentorsand design thier future learning programme.

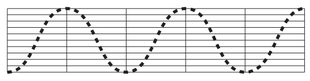


Organisational stratagies in multi-age classrooms

; respect for individual potentials of children and building life-like environment in classrooms.

a student-centered and project-based learning environment is more likely to be established in such settings because students of different levels can pay more attention to individual projects, which are carefully designed to challenge their own knowledge and abilities. It has also been shown that such a caring, individual-emphasized, project-based community can improve student attitudes toward school and school work, decrease discipline referrals, increase attendance, and improve peer relations among students.

1.



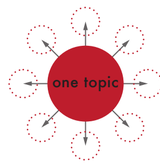
make clear and predictable instruction pattern in the schedules
,which can enhance students' responsibility for thier own learning and use of time

2.

use group learning experiences across and within year levels
use peer tutoring - children serve as 'teachers'

3.

find their own way of solving



assist in investigation of topics/problems of personal interest

actively facilitate children's learning by investigating diverse ways of knowing, thinking and doing

4.

learning ;

should dynamically reflect the learning community.

should be "phases of learning", rather than as "age or year level appropriate" learning.

should make the partership with children's families, other classes, school, and community members, which can make active involvememt in participating in learning experiences.

should be interested in social/cultural activities.

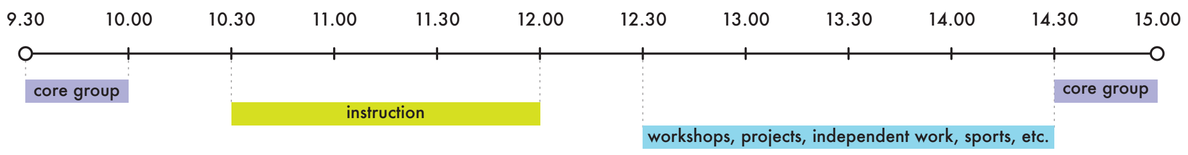
References

; the ways of making the vertical school

Steve JobsSchool in Amsterdam

No calsses but core groups.
No permanent teacher, but coaches and subject specialists.
Flexible school hours and childcare.

An average day in Steve Jobs School



25 children (4y diff.)
work on the social emotional development
- a group discussion of recent events

pick up individual instructions
e.g. the Language studio, the Math studio, the World studio.
At their own level and at their own speed.

choose from workshops, activities.
practise learning materials independently on the Quiet plaza.
be required to finish among 60 calculation and 60 language exercises.

Portfolio School in New York

Flexible group | Interdiciplinary environment | Hands-on learning

Project-based curriculum
New curriculum for every semester
Multi-age group
Documentation of the process and progress
No homeworks

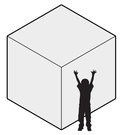
Student interst | Emotional intelligence

Portfolio school is made up of one spacious classroom without rigid structure such as long corridors, billetin board, or enclosed classrooms with fixed rows of desks.

Units for Learning family

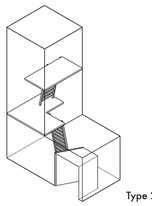
basic unit

1600*1600*H1600

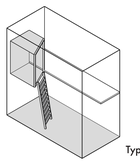


Average height of children (age 4-11)

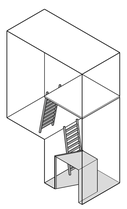
85-145cm



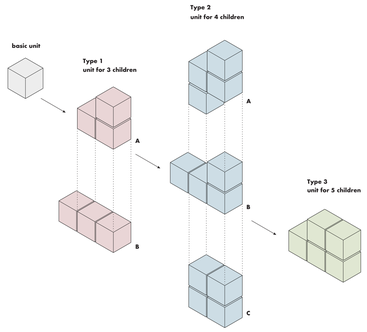
Type 2-B

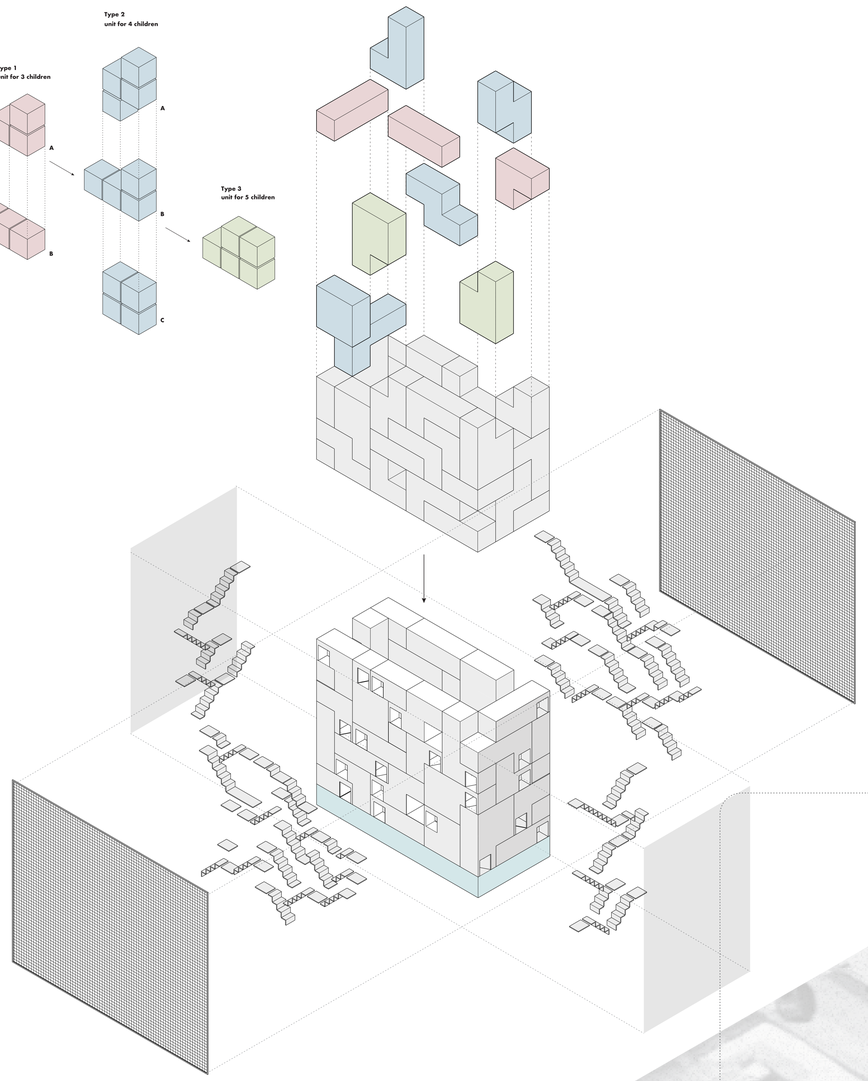


Type 2-C

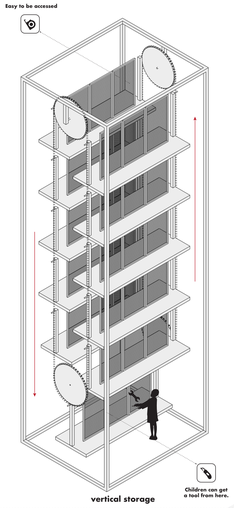


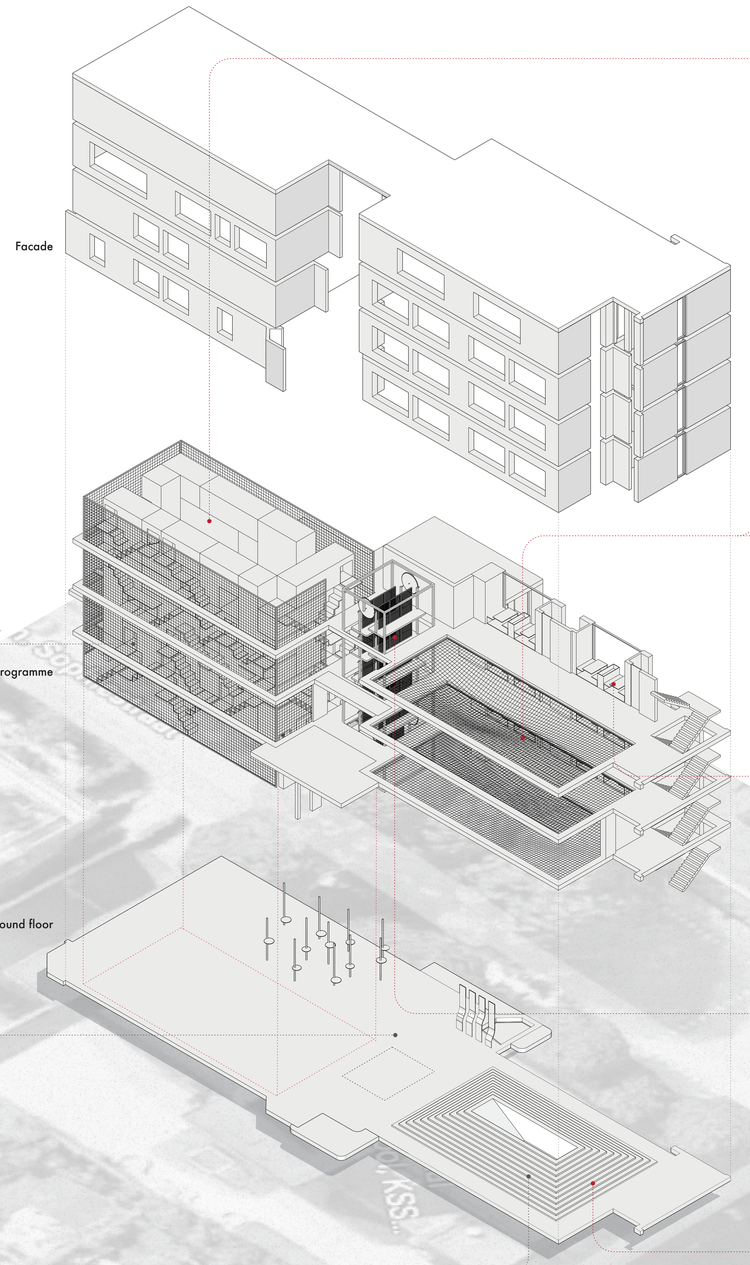
Type 3



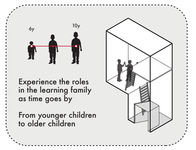


Tool Station

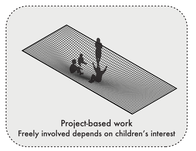




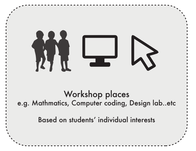
- core group work
  learning family
  social interaction



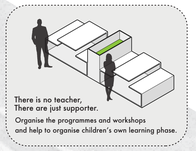
- Instruction
  Individual / collective
  intellectual development



- Workshop
  Individual / collective
  intellectual development



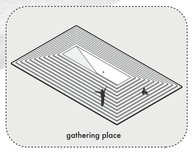
- Counselling
  individual / learning family
  set the schedule / receive advice



Tutor / Coordinator / Mentor

- Tool station
  individual / learning family
  every tools to work

- Auditorium
  individual / learning family
  big events - cinema, concert, festival..



Household in the classroom

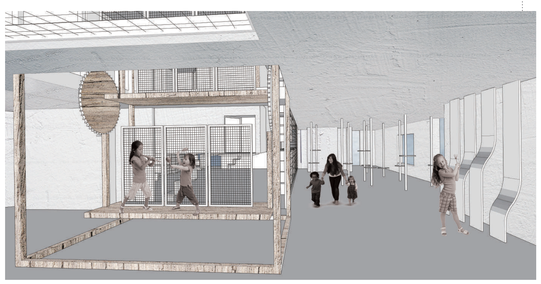
3-5 children
max. 4years gap

Each households has a different rules

Children can build thier own organisation in the house

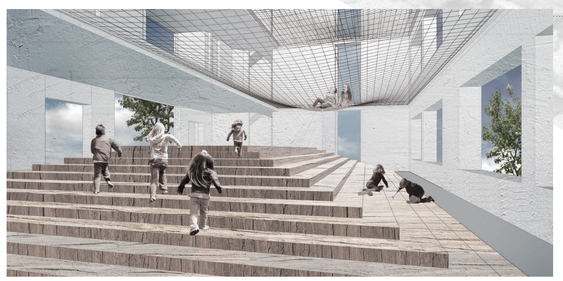
Self-evaluation in the core group

Documentation
Portfolio
Set the achievement
Feedback

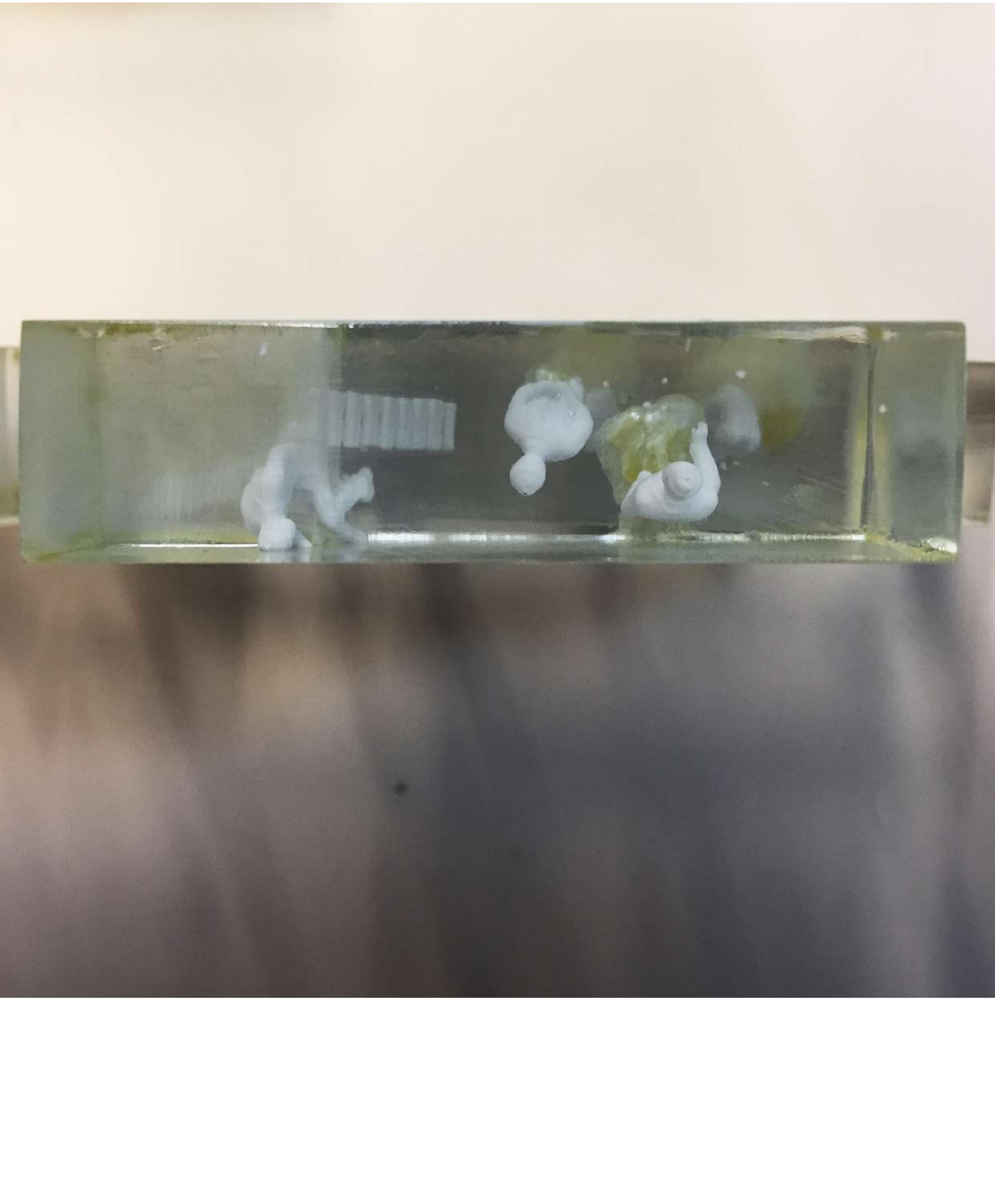


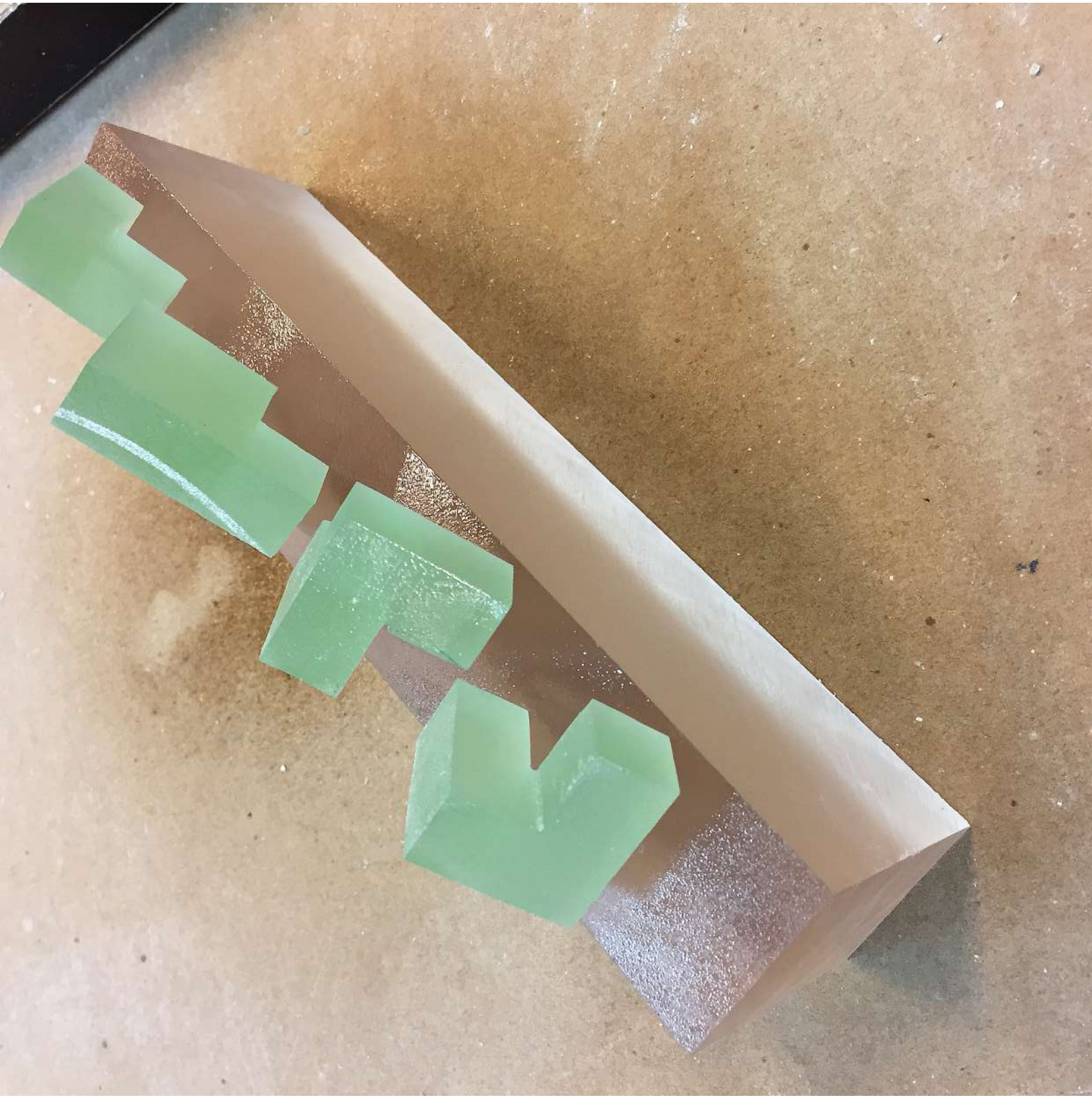
Exhibition & Kiosk

Learning family units



Ground floor - gathering place





The Vertical School

2017/2018

Studio2 : The School of The Future

The Royal Academy of Art, The Hague (KABK)

INSIDE

YunKyung Lee

INSIDE

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Contents

1 Introduction

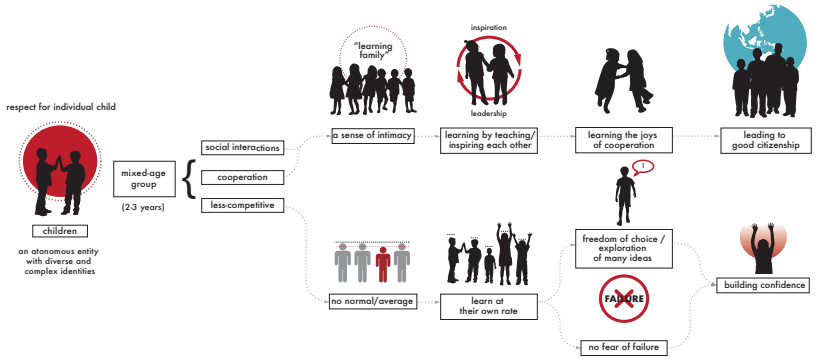
In society at large, there are no groups of the same age bound together, except in the school. The society consists of people of different ages each of them having different backgrounds, abilities, and experiences. In my opinion, the school should be more like a mirror of daily life, which means that children should learn how to interact with others of various age groups to prepare themselves for the future. The society of the future is increasingly super-diverse, with its varied experiences, cultural differences and multilingualism. There is also a desire to focus learning environments on individual differences and personal preferences. (The learning and redesign lab Belgium, 2014) With this prospect, future learning should offer more opportunities to children to naturally get used to the super-diverse environment through the pre-experience in the vertical school. The vertical school is comprised of multi-age classes, which are beneficial to children to develop their autonomy, responsibility, and creativity through respect for individuals and diversity. Moreover, the vertical school has been a consistently existing global trend in the field of education. There have been a lot of trying to make the school with open classrooms which consist of children of different age such as Montessori schools in the 1990s, although their use was always just one ingredient in a mix intended to provide more personalised instruction. But the movement decreased in the 2000s, when imposed more grade-level standardized tests. However, some advocates still insist that dividing students into single grades based on birth-date is illogical and multi-age education has its potential benefits (Miller, 2017). So, I think that it is needed to shed light on the necessity of the vertical school all over the world again. For these reasons, I would like to firmly say that the vertical school could be an ideal form of learning place in the future.

2 The Characteristics of The Vertical School

At first, the fundamental intention of the multi-age grouping in the primary education is to increase the heterogeneity of the group so as to fully exploit the diversities in the experience, knowledge, and abilities of the children (Katz,1995). I would like to deal with the issue of several advantages of the vertical school in the following paragraphs.

1. Competition is removed from the classroom. The pressures on the children to be normal and average is diluted in the vertical school. The research insists that children could be expected differently with different age groups. They can learn at their own rate and cannot be labelled as an above-average or below-average (Lester, Nita C. 2005). In the single-age classroom, teachers and parents are likely to expect all the children should be at same place at the same time with regard to ability (Debbie Reese,1998). But age segregation can help to focus on each children's different potentials, backgrounds and knowledge. This can help teachers to concentrate on what children can do, rather than what they can't do. Children don't have any fear of failure in this situation, which builds confidence (Lester, Nita C.2005).

In addition, a climate of helping each other in the classroom could encourage children to develop their social skill, which can contribute to reducing competition and pressure. But there could arise some problems that some older children will give incorrect information, poor suggestions, or wrong advice to younger ones. This misinformation could be corrected with exchange information and children can learn both of them are needed additional help. In this process, they admit there is a possibility to be wrong to all, which encourage children to feel free to make mistakes and be corrected. In single-age triad, on the other hand, the same children spontaneously became domineering and tended to engage in one-upmanship. When the same children dealt with identical



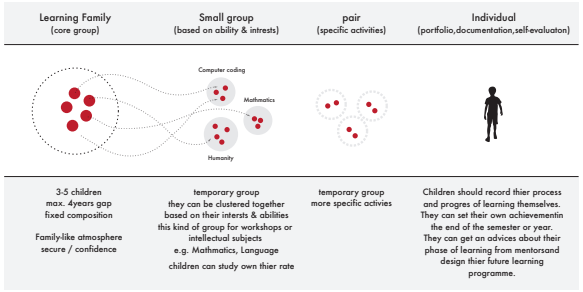
kinds of tasks in same-age groups, there were more reports of bullying behaviour (Katz, 1995). Also, help-giving and sharing happen more frequently in the vertical school. Turn taking was smoother, and there was greater social responsibility and sensitivity to others in mixed-age groups than single-age groups (Chase & Doan, 1994).

2. The vertical school can contribute to making the family-like atmosphere in the classroom. Including children with different ages in one classroom can create a sense of continuity, as it encourages older children to help younger children to finish their tasks and younger children can be inspired from the way of older children's responding on the problem. Also, younger children could learn appropriate social behaviour from older children who are already familiar with the routines in class. Younger children acquire behaviours by observing and imitating their social models (Bandura, 1977). Exposed to this kind of cooperative environment can foster the social and emotional development of the children (Song, Spradlin, Plucker, 2009). In family-like atmosphere, children mix freely and are encouraged to work and play together. They learn the joys of cooperation easily which leads to learning good citizenship because children and teacher felt more calm, relaxed, and comfortable in the mixed-age classroom rather than the single-age classroom (Fu et al., 1995).

3. In the vertical school, children can learn how the real learning is and joy of learning. Children in the vertical school are regarded and respected as an independent entity. So, children are encouraged to set up learning schedule based on interests, which helps to learn at their own rate. I would like to say that this would make children feel much more a sense of responsibility and ownership on learning.

3 How The Vertical School Work

Flexibility in the classroom

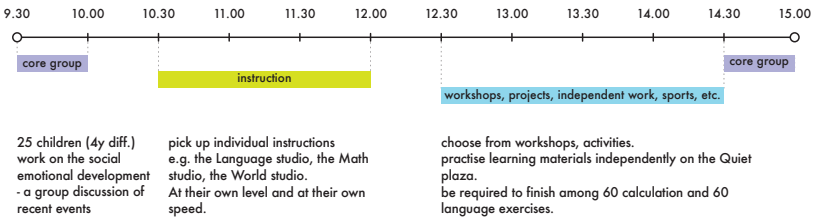


Basically, the vertical school should be comprised of various kinds of groups in the class. But 'core group' is the most important group in the mixed-grade classes. It usually consists of 3 to 5 children of different ages in one group, which acts as a learning family. Each learning family has the system that consists of fixed members but after the oldest child graduates the school, then another child could join in. They will be a core peer group in the classroom for around 5 years, which can help to build the strong sense of belonging. This family-like and secure atmosphere would help children to feel more ease of implementing innovative change and support for individual learning tempos (Kalaoja & Pietariene, 2009). Children can experience from being the youngest children to the oldest children in core group throughout the primary school period. The young children who are inspired and nurtured by older children can acquire how to emulate their older classmates when they become the older ones in a group (Katz, 1995). In my opinion, in a learning family, younger children get opportunities to participate and contribute to far more complex activities that they could initiate when they were by themselves. Once the older ones set up the activity, the younger ones can

participate, even if they could not have initiated it. There will be more cognitive conflicts when interacting children are at different levels of understanding, regardless of their ages. For instance, two children are working together on a task that one understands well and another does not. The latter would be likely to learn from the former through arguing with (Katz, 1990).

After core group work, there would be several group works in the classroom. These works are project-based that children can freely choose what they will learn based on their abilities and interests. There will be some different kinds of workshops scattered and opened in the classroom. So, children can get a weekly or daily schedule of workshops from the coordinator and check and find the location and time. By using timetable, children can set their own curriculum, which can give a motivation to enjoy learning to students. In addition, a student-centred and project-based learning environment are much effective in the vertical school because children of different abilities can pay more attention to individual projects, which are deliberately managed to challenge their own levels, in contrast to a traditional curriculum, which does not focus on individual abilities (Aina, 2001). It has also been shown that such environment can help to improve children attitude toward school and school work, increase attendance, and strengthen peer relations in the classroom (Veeman, 1995). Therefore, students can spill out to interest-based workshops and fall bank on to the learning family.

A virtual daily schedule in the vertical school



4 How The Vertical School Organised

Fundamentally, the vertical school should have two main spaces with different functions in the classroom – private and public. The classroom would be separated places for learning families with the public area for another group works.

At first, the place for learning family should more like home. In the case of the vertical school each learning family has their own territory such as household, which can improve children's a sense of belonging, intimacy, and continuity. So, children can spill out to the public area then they can freely fall back on their private areas. Also, each household domains reflect on a special characteristic of the member of learning family. The rules and organization of the learning family could be decided with negotiation and discussion by members of in the group. Like the society, they express their opinions and compromise each other. Through this process, children can learn independence and responsibility in a democratic way, which help to build good citizenship in the class.

In the middle of the classroom, there are a lot of workshops that have different kinds of activities – e.g. Mathematics, Language, Computer coding, Design lab.. etc. The workshops are run by professionals who invited by the coordinator of the school. And the workshop places are opened to all students and chosen by students' individual interests. I suggest that the school should build a place for offering tools and facilities for workshops in the centre of the classroom, which children can easily access to. I would like to call the area for 'The Tool Station'. Children can select proper tools to make what they want.

5 Conclusion

In conclusion, I would like to say that the vertical school has a lot of potentials and benefits in the future society. Children should be provided an opportunity to prepare to go into the world in the mixed-age environment. And I guess that the future education will be opened to the local community and make more interactions with them. In the vertical school, children will be able to practice to participate in the society as a real member of the community with respect. I think that learning how to interact with people of different age would encourage children to grow up mature and thoughtful adults who can listen and accept others' opinion. This tolerance of the diversity will be necessary in the future.

Exhibition & Kiosk

Learning family units

Ground floor - gathering place