ACADEMY 01

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UNIVERSITY OF LIECHTENSTEIN

INTRODUCTION

In the first workshop of the Erasmus+ project "Social and environmental impact academy for architects (SEIAA)", nineteen architecture students and five teachers from Bergen School of Architecture (NO), Hasselt University (BE), the Royal Danish Academy (DK) and the University of Liechtenstein (LI) have dealt with the topic of sufficiency in relation to the use and design of the built environment. In a five days workshop in the context of the University of Liechtenstein the participants have explored ways to (re)design the built environment so that a sufficient use of it becomes a key to a good life. The findings were brought together and translated into "sufficiency-lessons" that the participants implemented at the high school in Vaduz and the Formatio school in Triesen.

What does a built environment look like whose primary purpose is not economic growth but a good life? This was a question that has guided us through the workshop and hopefully continues to guide us through our lives as architects and users of the built environment. Among the three sustainability approaches – efficiency, consistency and sufficiency – the latter was in the focus of this workshop. Whereas efficiency and consistency relate to our ways of production and depend on technological innovation, sufficiency relates to consumption and depends on social innovation. Certainly, a challenging topic as it confronts the individual with his or her daily actions.

However, for architects and urban planners it is relevant to understand the mutual influence of built structures and behaviour to (re)design a built environment wherein the most sufficient way of living is also the most convenient. Thereby, sufficiency can get rid of its negative connotation that often equates it with renunciation. Especially architects could perceive sufficiency as a creativity-booster in the sense of limitation is the mother of invention.

LOCAL AND NATURAL

Buildings and the construction sector have a considerable impact on global CO_2 emissions and primary energy demand. In addition, the building sector influences the emissions of the mobility sector, as the way we move in the built environment is closely related to its organization. How can architects respond to these negative impacts? An excursion to the production site of Lehm-Ton-Erde in Schlins (AT), founded by the Austrian Martin Rauch, provides promising answers. Earth is used as a building material since the beginning of humanity. No wonder, looking at the various potentials of the rammed earth projects of Lehm-Ton-Erde: Rammed earth involves no or little transportation as it can be found in the right mixture in many places all over the world. Its processing does neither require high temperatures nor toxic emissions. It provides a health-promoting interior climate as it stores heat, balances humidity fluctuations, or absorbs unpleasant smells and toxins. At the end of its life-cycle it can easily be brought back to nature.
It is a material that incorporates important aspects of sufficiency: Local and natural. However, the many advantages come along with a high degree of human labour that is involved in the production of rammed earth walls. This makes it an expensive construction method even though the material itself is almost free. With a limited lobbying power in relation to other construction material industiries, building regulation and norms have made it difficult for rammed earth to regain its past importance as a building material. Hence, sufficiency does not only depend on the

HOUSE RAUCH. Photo: Daniel Haselsberger

MOUNTAINS OF WASTE. Photo: Daniel Haselsberger

awareness and the will of the individual, but on political measures that allow and promote its implementation. A consideration of the environmental burdens in the costs of building materials could be a way to change the imbalance of material and labour costs and thereby make earth an economically more attractive building material.

STOP BUILDING

In many western countries the vacancy rate of apartments is rising, while the construction activities are growing at the same time. Many apartments and single-family houses only act as secondary homes standing empty during most of the year. Others are not even used as holiday homes as they are pure investments. This leads to the radical question of whether it is enough to challenge building methods or whether building itself needs to be questioned. A needs analysis must precede all building projects. This has become obvious during a visit of the recycling centre in Sennwald (CH). Even though the technological facilities of the centre allow a high degree of separation and recycling, to transform the waste into a resource again, there are still considerable amounts of waste that end in landfill or need to be burned releasing CO_2 and toxic emissions. Thus, it is not primarily the symptoms of a wasteful society that need further investigation but its roots. Technological innovation alone was and is not able to solve the environmental crises. More efficient technology, circular ways of production and a reduced consumption of services and goods need to go hand in hand.

SUFFICIENCY AS AN ETHICAL PRINCIPLE

Sufficiency is an ethical principle as it confronts the individual with his and her responsibility in contributing to intra- and intergenerational justice. What this could mean for the architectural profession was impressively shown by the German architect Anna Heringer. Following the understanding that architecture is a tool to improve lives, Anna Heringer

aims to contribute to a more sustainable and just world. Whether in Bangladesh, China, Africa or in closer regions, her work expresses an understanding of architecture that is not limited to a physical output but focuses on building as a process, wherein regional added value is created and spatial appropriation happens. The above-mentioned aspects of the local and the natural are here complemented by the social.

LIVING ON A SMALL FOOT

The environmental impacts of meat-consumption, individual motorized traffic or travelling by plane have become more acknowledged during recent years and increasing climate change. However, the impact of building is still not commonly known within western societies. Thus, how can people be made aware of the impact of floor-area consumption? This question was in the centre of the workshop and education was perceived as a relevant way to increase the awareness about our excessive space-consumption. The main task of the workshop was the creation of a sufficiency-lesson. Therefore, four student-groups developed a sufficiency-lesson which they implemented with school-classes from the high school in Vaduz and the Formatio school in Triesen. In playful approaches the participants of the workshops mediated a sufficient use of the built environment to the school classes. Thereby they tried to show that living in tiny apartments or sharing rooms with others could offer potentials for an increased life-quality as one is light and independent or gains social interactions.

ENOUGH IS MORE

Sufficiency bears a big potential to become more sustainable and increase the life-quality at the same time. However, this promising potential also comes along with challenges as it works against the logics of economic growth. Even when the responsibility of the architects would be high, their capacity is still limited. The promotion of sufficiency depends on a social change of values which needs to happen on different

LEFTOVERS AFTER THE INCINERATION. Photo: Daniel Haselsberger

CLAYSTORMING WORKSHOP. Photo: Cornelia Faisst

levels and involves many actors. On a political level a sufficient lifestyle can be promoted or even prescribed through laws, environmental taxes and incentives. On an educational level, values can be formed, and awareness risen. In the end the individual should be motivated to live a sufficient life because it comes along with other benefits, such saving costs, saving time, gaining independence or gaining social interactions. Technological innovation might come up with the required tools, but only social innovation can make sure that they are used in favour of a more sustainable and just world.

MEDIATION TO THE FUTURE GENERATION

Today's children and teenagers will be the clients, architects, and politicians of tomorrow. Therefore, it is relevant to provide them with options to experience their use of the built environment in more conscious ways and make them aware of the consequences of their daily life practices. This requires a basic understanding of an architect's vocabulary as well as opportunities to learn about and participate in the design of the built environment. The School of Architecture at the University of Liechtenstein has been committed to the implementation of architecture mediation workshops at schools of different levels in the alpine Rhine valley.

A successful workshop requires good preparation. The topics around architecture and urban planning are hard to understand for people outside these professions, even more for children. On the other hand, architects and urban planners are often not used in translating their professional language for young age groups. The aim is not just to mediate the artistic and technical basics of architecture, but the social and environmental impacts of our built environment in general.

The learning objectives are both technical and interdisciplinary (personal, social and methodical skills). In terms of technical learning objectives, the following objectives must be emphasized:

- analyzing spaces in the built environment
- creating awareness of proportion and scale
- identifying materials and their properties
- verbalization of spatial impressions
- creating atmospheres
- combining creativity and technology

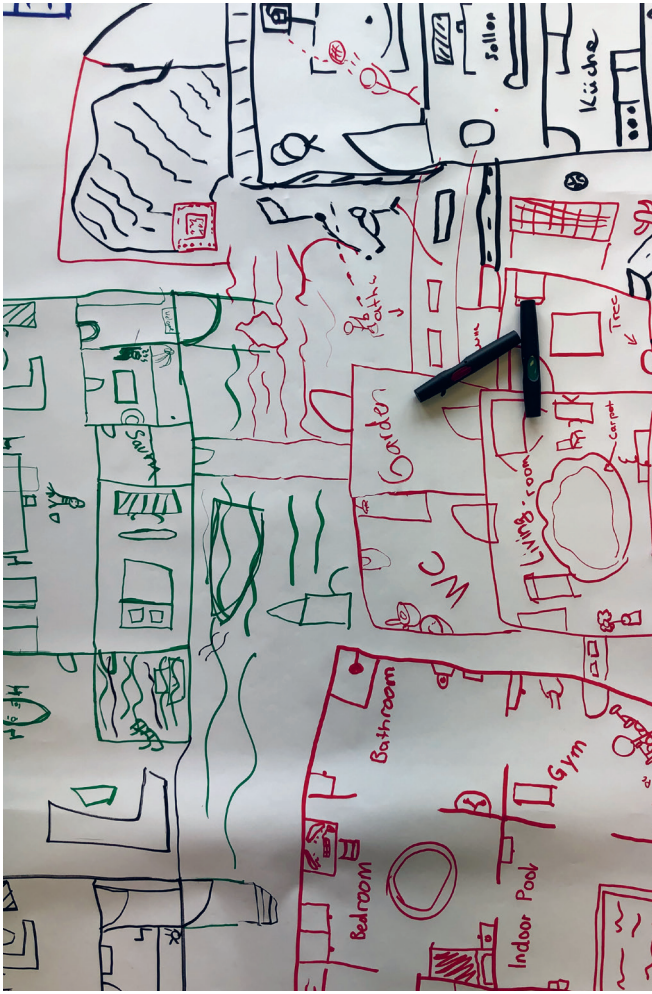
In order to conduct an exciting and instructive workshop, it is advisable to combine different methods and formats, the following are particularly suitable for architecture workshops:

- input
- brainstorm
- individual work
- work in groups
- discussion
- sightseeing / exploration

At the end of the workshop, it is advisable to do a short reflection or evaluation with all participants in order to ensure the quality of future projects, if necessary to increase it.

SUFFICIENCY LESSONS

The following pages give insight to four different lessons that the workshop participants prepared and implemented with school classes from the Formatio School in Triesen and the Gymnasium in Vaduz. The lessons are explained in a way that they can be tested and implemented by the reader as well. They are intended to encourage imitation so that sufficiency as a sustainability strategy (in dealing with the built space) is further applied in schools and mediated to young generations.



SKETCHES OF THE ADOLESCENTS. Photo: Daniel Haselsberger

FOCUS AREAS OF THE WORKSHOP REGARDING THE 17 SDGS.

SUFFICIENT STRATEGIES TOWARDS SUSTAINABLE DEVELOPMENT

Sufficiency is a key strategy to contribute to the 17 Sustainable Development Goals of the United Nations. Dealing with the question of the right measure and placing a good life in the centre of the aspirations, sufficiency has a major impact on several goals. Aiming neither for too little nor for too much, but a condition of enough for everyone, it works towards reduced inequalities (SDG 10). Focusing on a good life which is neither characterized by deficiency nor abundance, good health and well-being (SDG 3) are important aspects, too. Since human behaviour is closely related and shaped by (built) structures and modes of production, sustainable cities and communities (SDG 11) should enhance responsible consumption and production (SDG 12), promoting sufficient lifestyles. While more efficient and closed production methods of a circular economy depend on technological progress, which often brings unexpected rebound effects and creates new problems instead of solving existing ones, sufficiency bears a potential that could lead to immediate climate action (SDG 13) independently of any technological progress.

WORKSHOP DIARY

DAY 1

ARRIVAL DAY

The workshop started with a common dinner at the University of Liechtenstein. In an upcycled shipping container, named as “Base-Camp”, the participants introduced themselves by presenting their “sufficiency stories”. Sharing a great variety of ways how a sufficient life can become a good life allowed the students to get to know each other and served as an inspiring start into the workshop. The students are divided into four groups, each group consisting of at least one students from every school. During the workshop every group prepared a sufficiency-lesson which they will implement with classes from the high school in Vaduz and the private school Formatio in Triesen.

CLAY-DAY. Photo: Mustafa Karaaslan

DAY 2

CLAY-DAY

The day started with an excursion to Schlins in Austria. Architect Sami Akkach guided us through the production sites of clay-expert Martin Rauch. He explained how building with earth leads to healthy and sustainable living environments and how means of prefabrication have allowed an upscaling of the labour-intense production of rammed-earth walls. The visit to Martin Rauch's house and a current construction site exemplify the differences between in situ- and pre-fabrication. Back in the Base-Camp at the University, the students take part in a "clay storming" workshop guided by Daniel Haselsberger. Unlike in the method of brainstorming, first ideas are not written or drawn on paper, but modelled with the hands. In an intuitive way thinking and doing, brain and hands, are connected and spatial ideas explored. The day ended with the presentations of two uni.li students, who presented a project of their studies, which is related to the mediation topic and served as an inspiration for the workshop participants. This day approached sufficiency through the processing and the transportation of resources. Earth is a great example for a building material that involves reduced transport distances, no high temperatures for processing and can be renaturized completely.

UNDERSTANDING EARTH. Photo: Mustafa Karaaslan

DAY 3

RECYCLING-DAY

This day led to the Recycling Center in Sennwald, Switzerland. Marc Baumgartner, head of the Recycling-Center, explained the different recycling steps. Modern facilities allow a high degree of recycling which transforms waste into a resource. Nevertheless, there are still significant amounts of waste that can only be burned or dumped into landfill. Directly and perhaps overwhelmingly the students are confronted with the western waste-society. There is hardly anything that people do not through away, even coins are thrown away in considerable amounts. The day continues in the Base-Camp where PhD-student Gabriela Dimitrova talks about her research about recycling and reusing options in the construction sector. This is followed by a discussion about sustainability, lead by the three PhD-students Gabriela Dimitrowa, Daniel Haselsberger and Piotr Piotrowski. They debate about their different approaches to sustainability. Technological revolution vs behavioural change, green-growth vs post-growth, sufficiency vs efficiency and consistency show only some of the controversies that have been discussed and hopefully lead to a more wholistic understanding of sustainability.

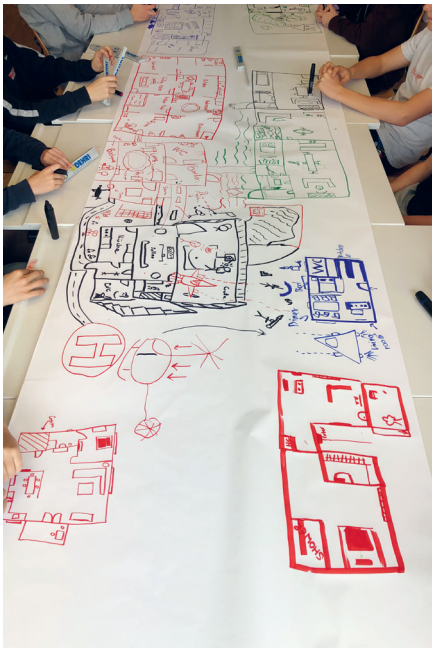
LECTURE BY ANNA HERINGER. Photo: Mustafa Karaaslan

DAY 4

PREPARATION-DAY

The fourth day started with an input about sufficiency in the building sector by Daniel Haselsberger and a methodological input about mediation techniques by Cornelia Faisst. During the lunch-break the participants got the chance to listen to a presentation by the German architect Anna Heringer, who is known for her building activities in Bangladesh, China, Africa and in the region, too. In an eloquent manner Anna Heringer explained how limitation in terms of the choice of materials and technological tools can lead to regional added value, spatial appropriation, healthy and sustainable living environments. In the afternoon one group already implemented a clay storming workshop with a school-class from the school Formatio, while the other groups prepared their workshops for the coming day.

RECYCLING-TOUR. Photo: Daniel Haselsberger



DAY 5

WORKSHOP DAY

On the fifth day three groups were at the high school in Vaduz to implement their sufficiency-lessons. In playful and creative ways, they tried to mediate the importance and the potential of a sufficient use of the built environment to three different school-classes. The aim was to show them that a sufficient lifestyle is not only a necessary duty towards other people and our natural surrounding, but also offer the chance to increase our life quality. Decluttering, minimalism and sharing were some of the strategies that have led to inspiring ideas by the students.

WORKING ON A BIG PLAN. Photo: Daniel Haselsberger

DAY 6

PRESENTATION DAY

On the last workshop day the students prepared their final presentations including the documentation and evaluation of the sufficiency-lessons with the school-classes. A small exhibition in the Base-Camp showed the outputs of the week. In the afternoon, an excursion led the students to Triesenberg, where an old traditional Walser house as well as the Walser Museum was visited. This allowed another different approach to sufficiency, one out of necessity. However, whereas in the past sufficiency was pursued as a survival strategy and as a consequence of necessity, nowadays it should be pursued as a consequence of responsibility. The workshop ended with a common dinner in a restaurant in Vaduz.

GROUP-PHOTO. Photo: Gabriela Dimitrova

SUFFICIENCY LESSON 01

MAKE NON-PLACES MATTER AGAIN

CLAYSTORM SESSION. Photo: Peter Princen

KELVIN AU
CHARLOTTE BUSSELS
SOFIE HYBHOLT
TINE KIERULF
KARIN RANIAY

First, the students were divided into four groups. They were taken on a tour on the University campus. While walking, short inputs were given on land consumption through building activities. Four lost spaces were identified, one for each group. To stimulate the discussion among the students, the mentors asked questions such as “Would you use this space?”, “Would you want to add to or take away something?” After the tour the students were taken back to the classroom.
Each group had to reflect on their space and make changes to them. All ideas were welcomed, the only restriction was to precisely reflect on whether or not their idea would encourage human interaction in the given space. The task was carried out through models of clay, giving them an opportunity to directly translate their thoughts into models. The groups spent one hour working on their models. Each group had a mentor assigned to them to answer questions and to support them during the process. In the end each group presented their model, explaining how they have transformed their lost space into an exciting and sustainable public space.

“We need new ways to think about architecture, instead of shooting down an idea as stupid, it is important to stop and think: Why not?”

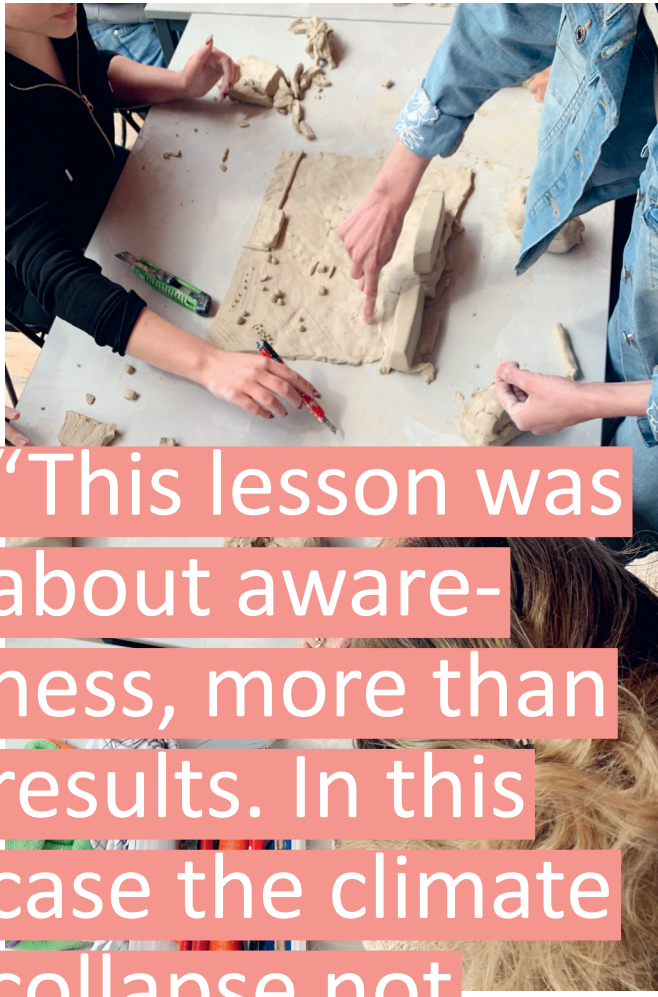
TINE KIERULF

CLAYSTORM SESSION. Photo: Kelvin Au

TRY IT AS WELL!

SUFFICIENCY	Reduce land-consumption
OUTPUT	Clay-models
DURATION	2–3 hours
AGE-GROUP	12–18 years
TOOLS	Clay, knife, scraper

- Introduce the topic of land consumption, densification measures and lost spaces in a playful way.
- Divide the class in groups of four to six people.
- Let them explore a given neighbourhood or the immediate surroundings of the school campus.
- Together, identify lost spaces and assign one to every group.
- Let the students experience their space with all their senses, analyzing what makes this space a lost space and what changes could bring it back to life.
- With the help of clay, let the students build a model of their lost space.
- Let them model their interventions to reactivate the space.
- Let every group present their reactivation interventions in their clay models and discuss them in plenum.



“This lesson was about awareness, more than results. In this case the climate collapse not only represents a threat but also an opportunity.”

SOFIE HYBHOLT

CLAYSTORM SESSION. Photo: Peter Princen

REFLECTION

Even though a mentor was assigned to each group, the students worked quite independently. The task of the mentors was to ask questions to stimulate reflection and creativity among the group. Triggered by a small question they were immediately discussing the spaces with a high level of architectural complexity. It was important to let them know that there are no stupid ideas. Creative solutions were welcome. Instead of asking why something should be like this, the students were encouraged to find reasons as to why not. We need new ways of thinking about architecture, and there was a lot to learn from the direct and playful approach of the students. How to implement a sufficient lifestyle can be an overwhelming question to answer, for an architecture student as well as for a teenager. Therefore, we started the task by asking ourselves: “How can we improve our lost space with a minimal intervention?” Becoming aware of their goals, the students were immediately driven to imagine necessary changes that would let them reach their goals. It was surprising to see how the group was able to connect one solution to another. Such a solution-oriented thinking is important to tackle the climate crisis that we are in.

SUFFICIENCY LESSON 02

THE MATERIALS AROUND US

TAPING PLANS 1:1. Photo: Lin Kappel

LINA ANNIKA BOOS
MAGDA KASPRZAK
SOFYA MARKOVA
TIES VANDEN BOSCH

In the morning we wanted the students to think about how much space they actually need. So we divided them into groups of two and three and let them choose a place in the school that they liked. Then we gave them two rolls of tape and asked them to tape on the ground a space they would like to live in. Always trying to keep the space as small as possible but at the same time bringing in all the functions they need. They should use their body to define how big the rooms and furniture has to be. After about an hour we gathered the students and then discussed all the tiny apartments that they taped on the floor. In the afternoon we wanted them to think about materials they would like to have in the little flat they designed in the morning. Again in groups they should look at magazines, walk around in the school and also go outside in order to find materials they like. They should then create a collage with the things they found. While arranging the collage they should reflect about why they like the material and also what it means in terms of sufficiency to use these materials. In the end we made a little exhibition of the collages and had a discussion about the materials they chose.

“It was refreshing to see the groups adding playful elements to their spaces that supported their lifestyle and created a personal atmosphere.”

TAPING PLANS 1:1. Photo: Lin Kappel

TRY IT AS WELL!

SUFFICIENCY	Reducing transport and processing of materials
OUTPUT	Collages of materials
DURATION	3 hours
AGE-GROUP	15–18 years
TOOLS	Tape, magazines, glue, scissors, paper

- Introduce the topic of transportation and processing of building materials: Sufficiency in the sense of less transportation and more local resources, as well as less processing and more natural and untreated materials.
- Let the students imagine materials for their taped tiny apartments by creating a collage of materials found in magazines, newspapers or the surroundings of the school.
- Discuss these materials in relation to sufficiency considering transport distances, level of processing, and required amounts.
- Let the students present their tiny apartments and ideas for materialization. Discuss them in plenum.

REFLECTION

The second task evoked many thoughts on the quality of materials that we are surrounded with. Several groups took durability, tactile and sensual qualities into consideration. We were generally surprised how accurate the proportions of the drawn spaces and inventory were. The students' understanding of proportions and measurements based on their own body was impressive and their minimal space proposals were quite realistic. Using the body as a tool to define spaces was surprisingly effective. It was refreshing to see the groups adding playful elements to their spaces that supported their lifestyle and created a personal atmosphere. The students did not only focus on organizing the space and choosing the right materials, but also incorporated daylight. Both of the tasks complemented each other well and gave room for possible follow-up tasks. Introducing a broader spectrum of materials would have improved the second task, allowing a broader discussion of sustainability of materials.

MATERIAL QUALITIES. Photo: Lin Kappel

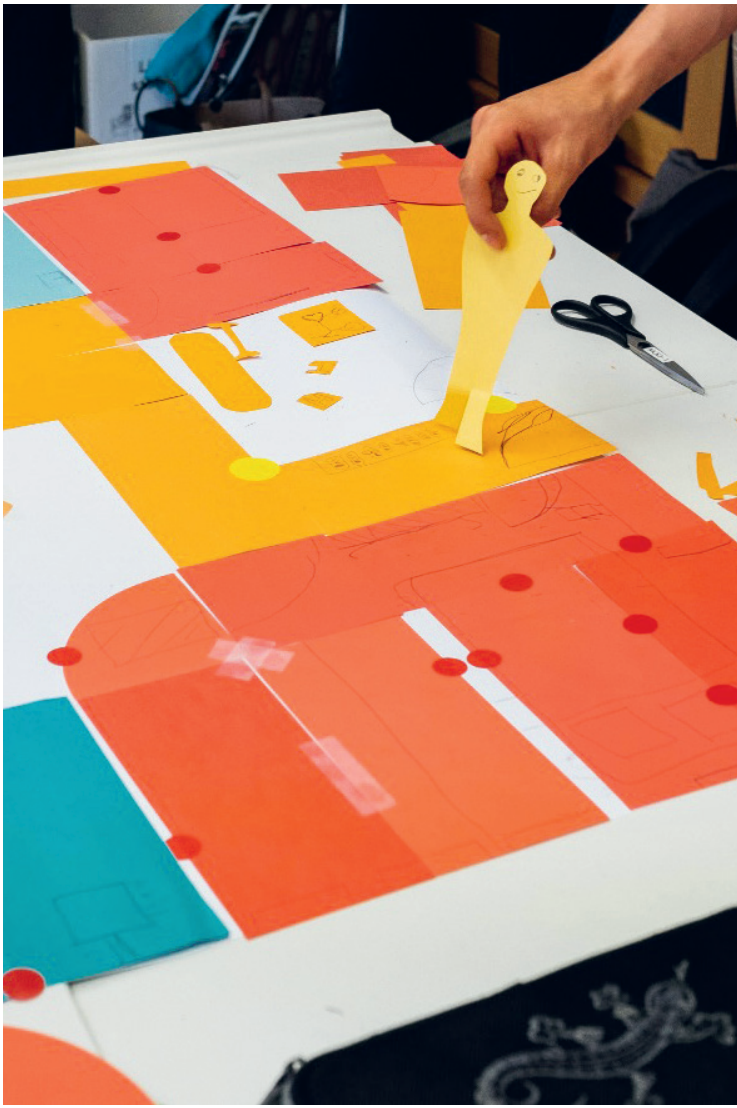
“We don’t need that much to live. With the most necessary facilities it can easily be called a livable space.”

TIES VANDEN BOESCH

PROCESS. Photo: Sofya Markova

SUFFICIENCY LESSON 03

RETHINKING IDEAL LIVING SITUATIONS



GUIDING THROUGH THE DEVELOPED CONCEPTS. Photo: Mustafa Karaaslan

WINTHA VAN DEN ABBEELE
GUÐRÚN HARÐARDÓTTIR
MUSTAFA KARAASLAN
CHRISTEL MADSEN
BRITT VOSSEN

We rearranged the tables to form one long communal table, on which we rolled out a long paper for the students to draw their dream house. All the students presented their drawings, spanning from huge mansions to tiny house concepts. Even though we have not introduced the concept of co-living yet, a few students already chose to live together.
After a break we divided the students into groups of four and gave them a paper with the size of 1×1 meter and some coloured sheets. We showed them how to work in a scale of 1:10. Then we asked them to design a co-living situation for their group on the 1×1 m paper, which corresponds to 10×10 m in the scale of 1:10. In addition we asked them to distinguish private and public spaces with colours.

“It was rewarding to see how well they were able to co-design.”

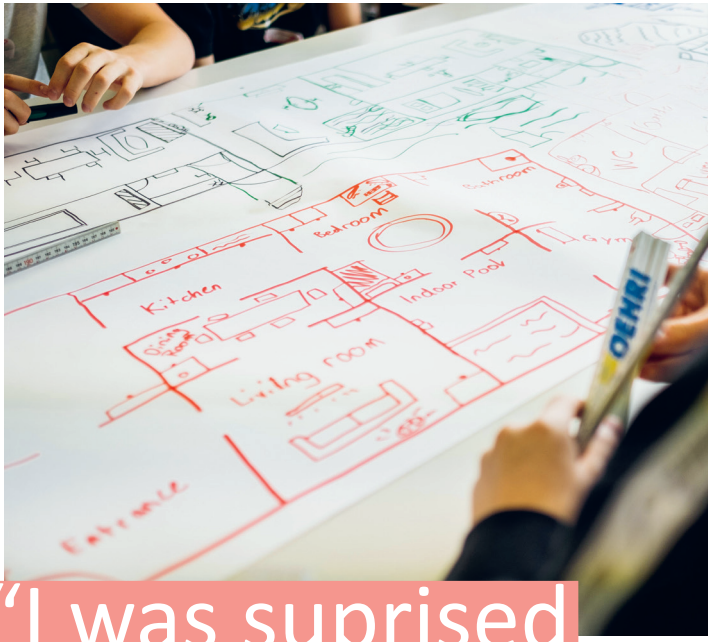
GUÐRÚN HARÐARDÓTTIR

ONE COMMON PLAN. Photo: Mustafa Karaaslan

TRY IT AS WELL!

SUFFICIENCY	Sharing space instead of owning
OUTPUT	Plan of a shared flat in 1:10
DURATION	3 hours
AGE-GROUP	15 –18 years
TOOLS	Paper, coloured cardboard, pens, scissors

- Introduce scales and plan drawings in a playful way.
- Let the students draw their individual dream houses on a shared paper roll.
- Let them negotiate spatial (paper) demands with each other.
- Let them present their designs and discuss them in plenum, also considering sustainability aspects.
- Introduce the topic of sharing space through communal living concepts.
- Divide the students in groups of four and let them design a shared apartment in the scale 1:10 on a 1×1 meter paper.
- Let them distinguish private and public rooms to get a better awareness which rooms they are willing to share and how that affects their design ideas.
- Let the students present their proposals and discuss Plan of a shared flat in 1:10 them in plenum in comparison to their initial dream houses.



“I was suprised how quickly they changed their mindset towards co-living.”

BRITT VOSSEN

DESIRED FUTURE LIVING SITUATIONS. Photo: Mustafa Karaaslan

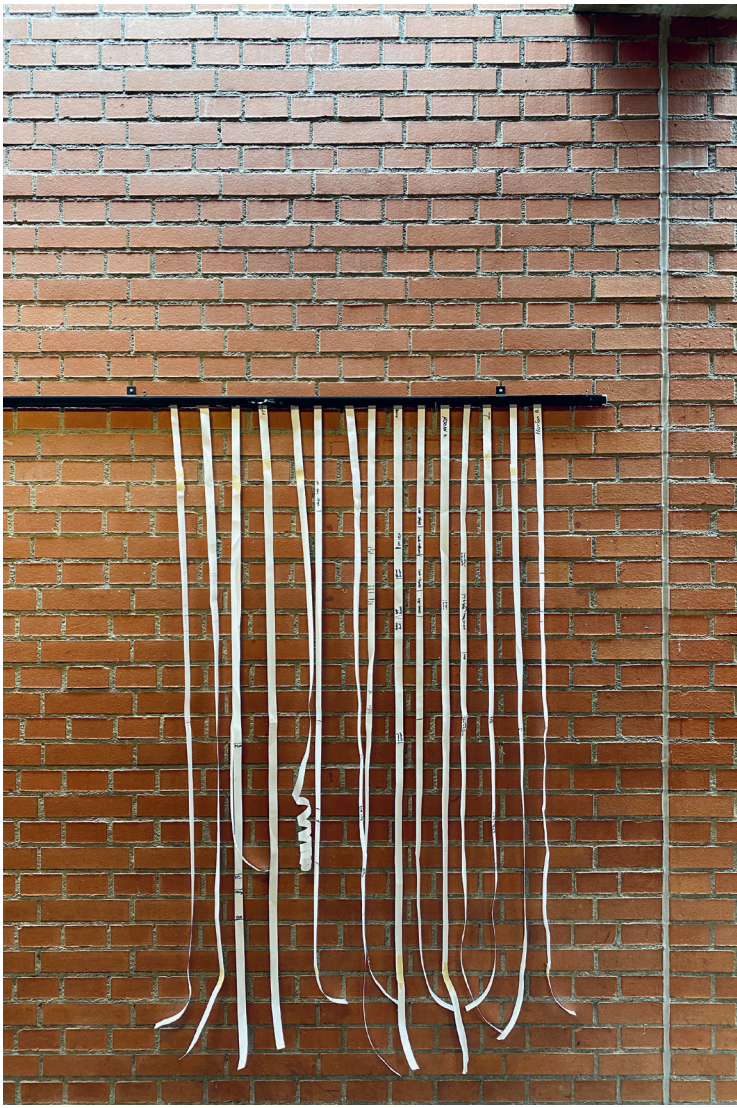
REFLECTION

For the first task we deliberately did not mention words such as house, apartment, home etc. to keep their minds more open on what “living” could be. This resulted in diverse but often quite unsustainable outcomes. It was interesting to see that almost all students started by drawing a rectangle, which they filled with programs. Instead of a design based on the individual needs, the house acted as a container and dictated the programs.

The co-housing task resulted in interesting architectural solutions. Having to negotiate a limited space, the students shifted their mindset, resulting in more shared spaces like bathrooms, wardrobes, living-rooms, gardens and even shared bedrooms. Using colours enabled the students to consider the different functions of a residential building and the separation of private and public spaces. After their final presentations all students agreed that they would prefer to live in their new co-living house instead of the rather greedy and egoistic first designs.

SUFFICIENCY LESSON 04

TAILORING PERSONAL SPACES

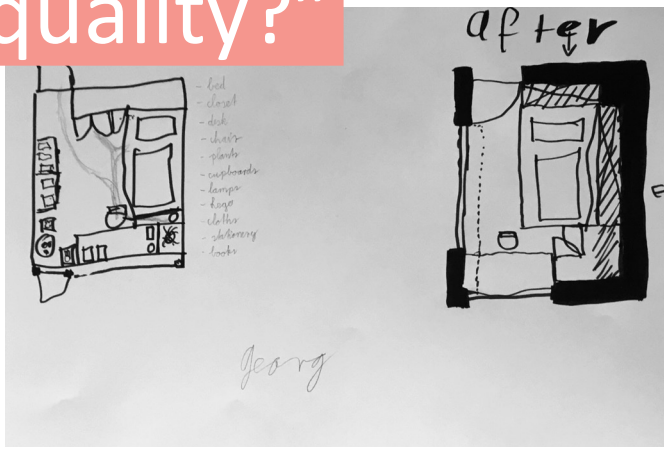


PERSONAL MEASURING RIBBONS TO TAILOR PERSONAL SPACES.
Photo: Workshop Team

FERDINAND AAGENÆS
INE GRAJCHEN
NJÅL HOMEYER
THEA MADSEN
VIKTORIA MATRYUK

The first task for the students was to draw their personal rooms, thinking about how they use them and what they find important. We demonstrated a quick sketch of a personal room to show its qualities and what we liked or disliked about it. Both, we and the students then proceeded to present our drawings to share what our rooms look like.
The second task was to explore the idea of personal dimensions and proportions. We asked the students to make a measuring-ribbon based on their bodies instead of a metric system. That way the students ended up with a measuring-ribbon that was specifically tailored to their individual bodies.
Now we asked the students to make a 1:1 sketch of their own tailored room using their personal measuring ribbons. We finished the day by going through the corridors and letting the students present their 1:1 tape sketches. We had discussions on how they had utilised the space and solutions they had implemented to make a better use of their rooms.

“How to reduce the personal floor area demand while maintaining a good life quality?”



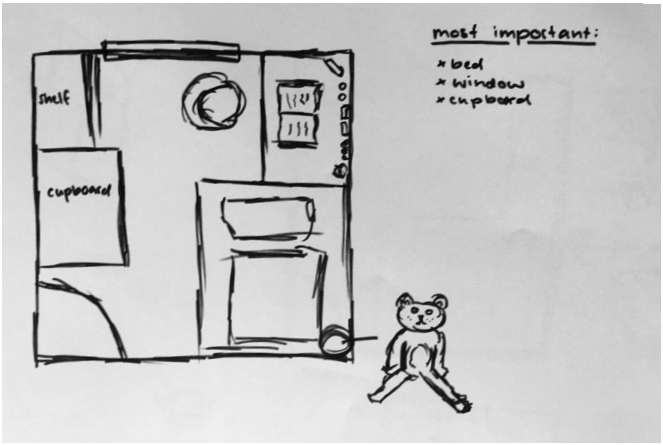
DRAWING THE PERSONAL BEDROOM. Photo: Workshop Team
BEFORE AND AFTER A DECLUTTERING PROCESS. Photo: Workshop Team

TRY IT AS WELL!

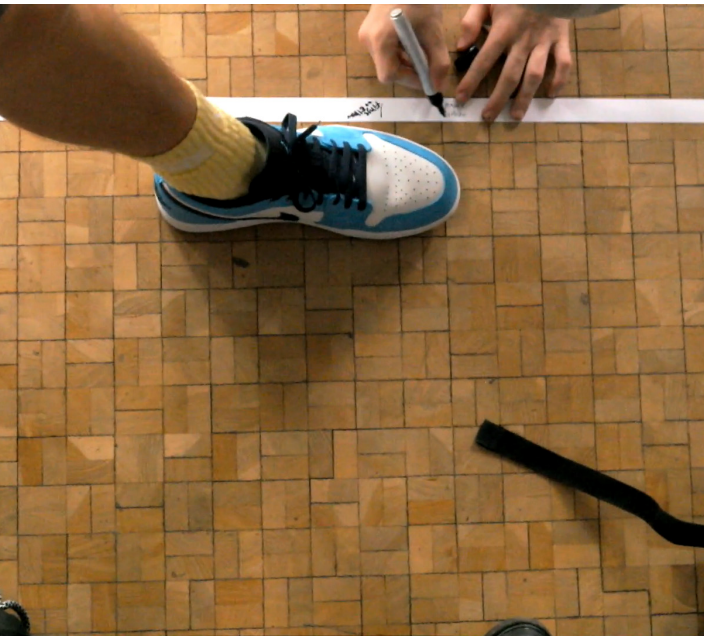
SUFFICIENCY	Reduction of floor-area consumption
OUTPUT	Personal measuring ribbons, taped floor plans
DURATION	3 hours
AGE-GROUP	15–18 years
TOOLS	Paper strips, pens, tape

- Introduce measurements and proportions.
- Let the students draw their personal rooms.
- Let them reflect on what they like or dislike about their rooms and how they could optimize their rooms in terms of floor area demands.
- Let the students create their personal measuring-ribbon tailored to their own body measures.
- Let the students tape their ideas for a personal room on the floor using their personal measuring-ribbons.
- Challenge them to question their needs and reduce their floor-area-consumption.
- Let the students present their proposals and discuss them together.

“The discussion revolved around the topic of what a good living space actually is, rather than just trying to reduce our built footprint.”



THE MOST IMPORTANT THINGS. Photo: Workshop Team



REFLECTION

What began as an exercise in sufficiency, soon became more of an exercise in spatial qualities. The discussion revolved around the topic of what a good living space actually is, rather than just trying to reduce our built footprint. Body measurement introduced the idea of a tailored space, where the students became more aware of their own physical presence. Our objective was to make the students reflect on the differences between “nice to have” and “need to have”. By first drawing their own bedrooms, the students got a familiar space to work with, and we could then go on to exercises where the students could use their own spatial understandings, and their individual body measurements to explore new ways of organizing their spaces. In the taping exercise, the students got the chance to define their own spaces in 1:1, and apply their own perceptions of quality to the rooms they designed.

THE BODY AS A SCALE. Photo: Workshop Team

LIMITATION AS A CHANCE

SUSTAINABILITY, IN SEARCH OF A DEFINITION

Sustainability has become a vague term. It is being (ab)used in ways that disguise its meaning. In a capitalist society sustainability is a selling argument: Every product is appraised to be sustainable in one or the other dubious way, just to calm the consciousness of the consumer. It is also a status symbol: Sustainable is someone who drives an electric car or lives in a passive house, no matter how many times this person goes on holidays by plane. However, in the end it is not primarily a product but its use that needs to be sustainable. And it is the overall emissions and resource demands per capita and no single symbol can define someone's sustainability. By proposing a simple calculation, based on a concept by Neustart Schweiz, we tried to liberate the term from its many interpretations: The world's renewable resources divided by the global population equals a sustainable and respectively a sufficient and fair lifestyle.

As obvious this calculation might seem, its result caused discomfort and discussions among us. No wonder, living on 20 square meters, not using cars and planes, radically reducing the consumption of meat,

dairy products, the internet …, poses big challenges for all of us. “This looks like the life of a prisoner!”, commented a shocked workshop participant. However, most people in the world, especially in the global south, need to live with much less than the proposed lifestyle menu. Thus, how can we take the right to live beyond our means? No doubt, the precision of these numbers may be questioned but they certainly show a direction of where our personal duties should lead to.
The attempt to define sustainability through numbers and to relate it to our personal responsibility during the sustainability debate on the third workshop day caused a lively discussion that helped us gaining a more wholistic understanding of sustainability, which too often is reduced to products or greenwashed through capitalist driven media.

BUILT STRUCTURES AND DAILY LIFE PRACTICES

Throughout the workshop we were confronted with the challenge of how our designs could become more sustainable, not only in the ways they are shaped and materialized, but also in the usage that they promote. How could we transform the built environment so that the most sustainable lifestyle also becomes the most convenient? Trying to answer this question we first explored the relation of built structures and daily life practices. Instead of losing ourselves in theories we observed how our daily life actions are being shaped by the built structures that surround us and how in turn, our practices influence our design decisions. Therefore, we wrote “sufficiency stories” stating the role of sufficiency in our lives, the benefits we gain from it, but also the challenges we are confronted with and how design measures could eventually lead to a sufficiency promoting built environment.

In a more playful approach, we tried to raise the same awareness in the teenagers of two regional high schools. They imagined how living in a tiny apartment, or a shared flat could benefit the environment but

also their own lives. During these “sufficiency lessons” we took on a different role: Instead of proposing designs for the built environment, we proposed alternative uses of it. At the same time, we collected information on the transformations that a future generation requires to live in sufficient ways. We turned into lifestyle experts for a sufficient use of the built environment.

BETWEEN STRICT NUMBERS AND GOOD STORIES

On one hand the above-mentioned calculation can provide a wholistic understanding of sustainability, on the other it might appear as a repulsive appeal, scaring people rather than motivating them to live in sufficient ways. This leads to another finding of the workshop: Sufficiency must be packed into good stories without becoming vague. The fact that sufficiency is often equated to loss and renunciation is not helpful in promoting sufficient lifestyles. Our sufficiency stories have shown that the reasons for the sufficient aspects of our lifestyles were usually related to a gain in life quality. Imagination is required to discover this gain, as what must be renounced is usually more obvious than what can be gained by renunciation.

Sharing sufficiency stories or listening to change-makers such as architect Anna Heringer or clay expert Martin Rauch showed us the possibility of alternative paths. Such stories work against the term’s negative connotations and proof that it is not only key to a sustainable but also a good life. However, there is also a risk that such stories distract from more problematic issues or compensate for unsustainable practices. Our sufficiency stories have also shown that we tend to focus on specific aspects in our lives, while others remain hidden. We might use a bicycle to go to work, but we travel on holidays by plane. We might live in a passive house, but on a bigger floor area than a sustainable lifestyle would allow. During the workshop we have become aware of the many contradictions that our (un)sustainable actions are entangled in.

Even though we cannot always solve them, it is relevant that we do not shy away from addressing them and try to find a compromise between the unforgiving arithmatic of a sufficient lifestyle and the deceptive incompleteness of pleasing sustainability stories.

FROM THINKING TO DOING

Sufficiency as a pathway towards sustainability does not require unseen innovations to have an immediate impact. However, the immediate potential that can be activated by everyone also poses an uncertainty: Do our individual actions matter compared to the unimaginable scale of climate change or biodiversity loss? Our answer to that was clear: They do! Because we are good in creating big visions for a sustainable future, but we are not as good when it comes to taking action. Therefore, every step towards a more sustainable world matters. However, these steps must not only mean a sacrifice for the sake of sustainability but come along with benefits for an improvement of the personal life quality. Therefore, politics, economies, schools, and designers must set a framework of legal, technological, educational, and built structures that promote sustainable practices. This requires architects to share their field of expertise with others as we tried to do with our potential future clients, the teenagers from two regional high schools.

STUDYING AND LIVING SUSTAINABILITY

A main finding of the workshop was that five days only allow an excursion into the field of sustainability. To promote sustainability in (architecture) education we suggest a holistic approach, which does not only include a single workshop “about” sustainability but a whole curriculum and a campus that is aimed “to be” sustainable. We ask for a consistency between studied, taught, and lived sustainability. Sustainability should not be reduced to slides and theories, but lived through sustainable actions on and beyond the campus. This includes the way students and teachers

travel to their university, the menu of the canteen, the modelling materials, or the amount of print outs required to present a project. This is why we tried to limit the destinations of our excursions to a radius that can be reached by means of public transport in less than an hour. The food provided during the workshop was not vegan, but at least vegetarian. The main modelling material was clay that can be endlessly reused and easily renaturized. The nearby location of the accommodation allowed the workshop participants to reach the university comfortably by foot. Finally, the workshop took place in an upcycled container, which served as an inspiring working environment.

AFRAID OF SUSTAINABILITY?

We are aware that confronting our personal lifestyles with sustainability is a challenging endeavor, as it risks to end up in a blame game. However, the experience of our workshop has shown that sufficiency offers not only an urgent but also a fruitful access to the topic of sustainability. The inspiring examples of Anna Heringer and Martin Rauch, but also the many sufficiency stories and lessons that were part of this workshop, have shown that there is no need to be afraid of sustainability. What is needed is curiosity and fantasy to imagine what can be gained through renunciation, how limitations can act as creativity boosters and how a built environment could look like that it is not designed for economic profit but a good life for everyone.