

Ecodesign Roadshow

Sustainability in Everyday Life

Workshop for Primary School Children



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1. Background information and workshop goals

In the long run, the earth will not be able to provide the resources needed to continue the present way of life and consumption – especially, in consideration of the steady population growth. According to the Foot Print Network, “humanity uses [today] the equivalent of 1.6 Earths to provide the resources we use and absorb our waste. This means it now takes the Earth one year and six months to regenerate what we use in a year”¹. Still, every single day, massive amounts of household waste – potential resources – are left behind. How can these mountains of rubbish be tackled? What are the alternatives?

Combined with a guided exhibition tour, the age-appropriate workshop aims to convey sustainable behaviour to primary school children aged eight to twelve years. In this workshop, children learn about waste as a reusable resource in a way that is close to everyday life: from cups made of coffee dregs and eatable plates made of wheat bran, to projects that counteract food waste by familiarising children with vegetables and fruits that do not meet the all-too-perfect supermarket standards (carrots with three legs, crooked cucumbers and oversized courgettes).

Following the guided tour, a “swap meet” offers the opportunity to exchange disused toys among each other. This simple exercise raises the children’s awareness for sustainable consumption and behaviour.

The workshop guide at hand gives an outline of a potential workshop, and partly suggests child-oriented explanations and questions directly addressing the young participants. After a short introduction to the project “Eco-Design Circle”, in which the exhibition “Reconsider Design” is embedded in, the children find out about the four exhibition categories: Learning / Playing, Consuming / Eating, Enabling / Moving, Dressing / Wearing. Along chosen products and services from these categories, the workshop leader can address topics like sustainable and non-renewable resources, the natural cycle, the reduction of waste and sustainable consumption.

A short definition of ecodesign, rather intended for the workshop leader’s preparation, can be found in the second chapter. The exhibition catalogue provides detailed descriptions of the products and services that are showcased in the exhibition.

1 <https://www.footprintnetwork.org/our-work/ecological-footprint/>

2. Definition of Ecodesign (International Design Center Berlin)

What it's about

Ecodesign is about much more than energy efficient refrigerators and bags made out of recycled materials. The scope of Ecodesign spans the entire life cycle of a product, from the extraction of raw materials to production, distribution and use – all the way to recycling and disposal. Alongside questions of energy consumption and the responsible use of resources, this far-reaching approach also incorporates aspects such as user behaviour, longevity and reparability.

Longevity

Good design lasts longer, and the longer a product in use lasts, the better it is for the environment. This is not only a question of the choice of materials and the build quality, but is also a question of aesthetics. In equal measure, Ecodesign is about innovative and appealing solutions, viewed from a perspective that encompasses aesthetics, functionality, user-friendliness, and, of course, sustainability and environmental compatibility.

Products, services and systems

In short, Ecodesign is good design that benefits people and the environment alike. Beyond the creation and production of material goods, this is also about the environmentally sound and user-oriented conceptual design of services and systems. Our world is in large part man-made – or rather, designer-made. Objects and processes are not products of chance, but are planned, designed and built. This process typically requires the acquisition and consumption of resources, and frequently creates waste and pollutants that affect our health and environment.

Basic principles

An important objective of ecodesign is to create products, services and systems in such a way that they have the smallest possible negative impact on the environment – in all stages of their lifetime. The basic principles are life-cycle thinking, longevity (not forgetting aesthetic longevity!), the responsible use of resources, the avoidance of pollutants and waste, and social sustainability.

3. Workshop materials

Workshop leader:

- blank, eco-friendly stickers
- felt tips
- coloured paper
- scissors
- Kaffeeform tableware
- BIOTREM tableware
- imperfect vegetables/fruits
- two bed sheets
- one wooden dice
- one tray

Each participating child:

- pencil case
- scissors
- one discarded toy for exchange (parents' consent needed)

Each participating group:

- wheat bran
- coffee dregs
- leaves
- tree bark (small amount)

For “swap meet” it is recommended to bring some back-up toys made of different main components (wood, plastic, metal, textile) in order to show a variety of materials.

4. Welcome address and introduction

5 –10 minutes

Following the welcome address and an introduction of the workshop leader(s) and children, the workshop leader shortly outlines the workshop goals – exploring ways of sustainable behaviour and consumption – and gives an age-appropriate definition of sustainability which should become easier to understand in the course of the workshop.

Generally spoken, sustainability means maintaining the world we live in. Due to the limited amount of resources in the world and the steady population growth we must act responsibly about the products we consume – a lot of them are made of limited raw materials and harm the environment. Our behaviour and consumption patterns have a lasting impact on the environment which needs to be protected for the future generations.

Next, the project 1x1 (“what”, “who”, “where”, “when”) breaks the first ground and links the workshop with the exhibition “Reconsider Design” and the overall project “EcoDesign Circle”. A map of the Baltic Sea Region is recommended.

WHAT

This workshop takes place within the exhibition “Reconsider Design”. The exhibition is part of the EU-project “EcoDesign Circle”. The overall project goal is to promote environmentally friendly and sustainable design, and to impart ecodesign knowledge to different people from various fields. The exhibition showcases excellent examples of sustainable design from the Baltic Sea Region.

WHO

Six project partners from five different countries work together in the project “EcoDesign Circle”: Estonia, Finland, Germany, Poland and Sweden. The lead partner is the German Environment Agency. The mutual project language is English.

“ Can you locate these countries on the map?
Can you name their capitals by chance?
What do they share “in the middle”? ”

These five countries are all from the Baltic Sea Region. There are more countries in the Baltic Sea Region, but they are not part of the project (e.g. Denmark, Latvia).

WHEN and WHERE

“Reconsider Design” is a travelling exhibition with specific stops in partner countries from the Baltic Sea Region. The exhibition had its opening in summer 2017 and will run until autumn / winter of 2018. So far, the exhibition has already been presented in Poland, Germany and Finland. It is foreseen to show the exhibition in Sweden and Lithuania.

DESIGN

Approaching the topic of design, the workshop leader can initiate a short brainstorming:

“ What does a designer do?
And in what different contexts have you encountered the topic of design in your everyday life? ”

Possible answers could be: graphic design, nail design, jewellery design, game design etc.

Through questions referring to everyday life activities, the children are meant to come up with certain verbs themselves which might ultimately lead to the four exhibition categories. Examples could be “eating breakfast” (Consuming / Eating), “getting dressed” (Wearing / Dressing) or “walking to school” (Enabling / Moving).

“ What have you already done today?
What do you do at school?
Do you know the English verbs for the things you probably do every morning before school starts and at school? ”

At this point, it might be helpful for the children’s orientation within the exhibition to introduce the different colours of the exhibition categories (a good example for applied communication design!) by writing down the category names on cardboards in the corresponding colours.

Before going to the exhibition, let the children place the materials they brought as a group on different plates, that is: wheat bran (a by-product, which forms during the milling of wheat grain), old coffee grounds, leaves and tree bark.



“ What does normally happen to these “things”? What do you know about the natural cycle ? Do you know the concept of “composting”? What raw materials / natural resources have you already heard about? Which of these raw materials are regenerative, thus sustainable, and which are being consumed? ”

Possible answers could be: wood (paper), clay (bricks), quartz sand (glass), ore (cans), crude oil (plastic), bauxite (aluminium foil).

Please take into account that among these, only wood and plants are regenerative materials. Clay and quartz sand are available in abundance, therefore the risk of running out of them is low, but crude oil, ore, bauxite are consumed irreversibly.

The workshop leader gives an exhibition tour and presents chosen products and services from all categories. The examples help to address and deepen topics like sustainable and non-renewable resources, the natural cycle, waste reduction and sustainable consumption in a way, that is age-appropriate and close to everyday life.

Depending on the wished outcome, the workshop leader can decide to either give an in-depth overview on each category, or shorten the introduction and let the children discover the boxes on their own.



On the following pages, you will find selected cases that the workshop leader might use for introducing the children to each category. The first ones for example illustrate how designers can use natural materials to replace plastic, glass, porcelain, etc.

For the category “Learning / Playing“ it is recommended to host an interactive “swap meet“, inspired by the project “Retoy“ (see page 13).

5.1 EATING / CONSUMING

Biotrem **BIOTREM SP. Z O.O.**



The disposable tableware Biotrem is completely biodegradable – through composting – in a mere thirty days. Wheat bran is a by-product, which forms during the milling of wheat grain. Biotrem’s production process uses only pure, edible wheat bran and a very small amount of water. No chemical additives are used, giving the tableware no adverse human health effects and no negative environment impact. About one ton of wheat bran can make up to 10,000 disposable plates or bowls. The Biotrem tableware can be used for hot and cold meals, and is also suitable for oven or microwave use.

GIRIA **Evelina Kudabaitė**



GIRIA is a homeware collection made from leaves and the bark dust of ash-, oak- and pine trees. The used materials give it a unique texture, varying in colour and roughness of the surface. The tableware is shaped by hand, oiled and dried over a span of weeks. Every item is one-of-a-kind and changes over time, depending on use. As a material study the project enhances natural waste by turning it into precious items.

Kaffeeform
Kafform UG, Julian Lechner



The tableware Kaffeeform consists of coffee waste mixed with wood shavings and biopolymers. In cooperation with a Berlin based sheltered workshop, the coffee grounds are retrieved from local restaurants and cafes, and dried, packaged and sent out. The grounds are then processed at a production facility in Baden-Württemberg, where the waste is turned into a new product. The coffee-scented tableware is light, durable and easy to clean. Kaffeeform can be ordered online or purchased from selected cafes and businesses.

Please take into account, that replacing materials is just one sustainability approach. The next two design projects are concerned with the question of how to reduce unnecessary products and waste from the beginning.

Culinary Misfits
Lea Brumsack, Tanja Krakowski



Tuberous potatoes, carrots with three legs, oversized courgettes – vegetables and fruit that do not meet aesthetic standards for sale are often rejected and disposed of on a massive scale. The Culinary Misfits project intends to counteract this waste of food. Through a series of workshops, the people behind the project familiarise companies and private groups, children and adolescents with a food culture in which food can be appreciated once more. Culinary Misfits also offers a catering service. Vegetables and fruit are exclusively sourced from local organic farms.

“ Does a crooked cucumber taste bad? ”

Original Unverpackt Original Unverpackt GmbH



Almost half a ton of household waste is generated per capita in Germany annually – not least as a result of food packaged in plastic. The Original Unverpackt supermarket offers an alternative to this problem: No disposable packaging is used, and the goods can be packaged at packing stations instead – from beans to liquids to grain. Along with the specific avoidance of waste, the project informs about topics like recycling and ‘zero waste’. Original Unverpackt also offers an online course, in which participants learn how to launch a package free supermarket on their own. There is currently a supermarket in Berlin as well as an online shop.

“ By the way: If customers don’t bring their own jars, they can get glasses, cloth bags or recycled paper bags at the supermarket. The online shop only uses packaging and padding materials which have been used before. ”

Remember: It is not all rubbish!

As the children have learned in this category, waste needs to be regarded as a resource since a lot of it can be reused or recycled. There is a difference between residual waste and recyclable, valuable waste. Recycling (RE-CYCLE) means to feed materials of high quality back into the cycle while remaining high quality (avoiding downcycling).

“ What is a cycle?
What could circular economy be? ”

Peepoo Peepoople



In 2015, close to 2.5 billion people lacked access to basic sanitation worldwide. Lack of sanitation is a major contributor to diseases like diarrhea and cholera, killing over a million children every year. Peepoo is a personal, single-use toilet that sanitises human excreta shortly after use, thereby preventing faeces from contaminating the immediate environment as well as the surrounding ecosystem. Ergonomically designed and using the minimum amount of material necessary to provide maximum hygienic sanitation, Peepoo is cost-efficient to produce. Since Peepoo is affordable for those with the weakest purchasing power, it offers a sanitation choice that benefits both individuals and society as a whole.

“ What could you do with this bag?
What does the product name hint at? ”

StreetScooter StreetScooter GmbH



StreetScooter has developed an electric mobility concept especially for Deutsche Post. The eco-friendly E-utility vehicle was developed with the requirements of the delivery of letters and parcels in mind, reducing the physical strain for the carrier. The lightweight construction keeps production costs low, while the modular system enables the production of different versions of the vehicle.

5.3 DRESSING / WEARING

“ Who of you likes shopping? How about your parents? Are clothes important to you? Do you buy new or rather second hand clothes? How long do you wear your clothes for? ”

Kleiderei Kleiderei Hamburg GmbH



Kleiderei is a lending service for clothing. For a fixed amount, subscribers receive a monthly package with four pieces of clothing to their home. The clothing is customised to suit subscribers' respective taste, to which end a questionnaire has to be filled out during registration. The products consist of (young) design brands, selected vintage pieces, and donated clothes. The project facilitates a diverse wardrobe and the sampling of new styles – avoiding fast fashion or excess. Clothing can also be loaned 'offline' at the Kleiderei store in Cologne.

“ Good to know: On request, subscribers can also keep a package for longer. If they especially like a certain piece of clothing, they can decide to purchase it as well. ”

Reet Aus Aus Design Llc.



The designer Reet Aus is dedicated to Slow Fashion. Her upcycled collection is made entirely from post-production leftovers. For her collections she uses the Upmade method, an industrial upcycling method that she has developed. Each Up-shirt saves on average 91 per cent water, 87 per cent energy and creates 80 per cent less CO2 in comparison to a conventionally produced T-shirt.

5.3 DRESSING / WEARING

Pure Waste Textiles Pure Waste Textiles LTD.



Pure Waste Textiles makes 100 per cent recycled yarns, fabrics, and ready-made garments. The raw material for the textiles is collected from two main sources – cutting clips from ‘cut, make and trim’-factories and yarn waste from spinning and weaving mills. Sorted by colour and quality, the textiles are mechanically opened back into fibres. Depending on the final use of the fabric, the cotton waste can then be mixed with chemically recycled polyester or viscose fibres and spun into yarns. Knitted or woven, the yarns undergo a finishing process and are cut into the final product. No harmful chemicals are used during the recycling process. Each Pure Waste T-shirt saves up to 2,700 litres of water in comparison to a T-shirt made of virgin materials. 90 per cent of the energy used for in the recycling process comes from renewable energy.

Exercise: SWAP MEET

Inspired by the project Retoy (Learning / Playing) you can try to do an interactive “swap meet” with the children.

“ You have brought toys today, which you have played with and hopefully liked a lot in the past. But now they are no longer needed, because you are no longer interested in them or because you have too many perhaps... ”

First of all, collect all the toys on a bed sheet. Next, ask the children to sort them by their main components, for example wood and plastic.

“ What is plastic made of again? Do you know what kind of material is sustainable and environmentally friendly? How do these materials in toys influence the environment?
How long have you played with these toys for? What would happen to them if they wouldn't be swapped or donated? Remember: There is always someone who still likes to play with the toys you no longer want – a good way to save them from the bin and reduce waste!
Let's find new homes for your toys! Swap instead of buy new! ”

If some of the toys are very popular, a wooden dice can help to pick a winner (for example the highest number wins). Let the children throw the dice on a tray to avoid chaos. Or, even better, try to initiate a “service system” if the toy in question permits it

“ Wouldn't it be nice if more than just one child could play with this toy? How could that be possible? ”

For instance at a workshop in Dessau, Germany, eleven children were interested in just one CD. As a result, the children came up with their own smart little loan service at their after-school care centre. They even appointed a person in charge.

In case there are some “rather unpopular” toys left in the end, try to consider together how to deal with them:

“ Have you got siblings who may like these toys? To whom could we donate these toys otherwise? ”

6. Follow-Up and Brainstorming

10–20 minutes

Acting sustainably – What can you do / contribute / improve?

“ How can we reduce our energy consumption? For example by switching off lights if not needed, by avoiding standby mode, or by turning down heating while airing rooms.
How can we reduce waste? By using reusable lunchboxes and drinking bottles, by carrying along cloth bags to the supermarket to avoid disposable bags, or by trying to get broken things fixed before buying new ones.
Do you get to choose little giveaways for example plastic toys at the dentist after the treatment? What does usually happen to these toys? Regardless the fact that these things are for free, do you actually need them or play with them? ”

7. Feedback

10 minutes

“ What did you like best about this exhibition?
What was most interesting for you?
What was funny maybe?
Which product would you like to use at home?
Can (eco-friendly) design make a difference or does it rather avail very little? ”

8. Additional Suggestions

Below you can find two additional exercises that are inspired by the exhibition “Reconsider Design”. Both experiments help the children to reflect playfully on the new things they have learned during the workshop.

8.1 Exercise: Making stickers

20–30 minutes

KOMPLOTT

Janina Prenzing, Iven Sohmman



The KOMPLOTT series of stickers appeals to everyone’s ecological awareness. The images counteract everyday ‘environmental sins’ in an unconventional and exhilarating way, thereby helping reduce energy and resource consumption. Originally designed for the University of Applied Sciences Potsdam, usage in other facilities like public offices, medical clinics, and schools is also conceivable.

Inspired by the project KOMPLOTT, children can make their own stickers.

“ You have learned a lot about sustainability today. Is there a message, a resolution, a reminder for sustainable behaviour you could write or draw on your sticker? And what are you going to do with your own stickers? It doesn’t need to be deadly serious! ”

If the children still need some inspirational help, let them have a look at “the designer’s” sticker ideas. Let them present their stickers.

Inspired by the project Kaffeeform, children can experiment with coffee dregs themselves.

Ingredients

- 500 g coffee dregs
- 200 g wallpaper paste
- 100 g shredded paper + water
- plastic boxes

Instructions

- Mix up coffee dregs, paper mass and wallpaper paste. Leave to draw.
- Knead the dough thoroughly until sleek.
- Add paper and paste if the dough is instable.
- Now mold the dough freehand or press into a form (e.g. plastic box).

It is best to let the bowls, plates, etc. dry fast and under warm conditions: In winter time on a heater, or in summer time in the sun. In case of high humidity or cold temperatures the dough will get mouldy. Caution: The final products are not fireproof!

9. Imprint

This workshop manual has been developed by the International Design Center Berlin (IDZ) as part of the EU-project “Ecodesign as a Driver of Innovation in the Baltic Sea Region (EcoDesign Circle)”. The project is supported by the Interreg Baltic Sea Region (BSR) Programme 2014-2020.

For questions and feedback, please contact: ecodesign-circle@idz.de

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