IMAGES AND OBJECTS – Active Methodology Toolkit 12
Education for responsible and sustainable lifestyles

SusTimeAbility

An educational approach to promoting time use competence

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Toolkit 12 in the Images and Objects – Active Methodology Toolkit series

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Authors: Claire Grauer, Pascal Frank, Daniel Fischer

Contributors: Lorenz Erdmann, Gerrit von Jorck

Critical review and comments:
Stefanie Gerold, Michael Görtler, Alina Günther, Simon Jetzschke, Fritz Reheis, Ulf Schrader

Assistance: Celine Ebeloe, Lukas Zimmermann

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Design: Sandra Ruderer (sandraruderer.com)
Illustrations: Clara Brüggmann
Print: Flisa Trykkeri AS

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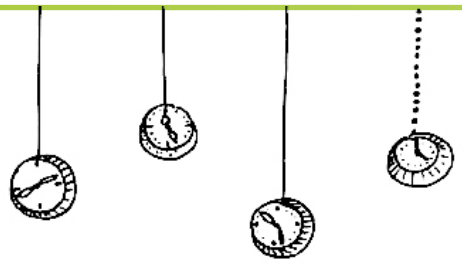
1. Introduction



We all have the same amount of time each day. But how we experience and organise this time varies greatly from person to person. Sometimes an afternoon flies by, other times we are plagued by boredom. We try to save time, waste it, enjoy it or lose it. Our subjective perception of time and how we organise our personal time affects our well-being. But how we organise our time can be more or less sustainable. It influences the possibilities of other people and future generations to organise their lives so that they can lead a good life. Time and how we use it are thus important dimensions for sustainability.

Since the ancient Greeks, philosophy has been concerned with time as a basic experiential element of human existence. In physics, time is an objectively measurable quantity. In this toolkit, we will not pursue such theoretical perspectives on time. Instead, we propose a series of learning activities that will bring participants‘ personal experience of time and the way they spend time to the fore. The experiences of the participants will form the basis for individual and collective reflections on time, sustainability and related needs, both personal and shared.

Age relevance

Our publication is aimed at people from school and non-school educational contexts who would like to learn more about time’s relationship to sustainability. The activities presented in this Toolkit have been developed and tested as part of the project *Time Rebound, Time Wealth and Sustainable Consumption* (ReZeitKon) together with students from age 13 and up, university students and professionals. But the activities in this Toolkit can be applied in many other areas, such as youth work, political or trade union education as well as adult education.

Structure of this toolkit

This Toolkit is structured as follows. First, we offer a brief introduction to the interrelationships between time shaping, sustainability and consumption. This is followed by ten practical activities about how we perceive and experience time, introducing the topic in a low-threshold way. We then present two more comprehensive workshops. A self-experiment aimed at changing time shaping in an individual’s own life and a design thinking workshop to initiate change in institutional structures of time organisation. Finally, we offer ways to continue exploring the ideas and suggestions provided by this Toolkit in Additional Materials.

The inter- and transdisciplinary research project ReZeitKon (Time Rebound, Time Wealth and Sustainable Consumption), funded by the Federal Ministry of Education and Research (BMBF), was carried out between 2018 and 2021 by the Technical University of Berlin in association with Leuphana University Lüneburg and the Fraunhofer Institute for Systems and Innovation Research (ISI, Karlsruhe).

The project is premised on the finding that our use of time has critical consequences for society and the environment. In addition to a Germany-wide representative survey on time wealth and sustainable consumption, we have worked together with school and company partners to develop measures that promote time wealth and time use skills and thus indirectly enable sustainable action.

Further information on the project as well as related publications can be found here: https://www.zeit-rebound.de

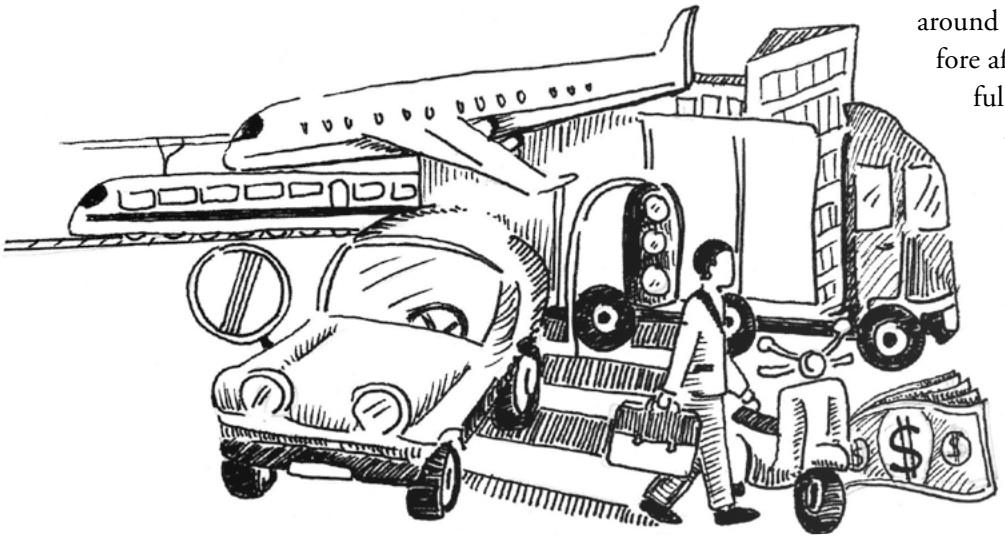
2. Background
Time use, sustainability and consumption

Although the average working time in most Western countries has steadily decreased over the last decades, many people still complain about a lack of time. Asked what they would do with an extra hour of time, most answer sleep, relax, sports or hobbies, according to a survey conducted as part of the ReZeitKon project (Gerold & Geiger, 2020). In other words, they would like to have more time for recreation or leisure activities.

When the German sociologist Hartmut Rosa coined the phrase 'acceleration society' (2016), he was describing the phenomenon that people try to react to a perceived lack of time by using time use techniques, but then fill the time they save with more activities, which in turn increase the perceived lack of time. This is known as the 'time rebound effect', and it has a direct impact on our resource consumption (see Sidebar 1 below).

Travelling to work by car instead of by train or bicycle may save time, but the time gained is often used to work more instead of taking part in recreational activities.

This acceleration trend goes hand in hand with a rapidly worsening global environmental and climate crisis, because a resource-intensive and fast-paced lifestyle – think car and air travel, 'fast fashion' or heating up frozen pizzas – causes high indirect costs. These not only impact our natural environment, but also, directly or indirectly, other people around the world. Time scarcity therefore affects both our own ability to fulfil our needs and that of others – which leads to a discussion about sustainable development. Its goal is commonly defined as ensuring that people living today meet their needs in a way that does not limit the ability of future generations to meet their own needs.



Sidebar 1

How is time use related to climate protection?

Each of us engages in activities, such as browsing the internet or playing sports, in varying amounts of time during a typical day. All of these activities have a typical CO_2 footprint per hour. **Our choice of activities is thus an important factor for climate protection.**

Of course, we are not completely free in our choice of activities. We have to get enough sleep and do a minimum amount of housework. But we are often able to freely decide how we spend our time. We can spend the weekend cycling nearby or we can fly on a city trip to Budapest.

This figure provides an overview of the average time spent doing different activities per day and the average CO_2 footprint per hour. Both the direct effects (electricity consumption when using electronic media) and the indirect effects (production of smartphones) are taken into account.

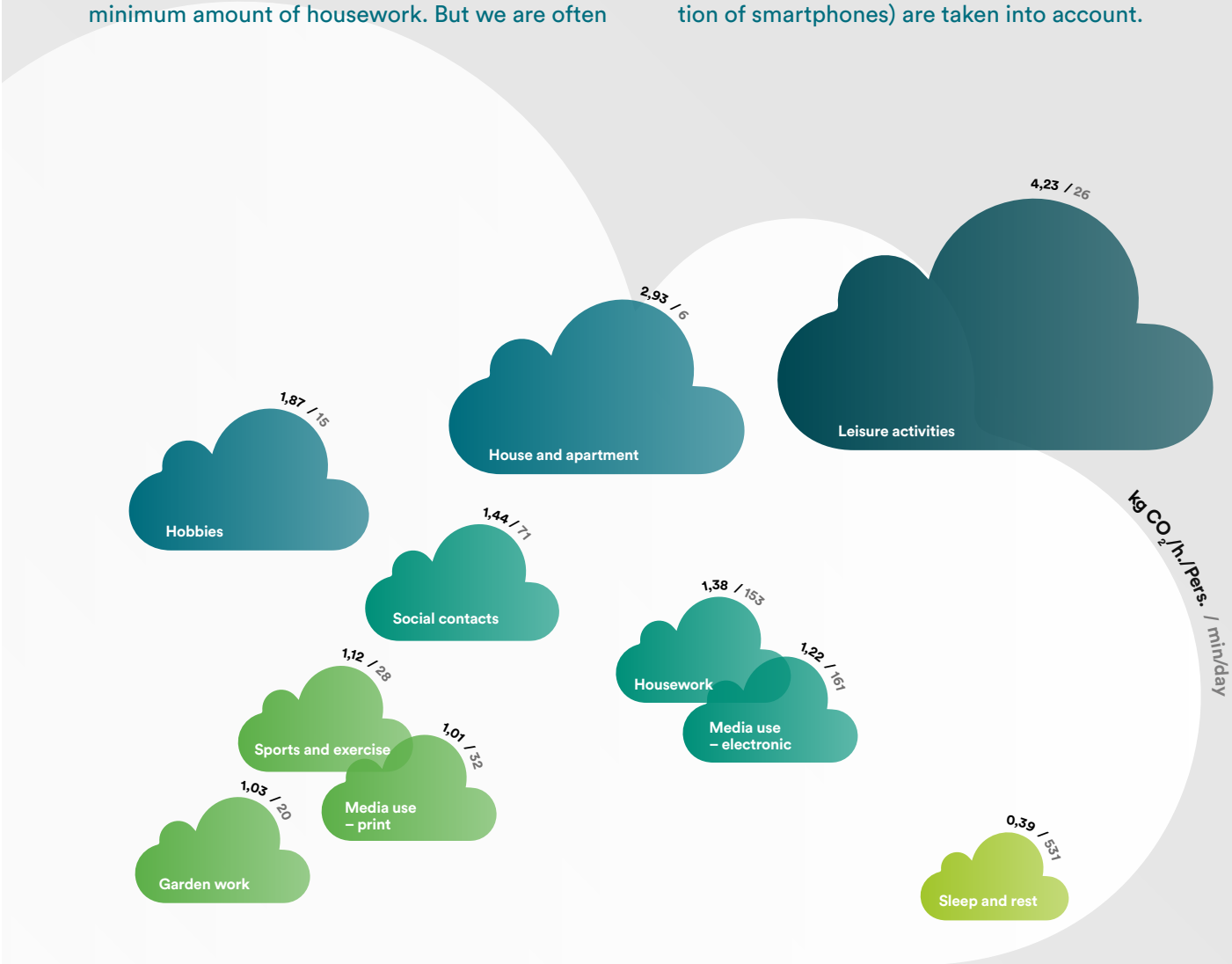


Figure 1: Average CO_2 footprint per hour of typical daily activities
CO_2 equivalents per hour in relation to the average exercise time per day and person

Doing activities with a low CO_2 footprint per hour for longer periods of time and those with a higher CO_2 footprint per hour for shorter periods is an effective way of reducing our individual CO_2 footprint. Note that Figure 1 shows the average time spent on an activity for adults in Germany. Each individual will have different times and activities. Using a bicycle to move around town can be more climate-friendly than using your smartphone to browse social media for an hour.

The values were calculated based on a combination of data sets. These included the survey conducted within the ReZeitKon project about individual behavior and the national accounts for CO2 emissions from economic sectors (see Erdmann & Pfaff, 2021)

Increasing personal time wealth is a way to promote sustainable consumption (see Sidebar 2 below). More time would allow us to mend a piece of clothing instead of buying a new one, to prepare fresh food instead of ordering delivery, or to take the bicycle instead of the car. This would not only reduce our impact on the environment, it would also increase our own well-being, save money and allow us to live more creatively.

Freeing up time also opens up new opportunities for us to be together, giving us more time for family and friends or for volunteer work. We benefit not only as individuals from having more free time, but as a society. The concept of time wealth supplements that of material wealth, as a good life is not solely defined by money and possessions, but above all by time to spend as you see fit.

Sidebar 2

The concept of time wealth

If we understand wealth as a state of everyone – including future generations – having enough, we must recognise the **ecological and social limits** of our economic system. Since we have not yet succeeded in decoupling an increase in material wealth, measured as gross domestic product, from ecological damage, we need a **broader understanding of wealth**.

The concept of time wealth provides a means to do just that. Many material goods only develop their full benefits when we have time to devote to them. Games have to be played, food cooked and bicycles ridden. Yet having material goods means we have to invest our time in gainful employment. This makes time a scarce resource, and one that is unequally distributed in our society.

Following Jürgen Rinderspacher, we understand **time wealth** to have five dimensions:

1. **free time**, a reasonable amount of discretionary time,
2. **tempo**, enough time per activity,
3. **plannability**, stable expectation horizons,
4. **synchronisation**, coordination of different time requirements, and
5. **time sovereignty**, autonomy in our use of time (Jorck et al., 2019).

As with material well-being, for temporal well-being we can also distinguish between objective living conditions and subjective well-being. Just as someone with a lot of money might feel poor, someone with a comparatively high amount of free time might feel rushed and time poor. Someone can feel subjectively good about time even if they regularly work night and weekend shifts. We define time wealth as a state in which having enough time (objectively) in our personal circumstances is matched by feeling good (subjectively) about that amount of time.

How can we increase time wealth? It requires structural changes in politics, the economy and society as social norms and rules influence our relationship with time. As individuals, we are always involved in temporal structures determined, for example, by school attendance or working hours, shop-opening hours or the scheduling of public holidays. Our ideas about time (time is 'money', we 'save' time or 'waste' time) are culturally determined and shape our behaviour. Especially in educational contexts, it is important we make these structures transparent.

But it is equally important to promote awareness that as individuals we can create time wealth. The activities in this toolkit are designed to help people increase their personal time wealth. Empowering people like this involves increasing their time use competence (see Sidebar 3 to right).

While time as a dimension of sustainability is receiving increasing attention by researchers, it is overlooked in educational contexts (Görtler & Reheis 2012). There are exceptions however. A core element of Montessori education, and other reform pedagogies, is promoting children's time autonomy so that they can take responsibility for their own learning processes. But the overall tendency towards acceleration continues to prevail in the state school system, the 'turbo school', as the Bamberg education researcher Fritz Reheis (2007) polemically calls it. Both teachers and their students complain about how a lack of time creates stress in their daily life at school. Learning needs time, a time for pausing and reflecting, as well as a time for idleness, from which new things can emerge. In this sense, time use contributes to sustainability and so is a central element of education.

But it is not yet clear whether and how time use competence as we have just described can be promoted in learning. How can young people (and indeed adults) become aware of their own needs and those of others? How can learning activities help clarify sustainability-oriented values? And how can skills be taught that allow how we organise our own time to be aligned with these values? The activities compiled in this toolkit offer impulses for working on these questions.

Sidebar 3

Time use competence

Time use competence refers to a person's ability to organise their own time in a self-determined and responsible manner such that neither their own needs nor those of other people living today and in the future are endangered.

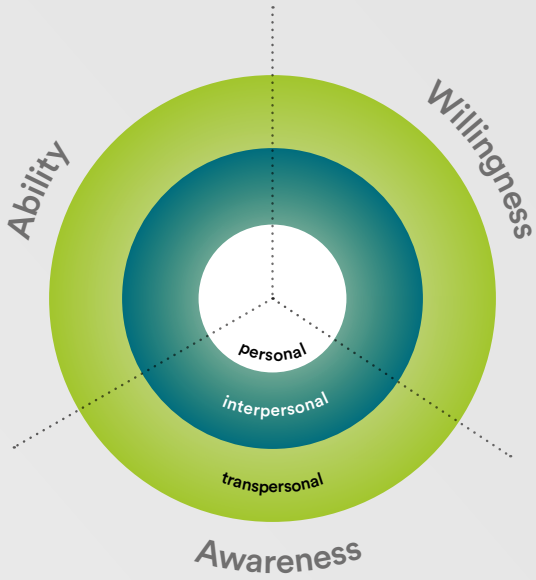
This involves three overlapping **components of time organisation**:

1. an **awareness** of one's own needs and those of others,
2. the **ability to act** in accordance with these needs and
3. the **willingness** to take responsibility for one's own use of time and the resulting effects on the needs of others.

There are **three dimensions of time use competence**. **Personal time use competence** describes the ability of each person to organise their own time in a self-determined and responsible manner so that their personal needs are fulfilled. People with time use competence are aware of the effects of how they organise their time on their personal well-being. They find answers to questions such as, 'What do I need right now?' or 'How can I spend my time to fulfil my need for X?' They are aware of their motives when they reach for their smartphone, such as boredom, a need to find certain information or the need to stay in touch with a friend who lives far away.

On the **interpersonal level**, time use competence means being able to consider the needs of people in our immediate social environment when we organize our time. The interpersonally competent person finds answers to questions such as, 'What are the needs of people in my social environment and how can I recognise them?' or 'How can these needs be satisfied?' and 'How can I reconcile the fulfilment of my own needs with theirs?' The use of smartphones in daily life shows how an individual affects the needs of those in their immediate social environment when personal conversations are repeatedly interrupted because they are replying to chat messages.

The third dimension is **transpersonal time use competence.** This begins with a concern for the lives of present and future generations. This competence helps us understand how our own time use impacts present and future generations and how our own needs can be fulfilled so that they do not impair other people fulfilling their needs. Again, the smartphone illustrates the social, economic and ecological consequences associated with their purchase, use and disposal.



3. How to use this toolkit

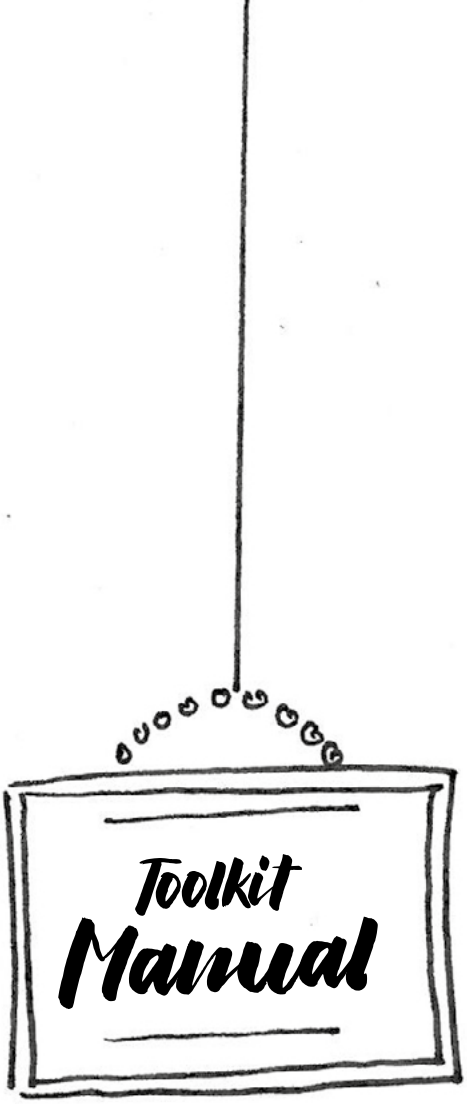
The toolkit consists of ten short learning activities (Chapter 4) and two more comprehensive pedagogical approaches (Chapter 5) – all of which promote different aspects of time use competence. They are based on results of the ReZeitKon project and have been tested together with students from age 13 and up in schools, university students and business professionals. Most of the exercises are also suitable for younger children, but would require adaptations such as shortening them or simplifying the questions. We give tips on how to do this for each activity.

In Chapter 4, ten activities serve to develop an awareness of our own experience of time, how we organise our personal time and what are our underlying attitudes, values and needs. Although each activity is self-contained and can be carried out individually, they progressively build on each other. For example, observing our own time use in Activity 3 presupposes being able to perceive and describe our own experience of time, which is practiced in Activity 2. So it might be preferable to complete the activities in order or even to anchor them in the curriculum, as was done in the ReZeitKon project (see Activity Materials).[1]

The description of each learning activity follows an identical structure. First, the objective of the activity and its step-by-step implementation are explained. Further information is also provided for some of the activities, based on our experiences using these activities. In most cases, there are also suggestions for how to adapt them to different age groups or for different contexts. We also list the materials needed for the activity.

In Chapter 5 we describe two pedagogical approaches that promote self-determined change in time use. The self-experimentation approach is based on self-exploratory learning (Frank & Stanszus, 2019) and supports participants in observing the inner states and processes that occur in the course of a change in personal time use. The design thinking approach, on the other hand, offers a cooperative and inclusive approach to working with temporal structures in groups or organisations. It focuses on the structural conditions that influence our time use (the rhythm of time at work or school, the alternation of intensive phases with more relaxed ones). Both approaches can be enriched with activities from Chapter 4 if there is time available.

The main goal of this toolkit is guiding participants on an intellectual, emotional and motivational journey into examining time. This will include both their subjective experience of time as well as its use and the related consequences. We take an experiential approach, which differs from teaching primarily aimed at an intellectual and theoretical engagement with subject matter. For those interested in digging deeper, the toolkit raises further questions about how our experience of time and our organisation of time are shaped culturally, politically and historically. However, the experiential learning approach pursued here is based on a personal experience of time and its organisation. This makes it particularly important to create a safe space in which participants can explore their own experiences and share and reflect on them in the group.



Many activities contain elements that may be unfamiliar to the participants at first. Some may be unwilling to engage in the exercises, or do so only reluctantly. We recommend you openly address how this form of learning differs from other types of learning and signal that it will be a new experience for most participants. Plan the activities, if possible, over a period of several days and on any given day allow time between the activities. We also recommend that teachers first try out the activities and workshops suggested here themselves. This will help them develop a better understanding of why some people might resist taking part. Note that for some activities, such as Activity 3, participants will need time to first record their daily activities. Give them the Observation Protocol one day to a week before doing the activity.

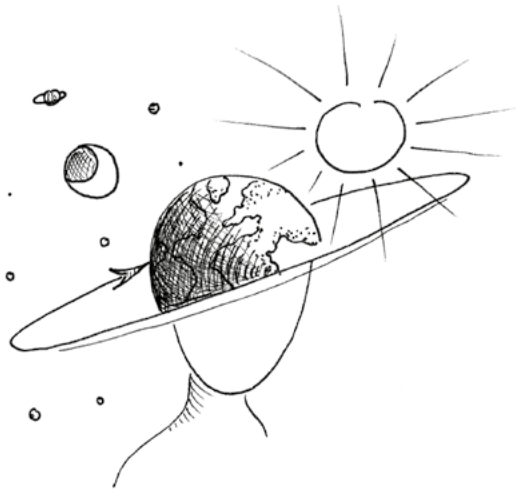
For those who would like to deepen their understanding of the learning activities, we recommend two publications.[2] The toolkit *Time as a Resource* (Butler et al., 2012) contains further learning activities that explore the connection between time and different fields of consumption, such as clothing, travel, food and technology use. These are very well suited to address questions about the inter- and transpersonal dimensions, and so the social impact of time use (see Sidebar 3). The second is the toolkit *Education for Sustainable Consumption through Mindfulness* (Fritzsche et al., 2018) with suggestions on how mindfulness meditation can sensitise people to their consumption behaviour and empower them to make sustainable consumption decisions.

[1] The complete ReZeitKon curriculum, as well as other additional materials to which we refer for some activities, can be found here: https://suco2.com/time-toolkit/
[2] https://eng.inn.no/research/research-centres/centre-for-collaborative-learning-for-sustainable-development-ccl/publications/teaching-materials-resources/active-learning-methodology-series

4. Experiencing time through ten learning activities

Activity 1

What is time?



Objective

Reflecting on norms and ideas about time. Gaining first impressions of the participants' ideas about time.

Procedure

1. Divide the participants into small groups (2-4 people), each of which are given a large sheet of paper and markers.
2. Ask them to write in the middle of the paper 'What is time?' and give them 20 minutes to discuss and illustrate their answers for example, by creating a mindmap.
3. Have each group show their poster and presents their results. The posters should remain displayed in the room for a discussion of their similarities and differences.

What is needed?

A flipchart and markers for each group.

Adhesive tape or pin boards to hang up posters.

Notes

The group results can be divided into two types. Physical time or the measurement of time (time of day) and the experience of time (stress, boredom, wasting time). This serves as a starting point to a discussion of how time is experienced differently by each individual.

Most participants will mention terms or phrases such as 'time is money', 'waste of time', or feeling 'under pressure'. Point out that time and its use are by no means neutral or objective, but always reflect certain social conditions. Critically question prevailing understandings of time and its use and develop alternatives. Ask why we talk about time as a scarce economic resource and what alternative ways of looking at time there are. Introduce the concept of time wealth at this point.

At least 50 minutes should be planned for the activity.

Variations

Ask the participants to do drawings to illustrate their results.

Activity 2

How we experience time

Objective

Describing how time feels when it passes slowly or quickly.

Procedure

1. Ask the participants to put away their watches and smartphones (and cover or remove any wall clocks). They should have paper and pen ready to take notes after each round of activities.
2. Ask the participants to do an activity (beginning with 'sitting quietly' and ending with 'using your smartphone'). Mark the beginning and end of the activity with a signal such as striking a singing bowl. Do not tell the participants that the length of each activity will always be the same, for example, 7 minutes.
    a. Everyone sits on a chair without talking or doing anything else.
    b. Everyone walks around the room without speaking.
    c. Everyone forms small groups and talks to each other.
    d. Everyone uses their smartphone.
3. At the end of each round, ask the participants to note how they felt during the activity.
4. Have them guess how long each activity was.
5. Begin a reflection where they evaluate how time felt during each activity and what the possible reasons for this were.

Notes

Adapt the activities in length and content to the participants' age.
For learners from age 13 and up, we found 8 minutes appropriate.
The younger learners are, the shorter the length of the activity should be.

At the beginning, do not tell the participants what the objective of the activity is so that they can concentrate solely on how they feel.

At least 50 minutes should be planned for the activity.

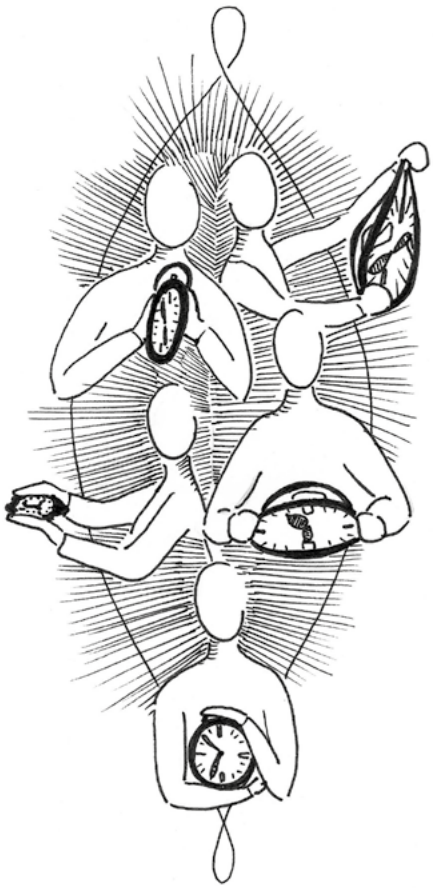
Variations

- Add your own activities or vary them as desired. But alternate between activities the participants will experience as slow or fast.
- Repeat the same activity several times at different lengths, such as sitting still for 5–3–1 minute(s), and then have the participants compare their feelings of time.

What is needed?

All watches (and wall clocks), smartphones, etc. are covered or put away.

Paper and pen for participants to take notes.



Activity 3

Observing how we use time

Objective

Recording how time is organised over a certain period of time (one day to a week) and feelings about time organisation.

Procedure

1. In advance of the day scheduled for the activity, give each participant the time use Observation Protocol (see Activity Materials). Ask them to fill it in as regularly as possible (e.g. every day or every other day for a certain period of time).
2. Have the participants first evaluate their experiences in small groups. What did they notice about how they spent their time? Where do they see similarities and differences? What do they find good? What do they find not so good?
3. Discuss the results in the group.

What is needed?

Copies of the time use Observation Protocol (see Activity Materials).

Alternatively, make an electronic template available to the participants. Practice filling in the protocols together so that any technical difficulties can be resolved immediately.

Notes

Participants may find it difficult to express their sensations and feelings about time use because they almost never do so in daily life. The question 'How did I feel about an activity?' is often answered with simply 'good' or 'bad'. 'Why did I do an activity?' by 'I was bored' or 'Because I had to'. In the evaluation session, use probing questions to help them reflect on and describe underlying states and processes. For example: 'How can you tell when you are bored?', 'Can you feel the boredom somewhere in your body?', 'Why did you have to do this activity?', 'How did it make you feel to have to do this activity?'.

This activity is suitable for learners from age 13 and up. For younger learners, we recommend having them keep simple logs over a few days and evaluate them together.

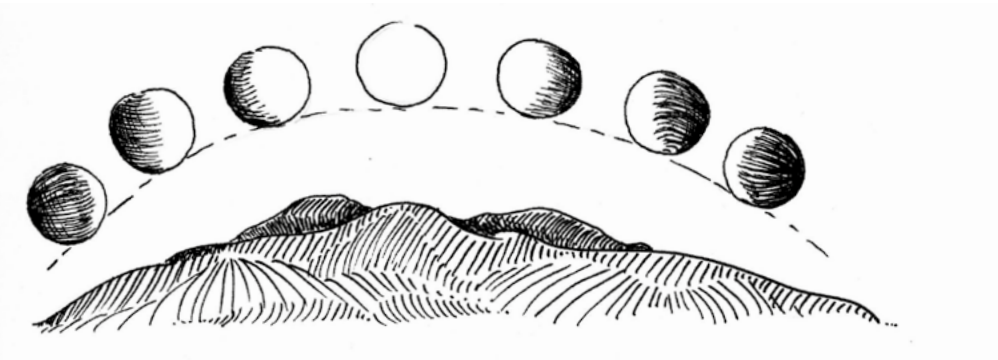
If learners have access to a smartphone, the minutes can also be kept electronically. It may be easier for some participants to record their activities using a note-taking app on their smartphone, as they always have it on them.

If the group meets within a few days after being asked to keep an Observation Protocol, they could take daily minutes. If it is more than a week, minutes could be taken less frequently, such as every other day.

Time requirements for this activities are 10 minutes for introducing learners to the Observation Protocols and at least 30 minutes for evaluation of their results in class.

Variations

If possible, observations can be continued over several weeks with increasing complexity. In the first week have participants simply observe activities, and then gradually add other observation tasks such as 'Why did I do the activity?' or 'How did I feel about doing this activity?'



Activity 4

Good times, bad times

Objective

Developing an understanding of why time is sometimes experienced as 'valuable' and at other times as a 'waste'.

Procedure

1. Ask the participants to reflect individually for 15 minutes on the following questions:
   a. 'When do you experience time as particularly valuable?'
   b. 'When do you experience time as wasted?'
   c. 'Why do you experience time in these moments as either valuable or wasted?'
2. Gather and display the individual reflections, then discuss and evaluate them together.

Notes

It is important not to judge what others consider to be a waste of time as other may consider it to be valuable. And vice versa.

Similar to Activity 1, this exercise is also suitable for reflecting on social norms about time. Some things are seen as positive (being productive), while others are seen as negative (doing nothing). Discuss why this is so, and what impact this has on our individual well-being and on sustainable development as a whole.

This activity can also be used as a follow-up to Activity 3, 'Observing how we use time', with participants using their observation logs as the basis for discussion.

At least 30 minutes should be allowed for the activity.

Variations

- The exercise can be followed by a discussion on how much our perception of time is culturally and historically determined and how it compares to other societies (see Robert Levine's studies on time and speed in different societies in References).
- Discussing the questions in Activity 1 and ask 'What needs to happen for you to experience time as valuable?' Develop suggestions for improving the organisation of time for individuals, groups or institutions.

What is needed?

Blackboard/flipchart and markers or similar materials for visualising results.

Time use Observation Protocols, if completed from Activity 3.

Activity 5

Time in the moment

Objective

Learning to focus on the moment, to be more aware of the now and to put physical, sensual and emotional feelings into words. Promoting awareness of our own values and needs.

Procedure

1. Invite the participants to find a comfortable sitting position and close their eyes.
2. After taking a few conscious breaths, ask them to focus their attention on their feet and become aware of their sensations there. Over the next 10 minutes, direct their awareness to feeling sensations in other parts of their body.
3. Reflect on how you felt during the activity.

Notes

There are no right or wrong answers: it is your body and your sensations. Tell them that it is perfectly normal for their attention to drift away during the activity. They should simply register their awareness of a distraction and turn their attention back to their body.

Depending on the age and experience of the participants, you will have to adapt the length of this activity. For primary school children, 2 minutes of sitting quietly will probably be enough. For high school students or adults, the length can be extended to 20 or even 30 minutes.

For a more detailed presentation of how to conduct a mindfulness meditation, we recommend the Education for Sustainable Consumption through Mindfulness Toolkit.

At least 20 minutes should be planned for the activity.

Variations

This exercise can be done lying, standing, or walking or in other postures.

Attention can also be focused on other aspects of personal experience, such as each breath or specific sensations.

What is needed?

A location where the group can be undisturbed for the duration of the activity and where there are as few distractions as possible. This could be outdoors, in a quiet corner of the school-yard in good weather.

Activity 6

Needs meditation

Objective

Improving the ability to become aware of physical needs.

Procedure

1. Invite the participants to 'just sit down' on the floor. They should not assume a particularly comfortable position, but simply sit down. Ask them to remain in that position without speaking or moving. Do not tell them how long the activity will last.
2. Signal the end after 8 minutes.
3. Begin a discussion by asking what needs they focused on during the activity (while sitting in an, we assume, increasingly uncomfortable position). Encourage them to describe their feelings as precisely as possible. If they say 'It was uncomfortable', ask 'How was it uncomfortable?'
4. In a second round, each person now chooses a more preferable resting position (sitting on a chair, lying on the floor, etc.).
5. After another 8 minutes, ask them to compare their sensations during both rounds. The discussion should raise awareness that we access our needs through our physical sensations.

Notes

This activity depends on the floors being clean and the participants being willing and able (some participants may have physical disabilities) to sit on the floor. Ask the participants prior to of the activity and if there are objections then plan a different activity.

At least 30 minutes should be planned for the activity.

What is needed?

A venue where there is enough space for the participants to sit on a clean floor.

Activity 7

Needs sofa

Objective

Becoming aware of the relation between using time and fulfilling our needs. Reflecting on the adequacy of different activities to satisfy the same need.

Procedure

1. Set up three chairs side by side for three people – the 'needs sofa'.
2. Ask a volunteer to draw a card from the set of 'needs cards' (see Activity Materials). If the person cannot imagine anything under the respective need, they draw a new card.
3. The 'need-holder' then sits down in the middle of the needs couch. Ask for two 'counsellors' to sit on his/her left and right.
4. The need-holder reads her need card aloud ('rest'). The two counsellors are then each asked in turns to suggest how the need-holder could realistically fulfil that need. (For example, the need for rest could be realistically satisfied by not making any plans for the weekend, preparing their favourite meal themselves or treating themselves to a massage. But not by 'not taking the upcoming maths test'.)
5. After both 'counsellors' have presented their suggestions, the need-holder decides which strategy they prefer. Then she and the counsellor whose strategy was chosen leave the couch and the remaining person moves to the middle. They draw a card and the game continues.

Notes

Most participants find it difficult to develop concrete strategies for meeting needs. It's a good idea to do some test rounds with prepared examples to discuss ways of specifically meeting needs.

Interested trainers and teachers may consult the following sources to deepen their understanding of the concepts of needs, need satisfaction and their relevance for sustainable development: *Why Buy* (Active Methodology Images and Objects Toolkit 7) and the *Global Footprint Network Educational Resources*.

At least 30 minutes should be allowed for the activity.

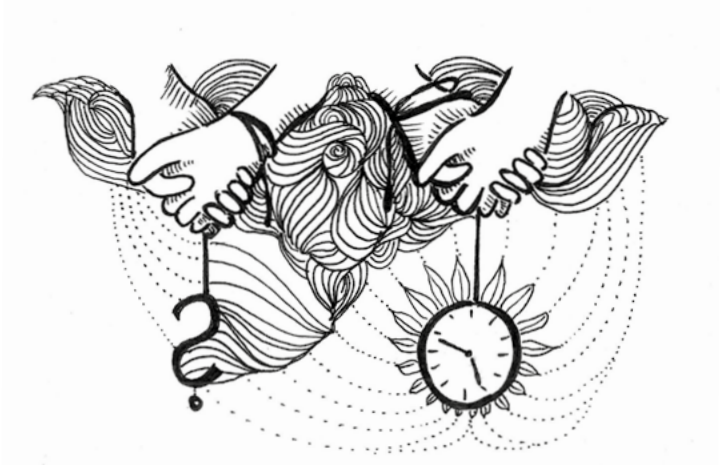
Variations

- Time permitting, repeat the game on two or more days, each time with a different set of participants. It can serve as a repetition of the topic 'needs' or as a playful introduction to a follow-up session.
- Play a few rounds and then have all participants reflect on their individual strategies for meeting the needs mentioned, either immediately or for a future session. Then discuss how needs and their fulfilment vary from one person to another.

What is needed?

Set of needs cards (see Activity Materials), which can be supplemented as desired.

Seating for three participants (chairs, stools, a sofa.)

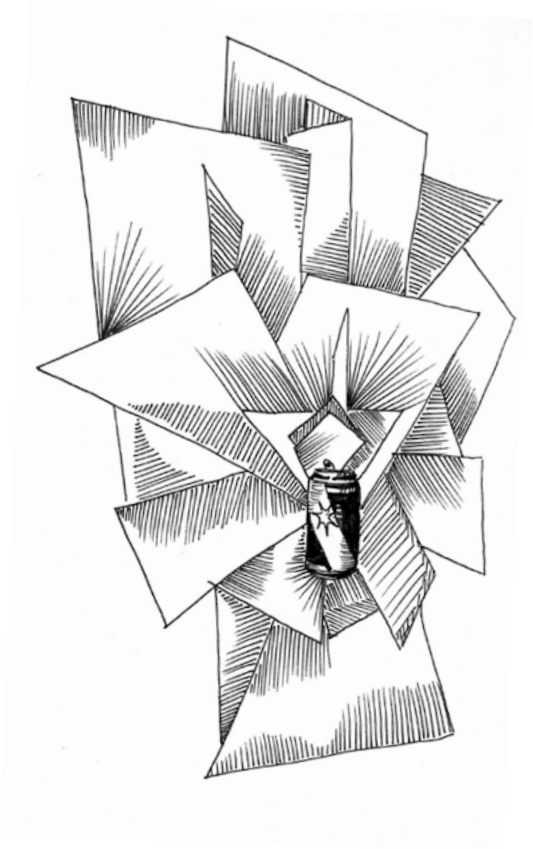


Activity 8

Temporal dimensions of consumption

Objective

Developing an awareness of how consumption behaviour is related to how people spend their time. Making the complexity of consumption tangible to the senses and emotionally accessible.



Procedure

1. Have the participants work individually or in small groups. Ask them to choose an act of consumption (taking a trip, eating out, buying clothing) that they like to do.
2. Ask them to create a mind-map to answer two questions. 'What makes that act of consumption possible?', 'What consequences does this act of consumption have?'
3. Have the participants reflect on what goes into an act of consumption. For example, participants could explore the conditions that make consuming energy drinks possible and realise that this requires the individual ingredients for the drink and the production of the can. 'But how is this can made?' 'Who and what is involved?' 'What resources are needed?' 'Where do they come from?' 'Who is responsible for the extraction of their raw materials?' 'What does their daily routine look like?' Ask them to conduct research (using various media) to develop more detailed answers to these questions and gain a holistic picture of the origins of this product that can be experienced with all their senses. The central reflection task is to become aware of how one's own consumptive use of time is related to the use of time by other people.
4. The activity is concluded with a joint reflection. In particular, let them reflect on the feelings they experienced during the activity.

Notes

This activity is suitable for older learners and adults. If there is not enough time to do research, or for younger participants, provide appropriate material from the *Education for Sustainable Consumption through Mindfulness* toolkit, for example, the Jeans Journey, a meditative examination of our consumption of clothes.

Further recommended sources for additional information are *Sustainable Lifestyles Education Hub* and *SDG Resources for Educators – Responsible Consumption and Production*.

At least 30 minutes should be allowed for the activity.

Variations

The focus of the activity can be chosen by the instructor or by the participants.

What is needed?

Flipchart and markers for all individuals or small groups.

Possibilities to research the topic (either with electronic media or with prepared handouts).

Activity 9

What is truly important to me?

Objective

Becoming aware of what is truly important in life – and what may be holding us back from aligning our lives with these things.

Procedure

1. Tell the participants that the search for a good life has occupied philosophy since its origins. And that one approach is to understand life 'backwards', so to speak, by accepting the finiteness of our own lives.
2. Pose a number of existential questions:
   a. 'Am I living each day of my life as if it were my last?'
   b. 'How would I spend my life if I had one day to live?' 'One week?' 'One month?' 'One year?'
   c. 'What would I do differently than I'm doing now? What legacy would I like to leave behind?'
   d. 'What do I want to pursue in my daily life? How much time am I currently spending doing these activities?'
   e. 'What is preventing me from putting into practice the things that are important to me?'
3. Give the participants the opportunity to reflect on these questions individually before discussing their answers in small groups of 2-3.
4. Ask them to create a poster depicting what is important to them in life and how exactly they are pursuing these values, or want to pursue them.

Notes

These questions touch on very sensitive issues in our lives and can be emotionally upsetting. (A loved one could be facing a terminal illness.) Each participant is of course free to not answer a question, or even to withdraw from the activity. Needless to say, individual answers are to be respected and not judged. Be attentive to how each participant is feeling.

These questions should be adapted to the age of the participants.

At least 45 minutes should be planned for the activity.

Variations

- The reflection in groups can be ideally combined with a walk. Give the participants a certain period of time to walk outside (30 minutes in the schoolyard) while discussing their answers with each other.
- Give the participants the questions and have them reflect on them overnight so that they can discuss their answers in small groups in the next session.

What is needed?

Flipchart and markers for all groups

Visual material for collages (optional)

Activity 10

What keeps me on track?

What is needed?

- **Flipchart and markers for all groups**
- **Motivation Tools (see Activity Materials)**

Objective

Recognising strategies and resources to help tackle the changes we want to make.

Procedure

1. Ask the participants to discuss in small groups the question 'What keeps me on track?'
   a. 'What changes have you successfully achieved in the past?' (When 'successful' means to our satisfaction and not according to standards set by someone else.) How did you achieve them?
   b. 'Who has served as a role model for change?' 'What else has helped you bring about change in your life?'
2. Ask them to record their answers on posters.
3. Have each group present their poster and then lead a discussion about how to support and consolidate changes in time use, focusing on different strategies and resources.

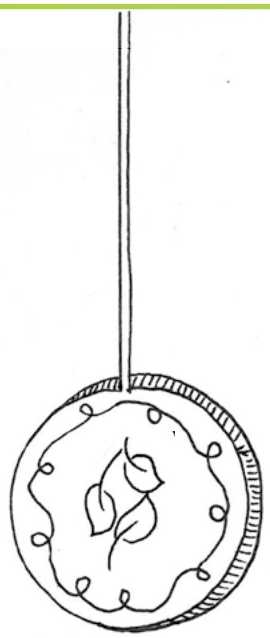
Notes

Reflecting on how we use our own time makes us aware that there are changes in our own life we would like to make. This is not an easy process. Support can be found in recalling how we have successfully achieved goals in the past. And our own resources are important, even if we are not always aware of them. An older sister perhaps or an eco-influencer. However, social media influencers may lead young people to focus too much on their own supposed deficits. Emphasise that the aim of the exercise is to develop a positive awareness of our own strengths and goals.

Variations

Use Motivation Tools (see Activity Materials) as an introduction to this activity or instead of this activity.

5. Two pedagogical approaches to **changing how we use time**



In this chapter, we describe two broader approaches that link changing time use to reflection on our perception and use of time. The first is about self-experimentation, in which we explore how we can change the way we spend our time and explore how we experience such changes. The second makes use of design thinking as a method to initiate changes in temporal structures at work or school.

5.1 The self-experiment
Inquiring into changes of one's time use

After we reflect on our own perception of time and how we use time, we often notice what we are missing or where our own needs are being neglected. This self-experiment offers an opportunity to systematically explore, over a period of several weeks, what happens when we consciously change the way we organise our time.

Procedure

Start by asking the participants to think about an area of their personal time use that they would like to change (some of the activities in Chapter 4 can be done in advance to help with this). In a school context we found learners desired changes such as 'I would like to spend less time watching YouTube' or 'I would like to do my homework more regularly.' Reformulate the desired change as a focal question: 'How would I feel if I spent less time on YouTube?' or 'What would help me to do my homework regularly?'

This is the beginning of a process of change and self-exploration that lasts several weeks and consists of three phases. In the first phase, the participants observe how they are currently organising their time. In the second, change phase, they set a goal and gradually change how they use their time to reach their goal. In the third phase, the change is consolidated. The length of the individual phases depends on how much time is available. The longer the change process, the deeper the experience of change.

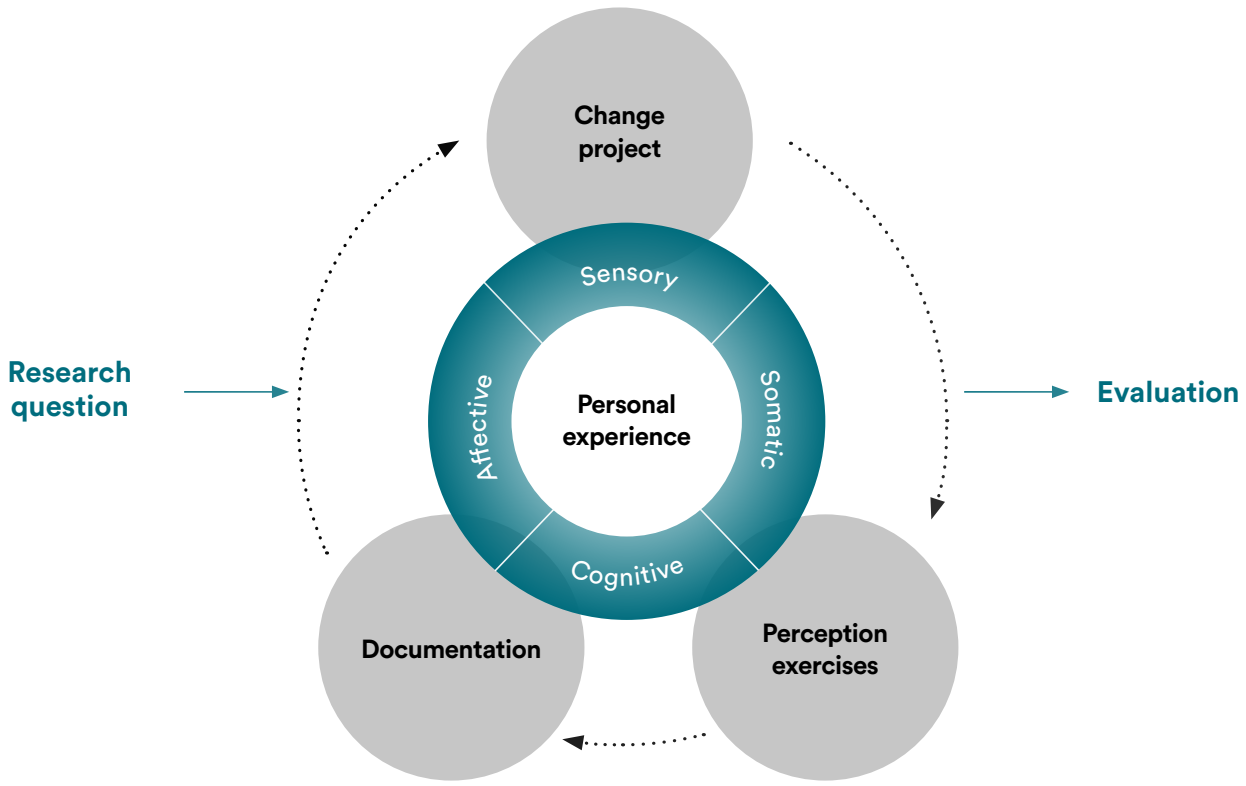


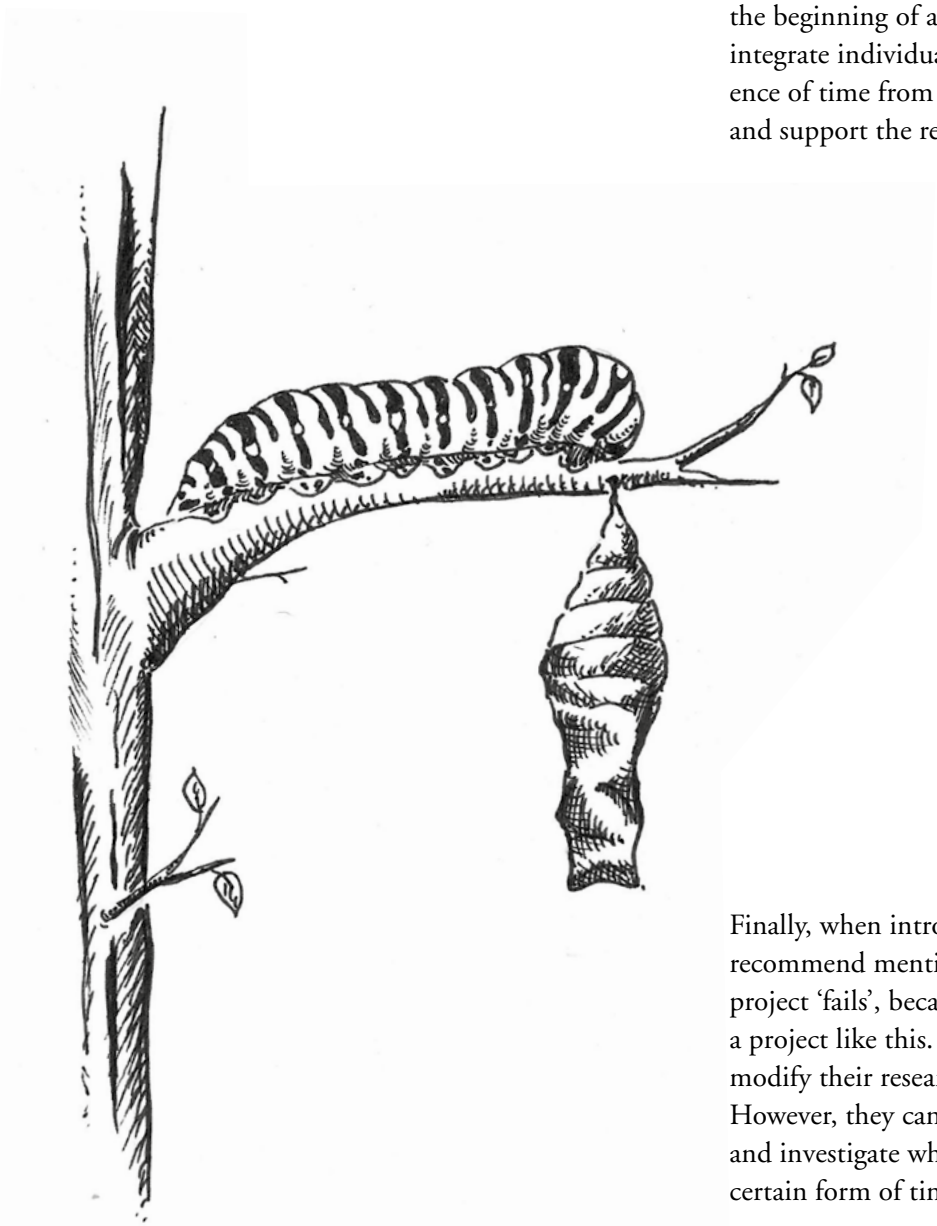
Figure 2: The self-inquiry-based learning process in the self-experimentation approach.

Phase	Content	Example
First phase: Documentation 1–2 weeks	Recording data by observing time use related to the desired change.	Logging the times spent watching YouTube or doing homework, as well as the feelings that go along with it.
Second phase: Conversion 1–2 weeks	Changing step-by-step towards a desired temporal structure.	Gradual reducing the time spent watching YouTube or gradually finding a new rhythm for doing homework regularly. In each case recording the successes and difficulties experienced
Third phase: Consolidation min. 2 weeks	Integrating change into daily life.	Once a form of change has been found that is perceived as being pleasant, the change has been consolidated. For example, watching YouTube for a maximum of one hour per day instead of three or doing homework every day right after school instead of late in the evening

Figure 3: Three phases of self-experimentation.

It is important that the participants systematically document how they organise their time as well as their personal experiences with the project throughout the entire period. We have designed two templates for distribution to all the participants, one that introduces self-experimentation and one on planning (see *Research Cycle and Self-Experimentation Handout* in the Activity Materials).

Participants record at regular intervals, ideally daily, what changes they have made and what impact this has had on how they feel and how they spend their time. For example, they might notice that they spend less time on homework because they no longer put it off and this frees up more time with friends.



The documentation serves as a basis for a final reflection on the research results, that is, it provides answers to the question of what helped or hindered the participants in changing their time use. We recommend formats such as written reflection reports or poster presentations. Ideally, this work is done in small groups because it gives participants the opportunity to share their experiences with others.

Even during the individual phases of the self-experiment, the participants should have regular opportunities to talk with each other. This helps them to realise that they are not alone with their difficulties and allows them to exchange strategies early on that may be useful for consolidating their desired change. Regular meetings with the whole group are also important for clarifying open questions. In our experience, it is especially difficult for school students to persevere at the beginning of a project like this. It can be useful to integrate individual exercises for observing our experience of time from Chapter 4 into the self-experiment and support the reflection process.

Finally, when introducing this self-experiment we recommend mentioning that it is perfectly okay if a project 'fails', because there is no right or wrong in a project like this. Instead, encourage them to either modify their research question or choose a new one. However, they can also make failure itself a topic and investigate why they are unable to introduce a certain form of time use into their daily life.

5.2 Design Thinking Workshops
Shaping time structures

Being competent at using time cannot be limited to the personal level, because individual time use is always embedded in temporal structures. We encounter such structures on different levels. They can

- be socially prescribed, like work-free Sundays,
- determined by individual circumstances, such as when school or work begins and ends,
- depend on our personal circumstances, such as the time constraints of friends, family, teachers, etc.

Temporal structures are difficult to shape individually. As a rule, we learn early on to adapt to them or to assert ourselves within them. In many cases, though, we are not even aware of prevailing temporal structures. People who are competent in using time (as understood in the context explained here) are not only aware of such temporal structures, but also show a willingness and ability to actively help change them.

Design thinking is a method based on specific design challenges, such as, 'How do we change temporal structures at our school so that it promotes our time wealth?' It encourages intensive consideration of the needs of the people involved (students, teachers, parents, administrative staff) and thus promotes interpersonal and transpersonal competences in changing temporal structures. In a creative design challenge, solutions are developed, tested and presented in an iterative process (see Figure 4).

Design thinking is characterised by a constant alternation of action and reflection. Its variety of methods (making physical models, brainstorming, interviews) allows it to address participants both cognitively and playfully, emotionally and haptically.

Here we present a design thinking process that builds on the design thinking method for sustainability (DTS) (Buhl et al., 2019) and was systematically developed and adapted for working on the topic of time in several workshops in different companies. Further information on the method of design thinking workshops as well as templates for conducting events can be found online. This workshop generates knowledge about the participants' time needs and transfers their experiential knowledge about the reciprocal relationship between temporal structures and the subjective perception of time into a creative process, at the end of which specific proposals, or prototypes, for the improvement of time wealth emerge. We don't determine what and how something is designed in advance, as it is the result of the process.

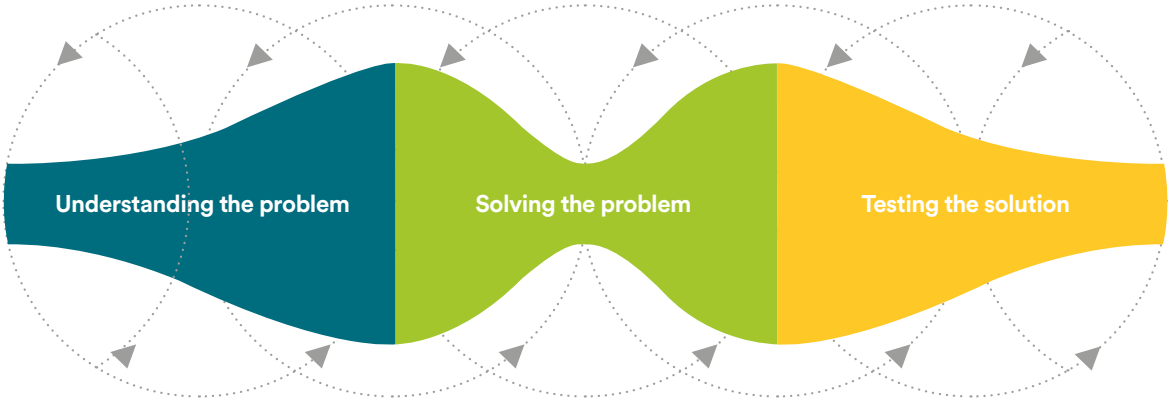


Figure 4: Iterative process of solving design challenges.

Workshop size

A DTS workshop accommodates between 6-24 people, who are then divided into 1-3 working groups. The individual groups should comprise no fewer than five and no more than eight people. Experience shows that heterogeneous groups produce more innovative results. It is a good idea to involve all affected persons in the process. In a school, for example, this would be students, teachers and, depending on the specific concern, other relevant groups such as parents, secretarial staff or caretakers. They should be put into working groups such that people with a lot of time wealth (based on their own self-observation) and those with little time wealth are always represented in a group.

Procedure

In preparation for the DTS workshop, we use a method of self-observation in daily life (see Additional Materials), which includes four smaller tasks:

- Have the participants record in a diary their time habits, their experiences and emotions on the topic of time wealth.
- Ask them to use the eight short questions to briefly assess their time wealth as well as time rebound effects.
- Ask them to reflect on those situations that promote their time wealth and those that hinder it.
- Encourage them to take and collect photos of themselves that are related to their design challenge for exhibition in a concluding photo documentation.

The DTS time wealth workshop is divided into the three phases: *Understanding the Problem, Solving the Problem* and *Testing the Solution* (see flowchart in Figure 4).

In the phase *Understanding the Problem*, participants approach the topic of time wealth in a playful way. The different dimensions of time wealth are illustrated by playing a game that shows how time is experienced differently. After a short introduction to the topic of the DTS workshop, the participants reflect on their own time wealth as well as on factors hindering and supporting it. This serves to raise awareness for the topic.

The actual DTS process begins by dividing participants into working groups and exploring the design challenge. They reflect on which central needs and obstacles (sleeping late, stress with low marks, parents‘ working hours, etc.) lie behind the design challenge. Finally, they create a ‘persona’, an abstract representation of another person, whose time wealth they want to increase (a student who has to commute an hour to school every day). They then identify a focal question for this persona, which guides the further DTS process. The focal question frames the problem as a search for solutions. The participants come to a deeper understanding of how temporal structures[3] have different effects on different personas.

[3] A patterned organisation of time, used by humans to help them manage, comprehend or coordinate their use of time

DT^N-Phase	Length	Content and templates	Connection to time wealth
Introduction	0:15	· **Welcome** · **Warm-up exercise** *Cartesian time wealth profile*	**Playful introduction to time wealth**
	0:30	· **Introduce workshop goals and daily schedule** · **Introductory talk on design thinking for sustainability**	**Relevance and dimensions of time wealth and special features of design thinking for sustainability**
	0:45	**Research: Cultural Probes** *Exercise 1: pair interviews (2×10 min.)* *Exercise 2: (5 min. PP)*	**Awareness raising for daily routines**
Break	0:15		
Under-standing the Problem	0:30	· **Introduce design challenge** *5 min. design challenge* · **Understanding the topic and developing the task** *25 min. Turning Over Each Word*	**Gathering associations about time wealth**
	0:45	**Synthesis, part 1: Clustering, need-obstacle pairs** *20 min. clustering – summarizing brainstorming results* *25 min. need-obstacle pairs*	**Understanding general needs and obstacles to time wealth**
	0:45	**Synthesis, part 2** *30 min. Persona* *15 min. Focal questions*	**Identifying time wealth characteristics of the persona**
Break	0:45		
Solving the Problem	0:45	**Ideation and prioritisation** *25 min. Brainstorming* **Choosing an idea** *20 min. Inspirations/ iconoclasts/ clustering*	**Reflecting on different dimensions of time wealth**
	1:00	**Prototyping** *Material list*	
Break	0:15		
Testing the Solution	1:30	· **Prototype evaluation (time wealth)** *30 min. Time Wealth Innovation Cube* · **Conducting user tests** *3×20 min. user testing*	**Systematic evaluation of prototypes regarding different actors in an organisation and the five dimensions of time wealth**
	0:15	Break	
	0:30	**Refining and adapting the prototype (based on user test results)**	**Regarding the five dimensions of time wealth**
	0:30	**Presentation of prototypes** *3×10 min.*	**Description of how the prototype contributes to greater time wealth and feedback**
	0:15	**Closing remarks**	

Figure 5: Sample schedule of a design thinking workshop for time wealth.

The *Solving the Problem* phase starts with a brainstorming session to collect ideas to solve the *persona's* problem. These ideas are then translated into individual prototypes. This is a creative process that might involve working with Lego bricks or craft materials. Experience has shown that visualizing ideas reveals possible challenges at an early stage. In addition, by developing prototypes to illustrate a temporal innovation to other people, participants are able to receive feedback at an early stage.

The prototype does not have to be, and shouldn't be, perfect in the first draft as it is developed further in an iterative process in the third phase, *Testing the Solution*. First, each group tests its prototype internally. The participants are encouraged to reflect on the impact of their prototype on the persona's time wealth and on the time wealth of other people who might be affected. The aim is to raise awareness of the fact that an increase in the time wealth of one person can also lead to a decrease in the time wealth of another person (I would like to come later, but other people have to wait).

In user tests, the participants then conduct interviews with potential users of their prototype. This can be done during the workshop or as a task between two workshop sessions. The groups present their prototype to potential users and get feedback. The aim is not to convince the users of the prototype's value, but to revise it through their critical feedback.

Finally, each working group presents its prototype to the other groups. Although everyone started with the same design challenge, the participants usually find very different solutions. This underlines the complexity of the interactions between an individual's experience of time and existing temporal structures. The workshop concludes with a joint reflection on the learning process and a discussion to decide which prototypes should be tried out over what period of time.

Final remarks

In the face of growing threats from the climate crisis and other ecological problems, being able to use time so that it meets our own needs without restricting the ability of others to meet their needs is becoming increasingly important. The willingness and ability to shape our own life according to this principle is what we have called time use competence. Time use competence not only enables us to increase our own time wealth, it also helps us assess the consequences of our actions for our fellow human beings and the natural environment.

The learning approaches presented in this publication are the product of our three years of research in the ReZeitKon project, in which we asked ourselves how time use competence could be developed. These approaches do not claim to be 'complete' in any way. Instead, we invite trainers and teachers to experiment with the activities recommended here, adapt them to their own situations, critically question them, research and develop them further.

In this way, we hope our toolkit will serve its users in three ways. First, as a guide for all those looking for ways to gain personal, experience-based access to their experience of time and time organisation. We also see it as a basis for promoting time use competence – theoretically and practically. Finally, we hope that our approach to promoting time use competence will become an elementary component of education for sustainable development.

Additional Materials

Activity Materials

The materials for Chapters 4 and 5.1 can be found here: https://suco2.com/time-toolkit/ ; the materials for Chapter 5.2 here: http://sustainable-innovation-playbook.de/index.html

Further reading

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Konzeptwerk Neue Ökonomie.. https://konzeptwerk-neue-oekonomie.org/english/ **Further information and teaching material on time wealth and related topics – mostly in German but they will point out English sources if asked**

Sustainable Lifestyles Education Hub. https://sustainablelifestyleseducation.org/

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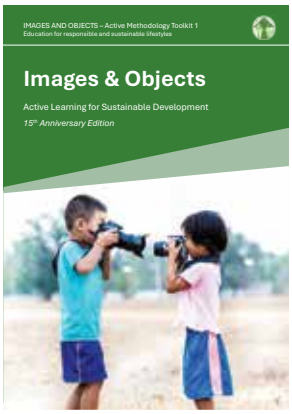

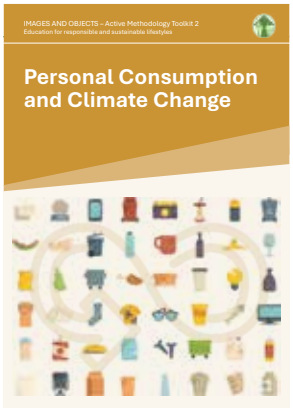

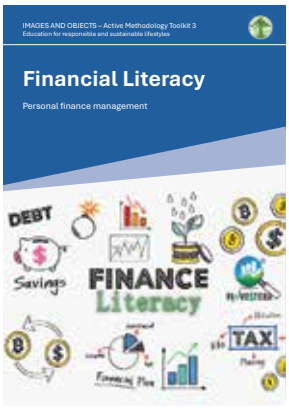

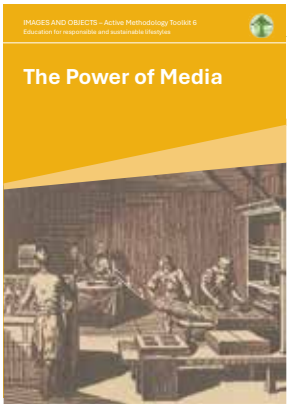

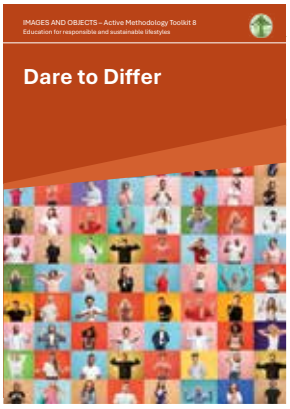

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"We hold the future in our hands. Together, we must ensure that our grandchildren will not have to ask why we failed to do the right thing, and left them to suffer the consequences."

Ban Ki-Moon