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THINKING (WITH) NATURE



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Outdoor education,

forest bathing

and cards of river dialogue

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The publication we are handing over to our Readers has been designed as a purposeful process of moving from the diagnosis of outdoor education to its practice, from recognising the problem concerning going outside the school walls to offering particular tools and methodological solutions. Its structure is not random — it results from the conviction that responsible design of educational operations must be preceded with careful listening to the needs of people, who carry out this education a daily basis.

The first part presents results of the research regarding education conducted outside the school walls. We were interested to see how teachers perceive outdoor education, what possibilities they see in it, but also what barriers and anxieties are limiting it. The gathered material demonstrates that although the awareness of the importance of contact with nature and environmental education is high, in practice carrying out outdoor classes is hindered by the lack of time, institutional support, adequate infrastructure and ready, pretested didactic tools.

The second part of this publication responds to the diagnosed needs in the area of outdoor education. There, we offer tools and methods, which could be supportive in conducting outdoor education — both in natural spaces and in urban or post-industrial environments. We present the practice of forest bathing as an example of work based on mindfulness, slowing down, and multi-sensory experience. We also demonstrate an original tool — cards for river dialogue — which enable initiating relational, interspecies meetings in urban space.

This publication is an invitation to change perspective — to thinking about education as a process, which can and should go beyond the walls of institutions.













pp. 6—17
The Białowieża Forest, strict reserve, May 2025

Criterion X

The Białowieża Forest was listed as UNESCO World Heritage Area also based on Criterion X, which confirms that:
“The object contains the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.”

In the Białowieża Forest, there live 59 mammal species, more than 250 bird species, 7 reptile species, and 13 amphibian species. Groups of saproxylic organism are especially precious, because they live in rotting wood.
They are the ones that distinguish the Białowieża Forest from other forests in Europe. There is also a considerable share of old-growth forest relics, that is species indicating the maturity of the forest and its minimum disturbance by the human.

(https://www.gov.pl/web/klimat/unesco-puszcza-bialowieska-bioroznorodnosc) [accessed: 27 Feb. 2026]

DIAGNOSIS

1



THE WORLD OUTSIDE THE WALLS. NATURE AS A SPACE OF FREEDOM

...one does not liberate people by alienating them

Paulo Freire



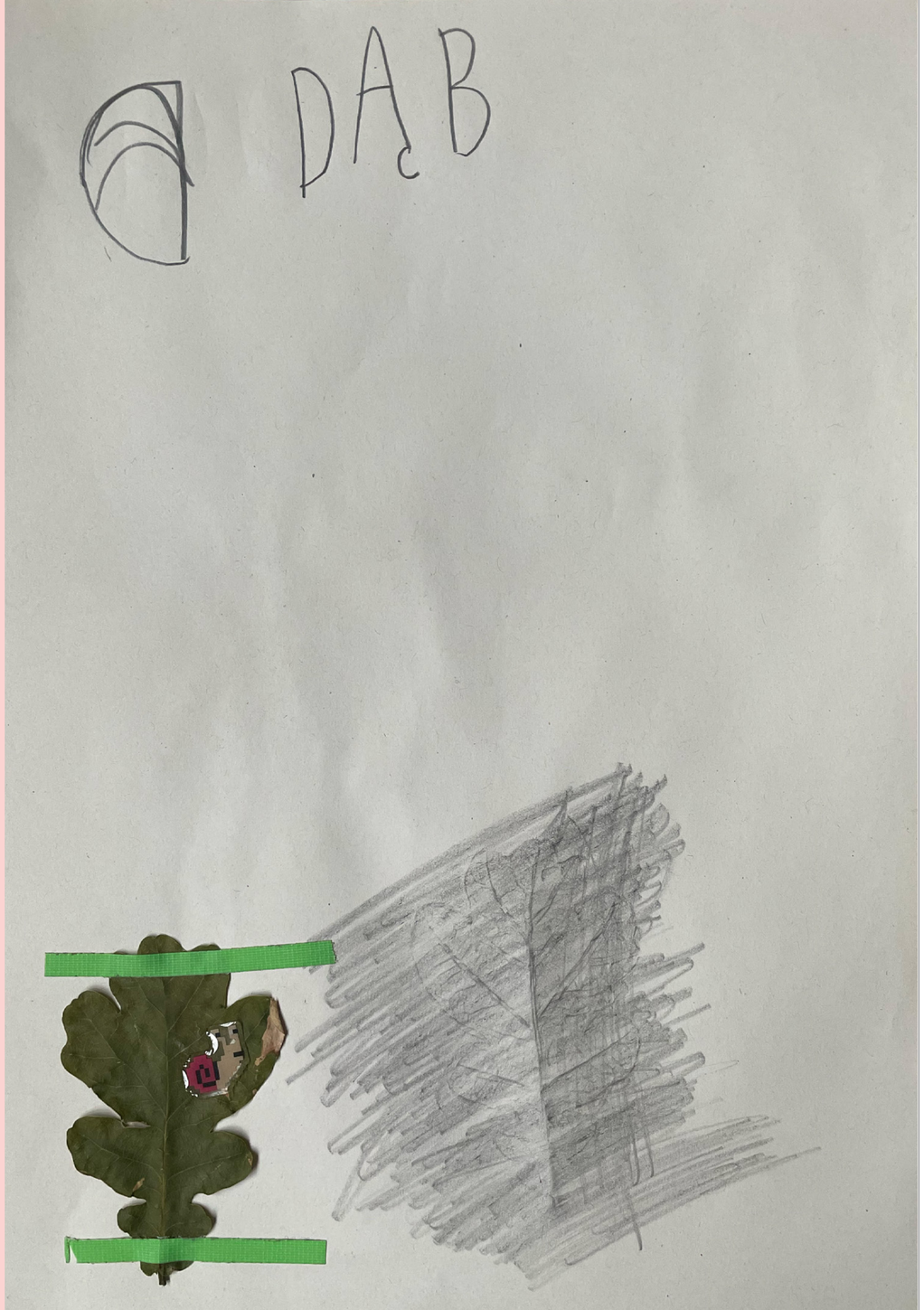
p. 22
On the route to school in Crystal Palace, London 2026

On this page
“Backpack Tree”, during outdoor classes carried out by the Forest Projects Foundation for The Primary School No. 65 in Katowice

Introduction

Outdoor classes — carried out outside the school walls — have found the long-awaited framework in the form of research and scientific analyses, which confirm the positive effect of staying in the green surroundings on students. Experiencing nature improves their cognitive achievements, soothes emotional tensions and enhances interpersonal skills (American Institutes for Research, 2005; Ayotte-Beaudet et al., 2023; Chawla, 2018; Chawla et al., 2014). Exposing the organism to the sunlight increases vitamin D3 absorption and stimulates development of the skeletal system. Moreover, it has positive influence on the sight, immune system, and sensory sensitivity. It is especially important today, when children spend most of the day indoors, often sitting. Such a small space impairs seeing, which is reflected in the increasing ratio of children suffering from short-sightedness. In the medical circles, this phenomenon has been labelled as the “myopia epidemic”. It is caused not only by many ours of screen-time — mobiles, computers, TVs — but mostly by the lack of space, the distance necessary for the anatomical structures of the sight to develop correctly. Staying long in closed spaces impairs skeletal development as well, since the needed vitamin D3 requires sunlight exposure. The previously mentioned lack of movement and long-term seated position, in turn, damage the immune and locomotor systems.

There is yet another aspect of indoor school education — the air quality. In the classroom, where several tens of people stay in the small area, the exhaled carbon dioxide quickly reaches the level far higher than what is optimum for health and cognitive processes. In simple terms, the high CO_2 concentration makes thinking difficult for students. Although this physical, education-disruptive factor could be mitigated by frequent airing of rooms or aeration and air purifying systems, usually even in newly-built school and pre-school buildings neither recuperation systems nor other air quality and humidity solutions are installed. In practice, such options are still unavailable

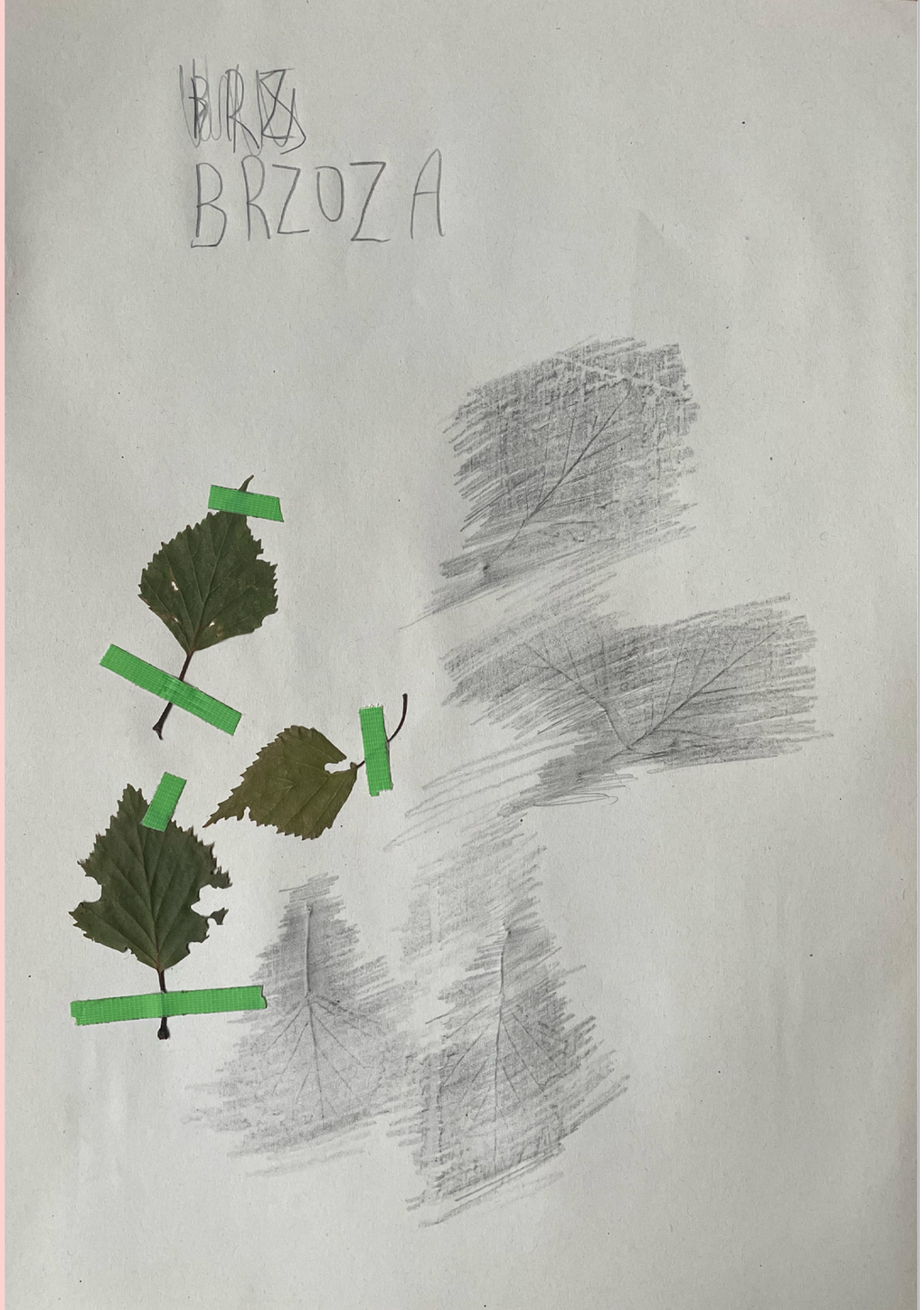


to the majority of schools, while their use requires constant service. Regardless of the installations, however, even the well-filtered air in the classroom will not match the benefits of going outside.

Being in the fresh air, surrounded by greenery, also has a positive effect on adults, improving their general well-being and condition. In the case of convalescents, who have been through a difficult experience of losing their health, open-air activities such as walking, hiking, or gardening, and even staying in nature itself, are therapeutic. What is more, it has been proven that the window view of greenery alone improves concentration and accelerates recovery (Bikomeye et al., 2021; Roe & Aspinall, 2011). In the light of so much scientific evidence of the role the contact with nature has on development of human mental and physical condition, it is hard to understand, why children and adults become increasingly isolated from the outside world, and spend most of their day within the walls of school, home, workplace.

It was years ago when Edward Wilson noticed the need for human contact with nature, and its pro-developmental and health-enhancing importance. The scientist believed that such a need is deeply rooted in the human biology, which, like a magnet — attracts us to the world of nature. He called this force “biophilia” (Kellert & Wilson, 1993). Fulfilling the human need for contact with nature is an element of building the optimum environment for living and development; depriving this contact hinders and restricts natural human functioning.

The contemporary growing alienation of the human from nature leads to the deficit of such a contact and the related negative consequences. Richard Louv, an American journalist and science communicator, coined the term “nature deficit disorder” (Louv, 2008) to describe this phenomenon. Increased muscle and emotional tension, distractedness, inability to focus attention, being out of touch with one’s emotions, lack of empathy, difficulties with interpersonal communication, and the myopia epidemic, are only some of the effects of human separation from the natural environment (Lin et al., 2017).



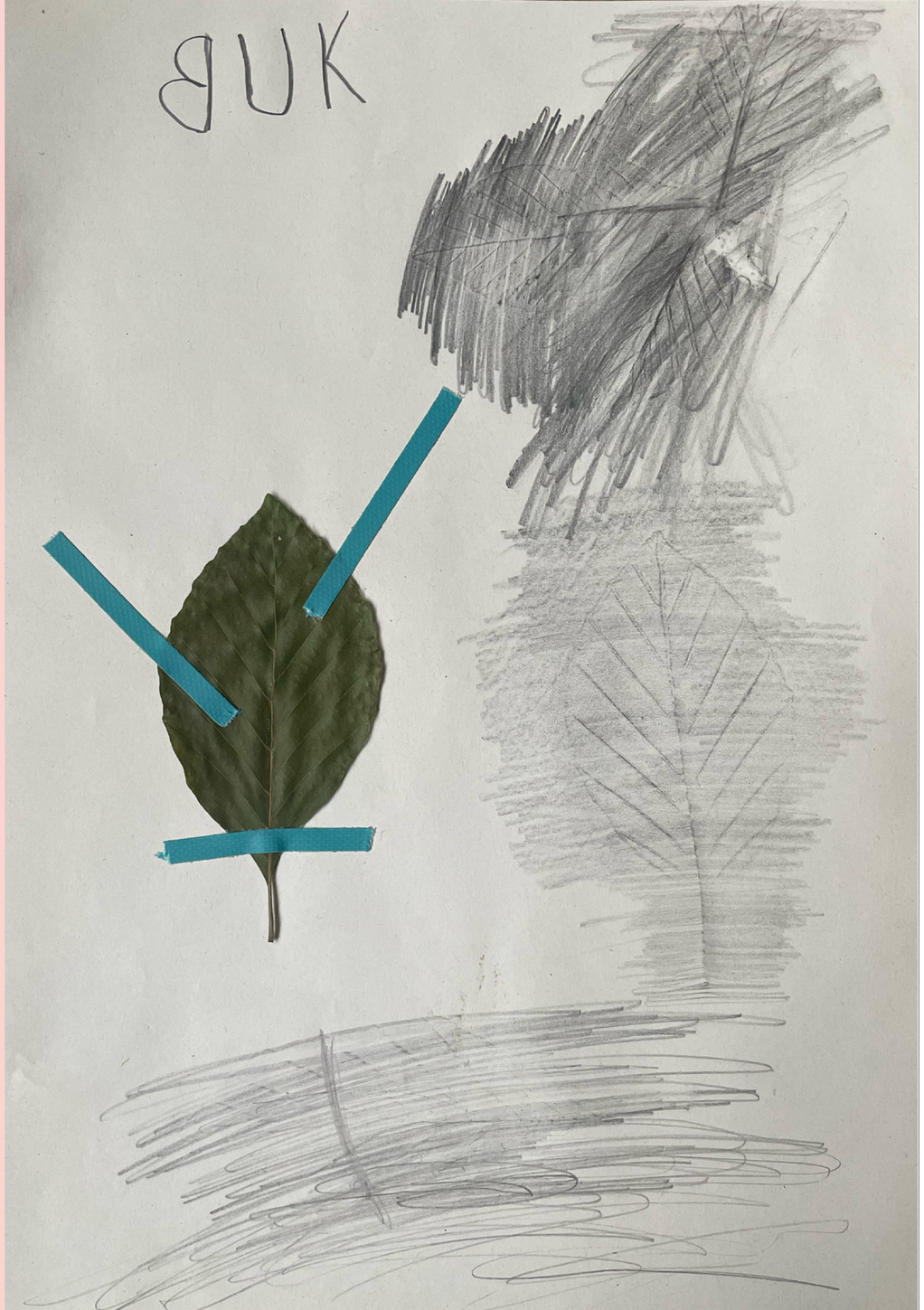
In his book, Louv demonstrated how strong this nature deficit is in children, who spend less time outdoors than inmates in the prison yard. He also described therapeutic effects of nature in the case of children with attention deficit, resistant to traditional support methods. Their condition improved only after a longer stay at the seaside or in natural forest.

Unfortunately, all indications are that the nature deficit is growing. Housing estates yards are becoming empty; children as well as adults shift to virtual reality or close their physical activity in indoor gyms. It should be considered how to reverse this trend: how to return the human to nature.

Except, does nature even exists anymore? There is barely any wilderness left after all. The majority of plant and animal mass consists of crops and farm animals. We are surrounded by scrubby decorative trees and shrubs, planted in front of houses in concrete pots, covered with white stones. Fences present stubs of dense branches of hedgerows. The weekly-cut grass on enclosed urban lawns makes up the never-blooming, barren carpets. Wounded, marginalised nature comes to life only where it has been forgotten by humans. It blooms in neglected gardens, springs through the pavement, ignored by maintenance companies, multiplies under unraked leaves. It struggles to release itself from the mould, imposed by people — in the name of beauty and aesthetics typical of the Anthropocene.

Nature has been replaced by culture — the human civilisation, in which the extra-human beings are usually the effect of mass cultivation to satisfy human needs: plants — almost exclusively crops; animals, mushrooms — nearly all farmed. Washed, foil-wrapped results of industry.

Nature has been distant. It has become alien, unknown. Today, it is present somewhere on the fringes of civilisation, or beyond it; it is the world out of human control, a threat. Sometimes, it can be observed in the relatively small areas of protected territories or in the less wild form — as the effect of scheduled activities of foresters,



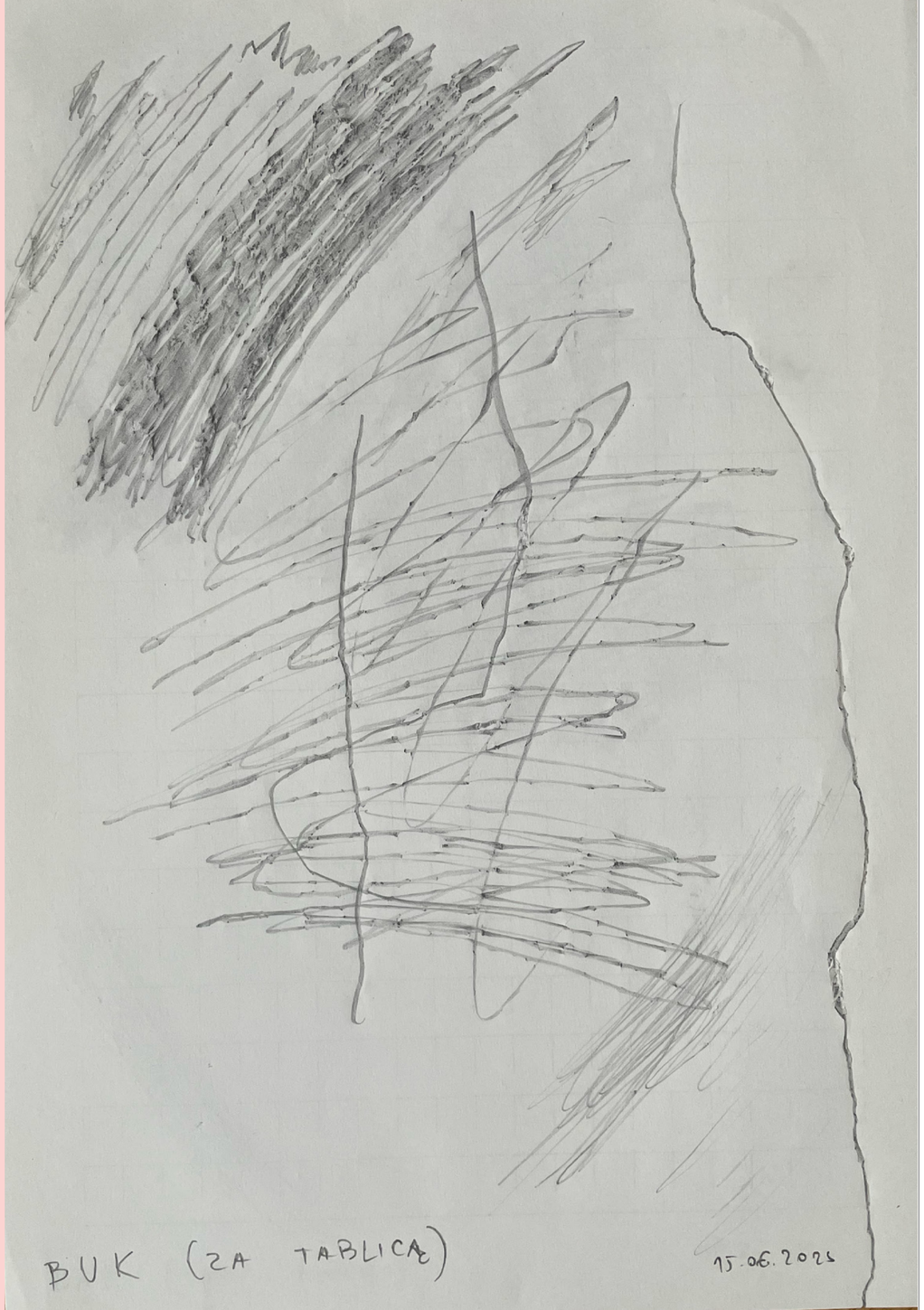
urban greenery planners, or simply as a shrinking green space in non-urbanised places.

The language of biology, and human ecology in particular, describes this fragment of biocenosis, which includes the human species and species under human control (e.g. crops, farm animals, and pets), as well as organisms accompanying humans in the environment strongly transformed by our activity and culture — anthropocenosis (Strzałko et al., 1976).

As the anthropocenosis bubble grows, space accessible to other species shrinks. They have less and less area. At this point, more than 90% of the mass of vertebrates on the Earth are farm animals. Cows, pigs, sheep, chickens, turkeys. Wild nature, increasingly marginalised, becomes scarce, distant.

Due to the lack of regular contact, human bond with nature declines, too. It is another dimension of alienation in the atomised societies of the West. The epidemic of loneliness assumes a new dimension — the interspecies one. If we could reinstate human contact with nature, rebuild our bond with extra-human beings, the sense of loneliness would probably decrease. Or maybe it would be entirely gone?

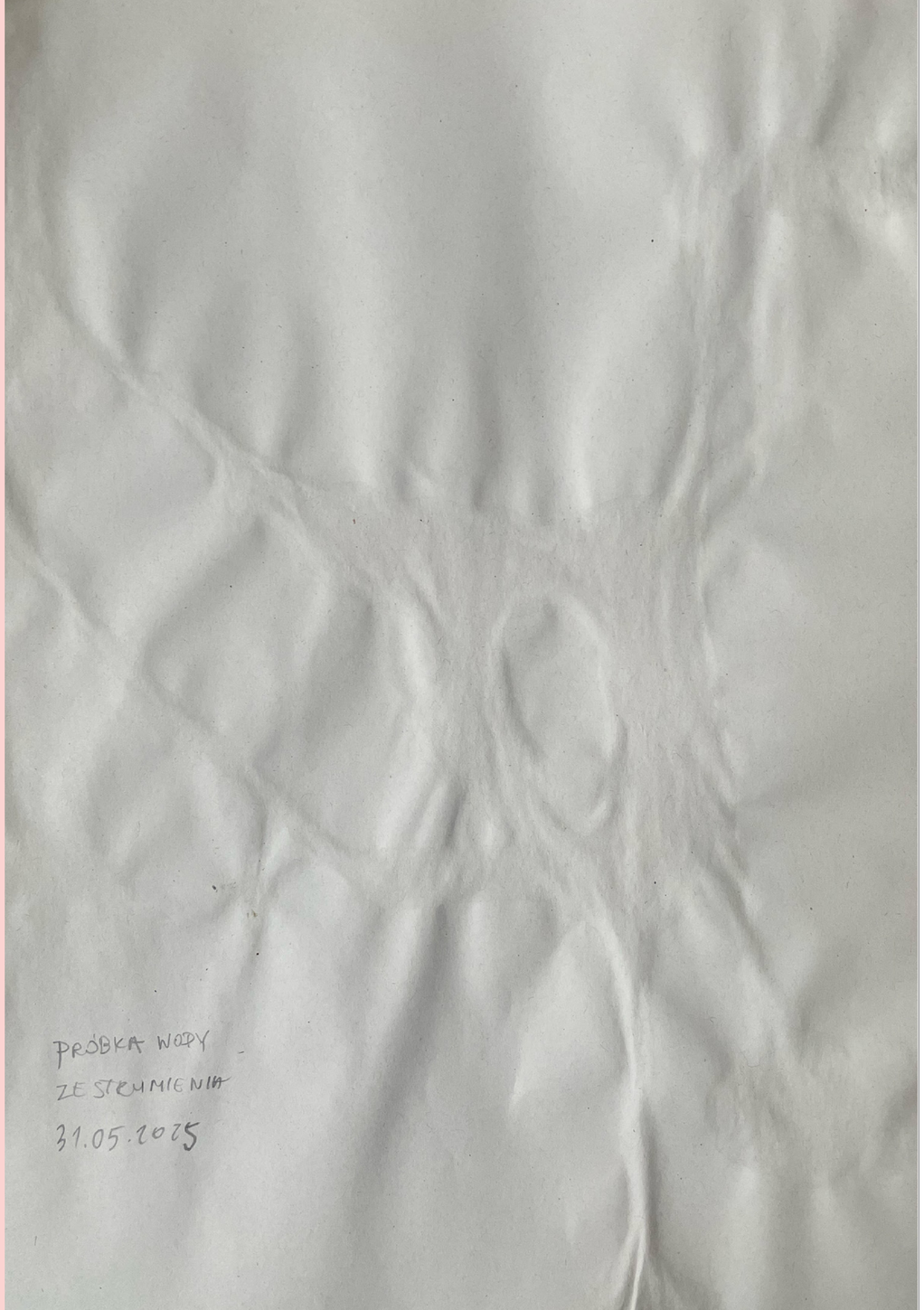
This logic of the growing control over the world and the parallel accumulation of fears of the uncertain future is well described by Ulrich Beck's sociological concept of the "risk society" (2002), in which modern institutions — including school — attempt to manage the products of their own development.



School gardens as places of returning students to nature

The idea of re-establishing students' contact with nature has been discussed quite often in the context of education sciences. The common opinion that taking lessons outdoors is generally beneficial, and even indispensable to students' proper development, caused the wave of "making schools green" — ripping up school pavements and concrete slabs in order to install new vegetable gardens, flower beds, meadows, gardens and parks (Chawla et al., 2014). In the USA, there has developed the Children and Nature Network movement, inspired by Richard Louv's publications (n.d., *Helping children thrive-outside*). It is a platform networking didactic faculty working at schools, academic researchers, and others interested in outdoor education, who publish classes accounts, reflections, research results, invitations and reports from conferences and other events connected with education and play outside. Every user has their profile and can contact other network users, and publish content. The platform works on the American education market and although it is open to other continents, it would be great to have an analogical networking initiative in Poland, and broader — in Europe.

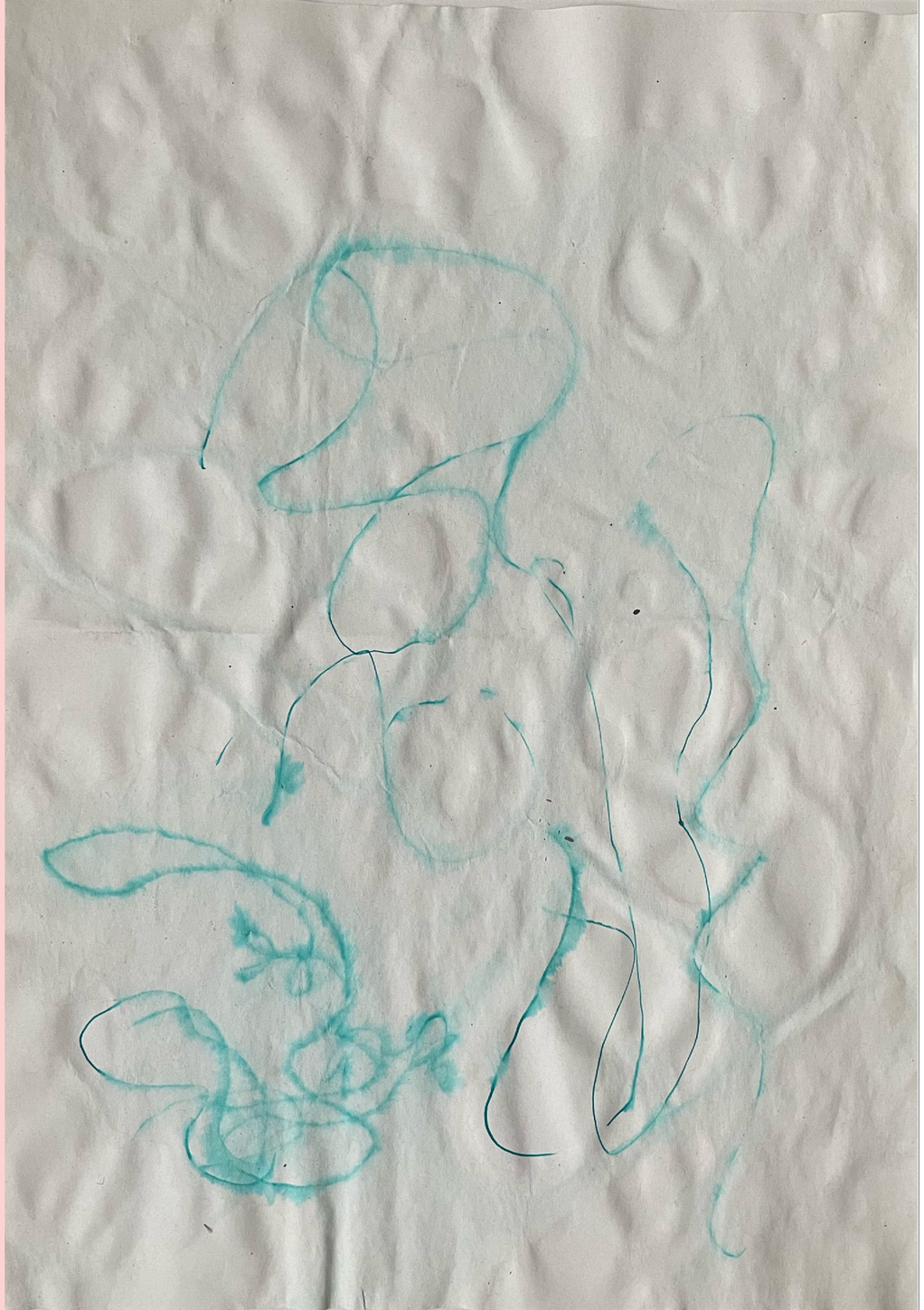
The idea of school gardens has been developing intensively in Europe, and in parallel, many countries popularise models of regular outdoor education. In the Nordic states, there function approaches known as *uteskole* (Norway) i *udeskole* (Denmark), understood as program moving some of the classes to spaces such as areas outside schools, parks, or nearby forests — as complementary with teaching in buildings (Lauterbach et al., 2024; Bentsen et al., 2010). The *Forest School* approach, based on cyclical, long-term classes in the natural environment has enjoyed popularity in the UK (Forest School Association, n.d.). Initiatives of forest education (i.a. a network if forest pre-schools) have developed dynamically in Czechia, and the comparative report discusses them on the background of Germany experience, where such centres have functioned for years



as a recognisable model of education in close contact with nature (Klauer, 2016). In Poland, similar initiatives have also appeared, though on a smaller scale, and their common condition — similarly to these in other countries — is the possibility of using natural areas (especially forests) regularly due to permanent agreements with their managers or owners (Klauer, 2016; Pietrzak-Zawadka, 2019).

School gardens have been also developed in Poland. In Poznań, urban projects, executed in collaboration with i.a. pre-schools in Berlin and the Botanic Garden of The Adam Mickiewicz University, resulted in launching over 20 green playgrounds at pre-schools and several school gardens (*Innowacje w ogródkach przedszkolnych.* (n.d.). | Poznan.pl; Komorowska, 2015). At the 15th Regional Ecology Conference in Poznań, held in 2025, the presentation given by the invited city officials, who carried out these projects, was received very enthusiastically. The teaching faculty and school principals present at the conference wanted to know, how they could become involved in such projects, how to obtain founding, with whom to exchange good practices, why every element of infrastructure requires the proverbial 10 stamps and a certificate. Poznań is not an exception — projects adding greenery to school yards are executed in other cities and towns as well, even though the phenomenon is not widely popular.

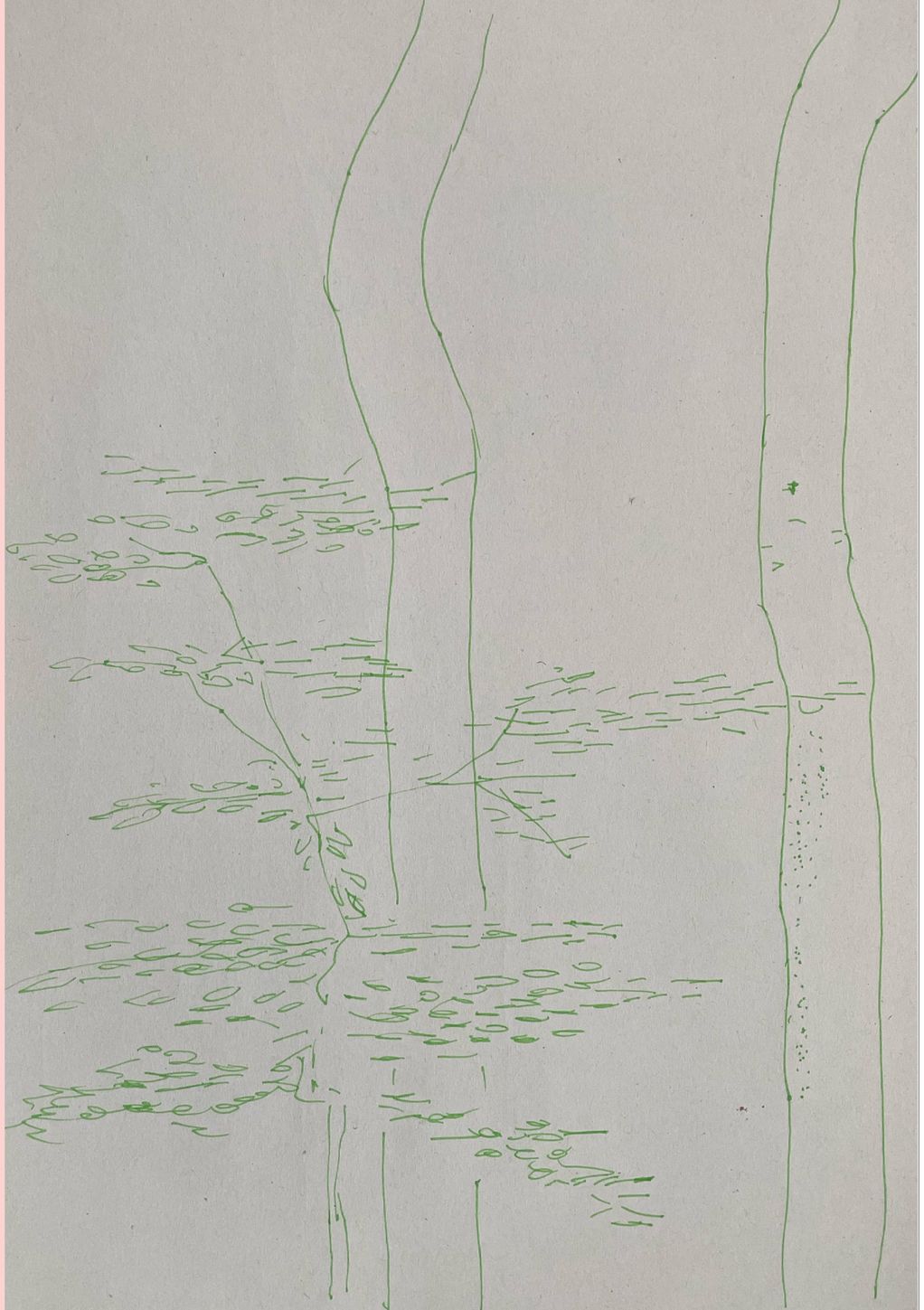
The research carried out in 2025 among principals of public primary schools and pre-schools, managed by local authorities in Poznań, Kraków, and Katowice (Kozłowska et al., 2025), mapped the ways of managing areas in the immediate surroundings of the studied educational centres. Its objective was to determine characteristic features of school and pre-school gardens, and how they are organised. As it turned out, the majority of respondents perceived the greenery around their school and the school garden as a very desirable element of educational space, and many principals declared making efforts to build or develop one. The school garden was most frequently imagined as a designed, orderly place of safe play and education



(more rarely leisure), equipped with professional, certified playground elements (e.g. swings, slides), educational boards, devices for environmental observation and simple studies, as well as educational-and-environmental elements such a meadow, vegetable or herbal garden, bird nesting boxes, and insect houses (Kozłowska et al., 2025).

Undeniably, even such a fully controlled space could be an attractive, beneficial alternative to classes within school walls, as emphasised by Renata Michalak and Teresa Parczewska (2018, 2019), the authors of the most comprehensive research on determinants of absence/presence of outdoor education in Polish schools. Many of the obstacles to outdoor classes, named by the researchers (financial and organisational difficulties, legal liability for students during lessons outside school), would not apply if, instead of a day trip outside the school, the teacher decided to hold classes in the school garden. From the formal perspective, it is not an excursion outside the school area, since, in the legal sense, the school garden belongs to school, while the proximity and accessibility of this space means that, potentially, teachers could use it every day. Nonetheless, as demonstrated by the authors, few of them decide to take their students outside, if only occasionally (Michalak & Parczewska, 2019, 2022). Even in lessons of environmental education, students usually learn about biodiversity on the basis of texts, drawings and photographs in the textbook, while the living natural objects, with all their forms, smells, colours, movements, are literally within their reach.

Obviously, the “natural” use of the natural environment for environmental education — learning about the environment in the environment and through the environment — does not exhaust the possibilities provided by outdoor education. It should be, and sometimes, within local projects, it is present in all subjects, not only the environmental ones. Nature, after all, is a rich source of artistic and literary inspiration; many natural objects live hundreds of years, and are, therefore, an important element of locality and regional history; as



such, they can constitute the environment and resource of education in the lessons of history, native language and culture, and civic education. Undoubtedly, nature is a value in itself, and the goal of education might be not only to provide knowledge about the environment, but also its protection, and active promotion.

Fear of risk as a factor distancing from nature

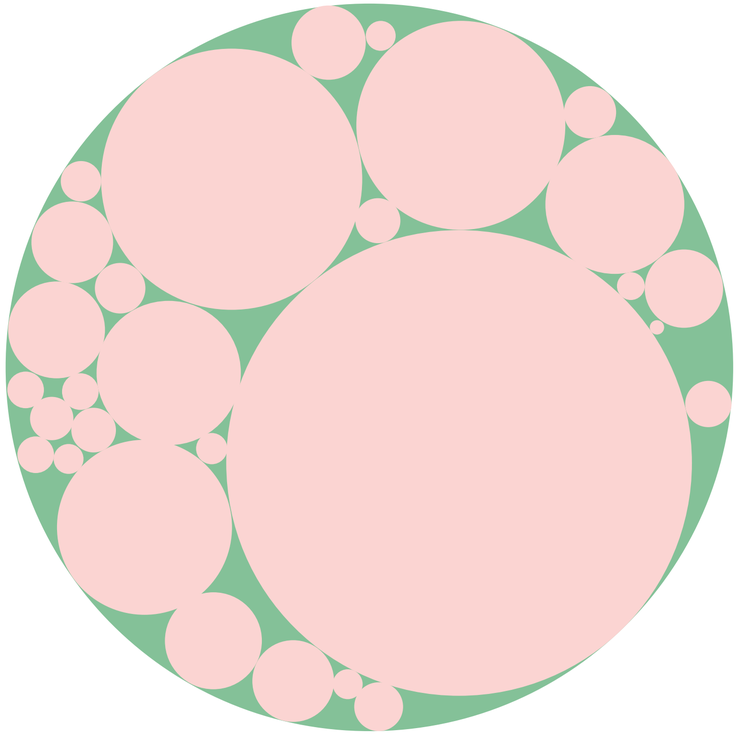
Describing empty yards, Richard Louv directed attention to one more phenomenon: the growing worry about the child "let out of" home. In the American reality, referred in his book *Last Child in the Woods,* he meant both adults' fear of falling down, the pain possibly experienced by the child while playing in the park, and the fear of harm it could experience from a *stranger danger*. Therefore, according to Louv, parents are as if fine with their child sitting at home in front of the computer for hours — at least it is protected from external threats. For the same reason, parents drive them to and from school by car. This way, the child has practically no chances to experience nature — unless such classes are offered by school.

School-yard space as a place co-designed by pupils

The area around school is a place easy to modify. In theory, the school garden could be co-designed by students. They could participate in planning as well as making it. Planting trees, bushes and herbs, can be a precious educational experience. Students are able to work on their own, also on making bird feeders and nesting boxes, supervised by the teacher within school classes. They could design and prepare garden beds, plant vegetables, care for them, and finally taste the vegetables they have grown with their own hands. Students would observe birds use feeders and nesting boxes made during their DIY classes.

Co-making and transforming the space provides conditions of education and development completely different from these offered by ready-made, store-bought products and services. Meanwhile, despite

the fact that almost every school has a type of school yard area, students spend lessons sitting in closed classrooms — as passive recipients of information handed down by the teacher. Their muffled energy explodes during school breaks, when the noise far exceeds the permissible levels of decibels.



pp. 28—38
Field notes from environmental observation, taken within the course of forest therapy and forest bathing (IER) guide. Realisation: Pola D. (7 years old) and A. Kopaczewska

Fig. 1.
The anthropocenosis bubble

PRIMARY RESEARCH — REPORT

Goal of research

The question of why teachers, despite technical possibilities, do not take their students outside the school walls, remains unanswered. The barriers to outdoor education, indicated by the researchers, including:

→ lack of funds for school trips, even one-day visits to education centres at various institutions,
→ fear of excessive workload connected with organising classes outside,
→ fear of legal liability for a possible student's accident,
→ sense of inadequate competences to carry out classes in the unknown area, actually do not apply, or the risk of their occurrence is considerably reduced in the case of areas around the school building. There must be, therefore, other, deeper reasons why the didactic faculty prefer to stay inside the school walls.

In order to obtain the answer to this question, we decided to conduct a study, which would help identify the causes. Below, we present a report from the course, results, and conclusions of the research.

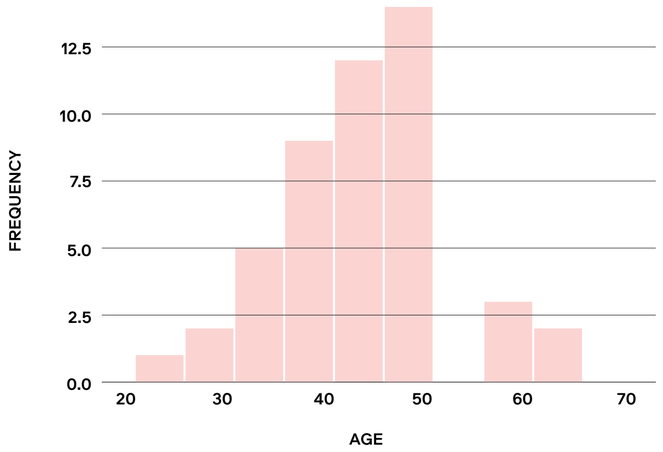
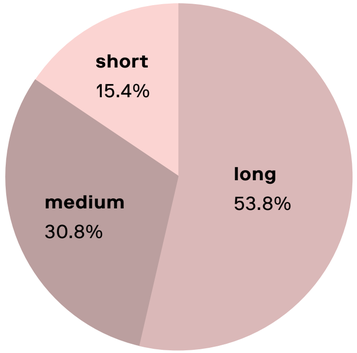


Fig. 2. Age distribution of the research participants (histogram)



WORK EXPERIENCE:
short (0—5 years)
medium (6—15 years)
long (more than 15 years)

Fig. 3. Work experience of respondents

Research report

Sample

The study was conducted before starting the forest bathing classes, carried out in the summer 2025 near Katowice, within Climate-Environmental Teachers' Academy — a project co-funded by The Voivodeship Fund for Environmental Protection and Water Management, and executed by the University of Silesia under the supervision of Dr. Magdalena Ochwat. All the participating teachers (more than 80 people) were invited to the research. The answers were given by N=52 respondents. The respondents' age (Fig. 1) was between 23—65 (M=43.4, SD=8.42). It is possible that the actual age average was slightly higher; several people provided incredible information when asked about their age (88, 99) or wrote comments like "too old". Such cases were excluded from the analysis.

The majority of teachers (54%) have long-term, more than 15 years work experience. There are much fewer (15%) young people, who are starting their career. The distribution of the work experience category is presented in Fig. 2.

Almost all research participants (94.2%) are women. Three people (5.8%) indicated that they did not want to answer the question about their gender.

The sample selection was purposeful — all the participants were people, who had voluntarily enrolled in the project dedicated to climate-environmental education. It could be, therefore, assumed that in comparison with a general population of teachers, they are characterised by more openness to new forms of work, sensitivity to environmental issues, and at least declaratory interest in outdoor classes.

Questionnaire and data analysis methods

The study was conducted by means of an online survey, made available on the participants' mobile phones with MS Forms. Before the respondents moved on to answering questions, they were invited to a short visualisation:

Imagine a situation:

You are in the lesson at the moment. Suddenly...
the walls of your classroom disappear. The space around you opens up — you are in the school garden or the nearby park.
Your classroom has turned into an open-air studio.

Only in this imaginary situation, after "the walls have disappeared", we asked them to answer four open-ended questions.

Hold this vision for a moment and answer a few questions:

→ What would you miss the most in such a space?
(Think about comfort, work organisation, atmosphere, tools...)
→ What would be your biggest fears connected with carrying out a lesson in such an open space?
(Think both about yourself and your students)
→ Who or what could help you in carrying out such a lesson?
(Are there people, institutions, a particular support you would need?)
→ What teaching aids or tools should be available in such an open-air studio to make it a good work space?

The answers to the open-ended questions were subjected to the qualitative analysis with the use of open and axial coding. The isolated semantic categories were then reduced to codes, which could be quantified and set against demographic variables. This way, the teachers' narratives allowed us to describe their readiness and sense of competence in the area of conducting classes outside the classroom, as well as the resulting fears, deficits, and needs.

Results

Question 1

To the first question — *What would you miss the most in such a space?* — we received answers dominated by references to classroom furnishings: whiteboard (13.5%), interactive board (11.5%), desks and chairs (15.4%), computer (21.2%), projector (15.4%), Internet (15.4%), didactic resources (15.4%). There were also more radical answers: walls (5.8%), roof (11.5%). Some people indicated silence (11.5%), physical comfort (*warm, dry*), order, boundaries. There were also the answers: nothing (13%) — in their opinion, a lesson in the open air is complete in itself.
These numbers are supported by particular statements:

→ *I would miss most the comfort and access to technologies such as the multimedia board, computer, projector or fast Internet.*
→ *Comfort while writing, students' distraction.*
→ *I would miss the interactive board.*
→ *Nothing, I think :).*

The analysis of the answers allowed us to identify repeatable patterns, which were then encoded as individual interpretative codes, describing attitudes toward conducting outdoor classes. First of all, code 1: *Transported classroom*. If the classroom disappears, some cosmic force moves us to the forest — the classroom must be recreated in the forest: arrange desks, unroll cables, provide wi-fi. The forest becomes the background for a technologically augmented transmission: *like in the classroom, but in the open air.* Here, nature is not a resource in the learning process, an inspiring context, a source of content nor a didactic material. It is an obstacle defined by deficits: no walls, no silence, no desk, no board. This configuration gives rise to the code *Negation — transported classroom*: the environment at large is not perceived as a resource, on the contrary — it stands in the way, because it does not meet technical and organisational

standards of a classroom. Education remains the practice of enclosure, even if the walls physically "disappear" in the initial narrative.

Next to negation, there are also answers, in which the research participants look for softer solutions: mats, blankets, writing pads, umbrellas, canopies, shelters. It is still about comfort, but there is an attempt of establishing a relationship with nature — accepting that students can sit on the grass, that in this lesson "the floor" becomes the ground. These answers fall into the category of code 3: *Partial acceptance — tourist class*. Here, the respondents do not attempt to transport the walls, roofs, desks and computers to the forest, but rather opt for a lighter, "tourist" version of the lesson, in which the fact of being outside the school walls is perceived as an attraction — but the classroom is still a classroom, even though its desks are possibly no longer bolted to the floor. The potential of the environment remains unrecognised — but what it offers is not seen as a deficit.

There also occurs code 4: *Full acceptance*. Here, in response to the question of what would be missing, the answer is: *nothing*, *it's all good*, *if I have my students, there is nothing missing*. The logic of deficit disappears. Outdoor classes are not a "poor relative of the classroom lesson", but rather a qualitatively different educational situation. These singular voices echo freedom — also the teacher's freedom from attachment to technology and the closed space of school classroom, which, in the traditional transmission model, guarantee good-quality education.

Question 2

The second question — *What would be your biggest fears connected with carrying out a lesson in such an open space?* — reveals the emotional substrate of these imaginations.

In statistics, three types of fear dominate (Table 1):

→ students' safety and health — this code occurs most frequently: 34.6% of respondents are worried about safety and health; others, that *children will get lost* or *run away* (19.2%), that they will be stung by ticks or mosquitoes (21.2%),

→ the weather — 30.8% (*bad*, *changeable*, rain, wind, heat),

→ losing control over the class and students' attention — 34.6% (*they will disperse*, *scatter*, *will not be focused on the topic of the lesson*).

Table 1. Statistics of codes obtained as a result of the content analysis of question 2.

Symptoms — categories	**%**	**n**
children, distracted by nature, will not focus on the lesson	34.6	18
students' safety and health	34.6	18
changeable, bad weather (rain, heat, wind)	30.8	16
being stung by ticks, mosquitoes, insects	21.2	11
children will disperse or get lost	19.2	10
children could be afraid of forest animals	3.8	2
parents' protests	1.9	1

Nature as a threat, the student as a potential victim

In some answers nature is mostly a **threat**: filled with ticks, spiders, insects, and larger animals, which could sting, bite, sensitise, scare. The child appears to be this fragile being, who requires constant

protection against the world, full of risks and dangers. Safety is understood as minimising or even removing any risks by adults, who have probably personally experienced many mosquito bites, got lost in the forest, or scraped their knees while playing in the yard.

From this perspective, possibility of climbing, running, and having contact with living creatures is fraught with risk. More movement means more threats; more contact with nature is a higher danger of being stung, bitten, allergic or scratched. Restricting the child's freedom of movement, as it is in the classroom, serves their own good, guarding them against potential pain and fear as a result of scraping, catching a cold, or injury.

The second extensive motif present in the answers to question 2 is the fear of losing control:

→ *Students would scatter all over the park*.
→ *I won' t keep their focus on the lesson*.
→ *They won' t hear me well*.

In these statements, school appears as a space, where education consists mainly in keeping bodies and attention at bay. The wall is not only concrete, but also a didactic gesture: "being in the classroom" means "being within the reach of the teacher's voice", being within "borders" set by the walls, in silence, seated.

Opening the space, therefore, means not only contact with nature, but also having no more monopoly on attention. Children start looking elsewhere: at trees, ants, leaves, clouds. Nature becomes competition in the fight for the limited resource of attention.

In the categories of freedom, it can be read directly as: the outdoor space allows students to practice cognitive freedom — directing attention at what sparkles their curiosity, and not only where the teacher stands. For many didactics, however, such a situation feels threatening — also in their sense of competence and authority. Several statements reveal direct fear of being incompetent: *I don' t know all the organisms here.*

In the world, where the teacher's authority is based on being "the one, who knows", going out to the rich, unpredictable natural environment is risky. There will always be an insect we cannot name, or a birdsong which we cannot recognise. Nature rips education off the safe textbook linearity, where everything is systematised, signed, described on the scheme.

In this context, freedom would mean teachers' consent to their own ignorance — assuming a position of co-learner, ready to say: *I don' t know, let's find out together*. To some teachers, such a conception is unacceptable, due to their fear of losing authority. It is the approach, however — entering the role of teacher-student — that Paulo Freire indicates as the way to freedom and autonomy.

Another interesting result refers to perception of the weather — more than 30% of respondents pointed it out as a factor encouraging or discouraging the decision about going outside. The fact that physical comfort can be easily lost due to the rain or a gust of wind evidences that we have no experience with being in nature, nor proper attitude, nor clothes. A popular Swedish saying goes: "There is no such thing as bad weather, only bad clothing." The issue of wearing clothing appropriate to the weather might seem too obvious to discuss it with pedagogy students, and as a result the inappropriate clothes cause them gather unpleasant experience during excursions on a little colder or rainy day.

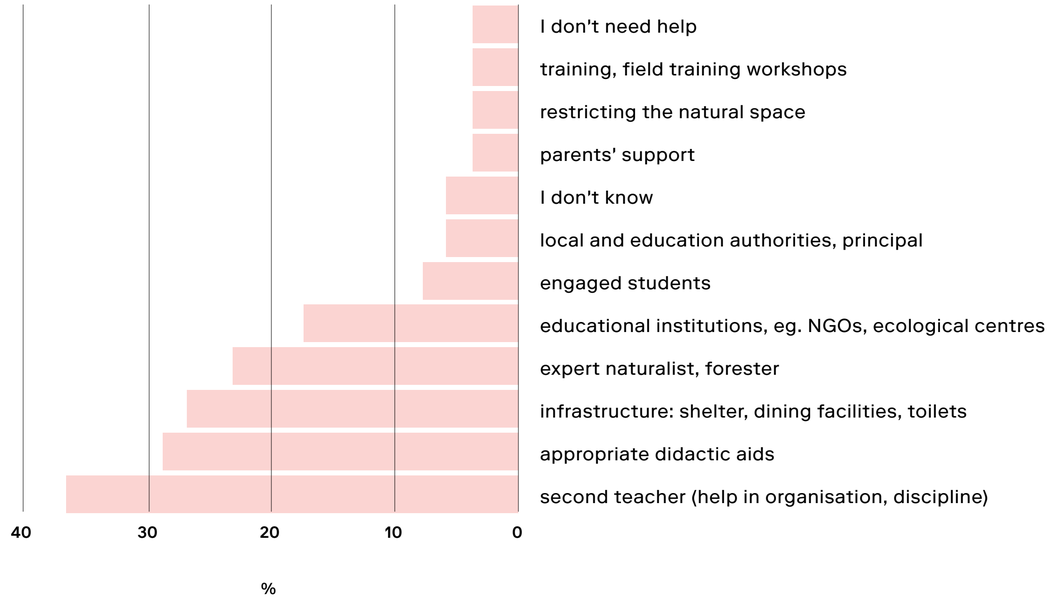


Fig. 4. Statistics of codes, identifying respondents' expectations regarding assistance they would need to conduct outdoor classes

Question 3

The question about who or what could help with conducting a lesson outside, received three main types of answers:

1. people — mainly the second teacher (36.5%), sometimes a colleague, *a support teacher*, more rarely — a naturalist, forester (23.1%) or *a guide*,
2. institutions — school, principal, education and local authorities (as a source of financing of assistance and infrastructure), as well as institutions of the surroundings: sanitary-epidemiological station, forest districts, museums, botanic gardens, ecological NGOs,
3. objects and infrastructure — shelter, toilets, dining base, fenced area, good didactic aids, class scenarios, worksheets. There are also two fringe answers: *I can manage on my own* and *I don' t know* (unawareness of one's needs).

In the language of freedom, this fragment of data reads as:

→ some teachers need co-presence of other adults — not to share the celebration of freedom, but to divide responsibility and fear,

→ others seek external legitimation (*parents' consent*, *the principal's support*),

→ yet another group would prefer a fenced green area, controllable by sight, supervision, regulations.

All that sums up to the image of conditional openness to conducting classes outside, possible under instructions, with umbrellas, shelters, fences, the second teacher etc. (Fig. 4).

Question 4

The question about **didactic aids and tools** reveals, how the respondents perceive nature itself as working "material". On the one hand, there are answers such as:

→ *instruments of nature observation — magnifying glasses, microscopes, traps* (38.5%),
→ *atlases, keys, species recognition applications* (11.5%),
→ *compasses, maps* (21.2%),
→ *gardening tools*.

Here, nature becomes an equal partner: it is interesting enough to be observed, touched, studied. There is also place for creative expression — crayons, paints, bristols, binoculars, string and twigs, to *make some kind of art work.*

On the other hand, the well-known figures return:

→ *portable whiteboards or flipcharts*,
→ *foldable tables and seats*,
→ *Internet-enabled mobile devices (tablets, laptops)*,
→ *like in the classroom (multimedia)*.

These demonstrate the "transported classroom" in its pure form — everything like in the classroom, but foldable, portable, and rain resistant.

There are few and far between answers from category 4 (full acceptance): *A stick, what you find in nature.* Here, a didactic aid is nature itself, simply. In its unlimited richness, nature provides everything that is needed for education of children and adults.

Table 2. Statistics of codes obtained as a result of the content analysis of question 4.

didactic aids	%	n
instruments of nature observation — magnifying glasses, traps	38.5	20
tourist equipment (blankets, mats)	27.0	14
compasses, maps	21.2	11
like in the classroom (multimedia)	15.5	8
classes scenarios, lesson plans	13.5	7
atlases, keys, species recognition applications	11.5	6
a stick, what you find in nature	9.6	5
crayons, paints, bristol	7.7	4
I don' t know	7.7	4
gardening tools	5.8	3
books, texts	3.8	2
tablets	3.8	2

Summary of results

Data analysis allowed to reconstruct four patterns of imaginations about outdoor classes which became the interpretative axis of our further analyses:

→ **negation:** transported classroom — in which nature and open air are an obstacle rather than a resource in education,
→ **uncertain openness:** readiness to go out blocked by many fears,
→ **partial acceptance** — "tourist class" — lesson as an excursion, nature as an attraction,
→ **full acceptance**: nature as an environment of teaching and learning.

Discussion

Four figures of teacher's freedom

Based on the combination of codes (deficits, fears, expected support, tools), four patterns of approach to outdoor classes were isolated.

Negation — "transported classroom" (23.1%; n=12)

→ nature is an obstacle,
→ an outdoor class is imagined as a copy of a classroom lesson, only in worse conditions,
→ dominant attachment to the transmission model of teaching, augmented with technology.

Uncertain openness — readiness to go outside blocked by many fears (21.2%; n=11)

→ the teachers see the sense in going out, but their statements are filled with fear of: the weather, parents, their own ignorance,
→ freedom is perceived as something potentially valuable, but conditional on so many "buts", that it often remains in the dream zone.

Partial acceptance — "tourist class" (38.5%; n=20)

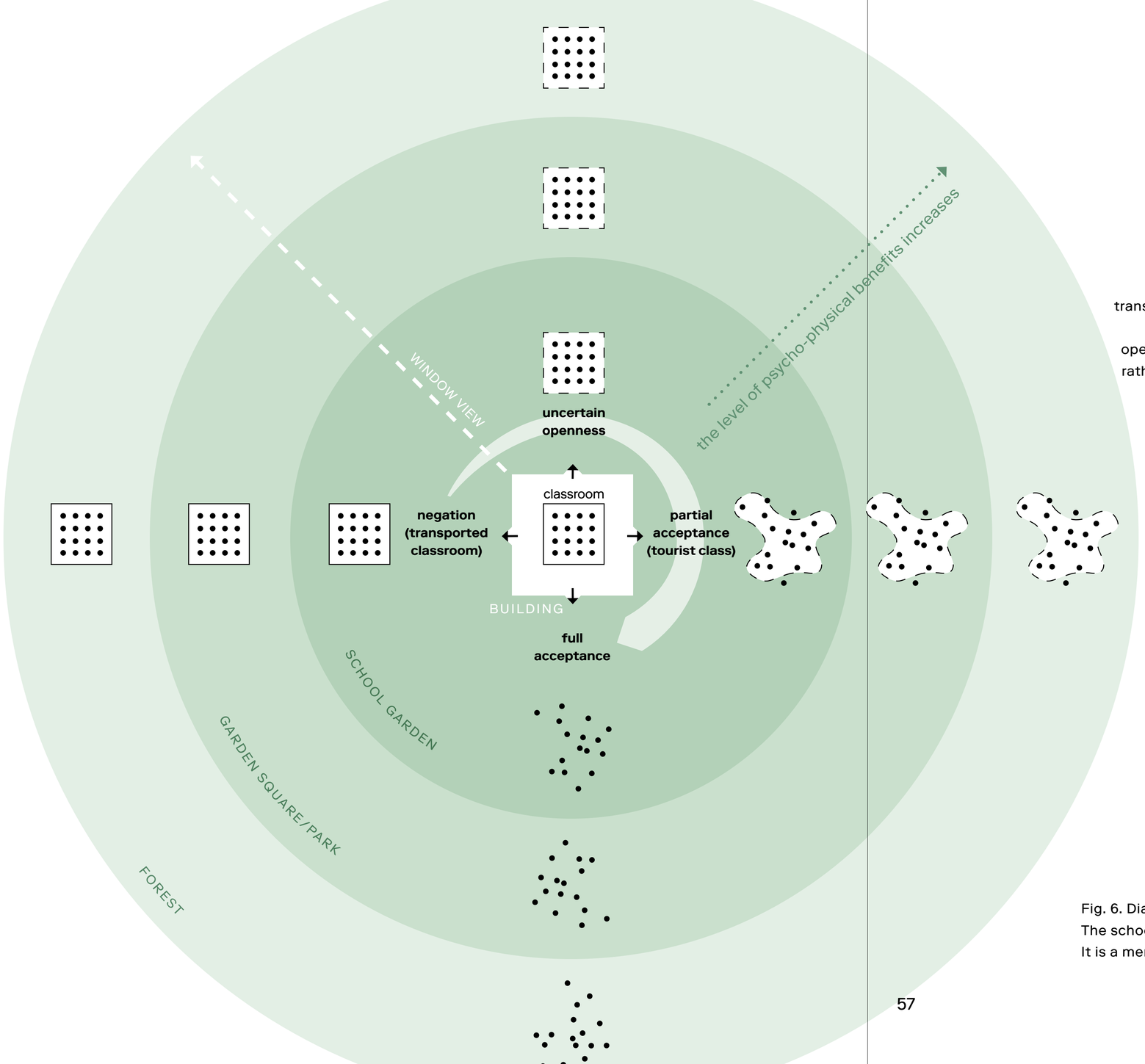
→ nature can be the background of an attractive lesson, the "holiday" version of daily routine,
→ it needs mats, blankets, tables, umbrellas,
→ there are first attempts of using environmental resources, but in a safe, controllable format.

Full acceptance (17.3%; n=9)

→ there are answers *there is nothing missing*, *I can manage*,
→ nature is an obvious space, which does not need to prove its usability,
→ students' and teachers' freedom is not a threat, but rather the underlying condition of learning,
→ learning is a non-hierarchical process, far from Freire's banking model of education; students are also teachers, and teachers are also students,
→ teachers and students learn about nature in relation with nature, as if "from nature".

The listed patterns sum up to the schema of a gradual release from the school walls, and also — the traditional didactic models. The schema presents the continuum from going — not going out of the classroom, where teachers, being outside, are mentally and spiritually still within the school walls; through the quite fearful, uncertain exploration of the known, orderly surroundings, in the complete tourist gear, where nature is a nice (if the weather is good) attraction of the lesson; all the way to free and conscious being in nature and with nature, accompanied by mutual learning and dialogue, as postulated by Małgorzata Kowalik-Olubińska in her conception of the "common worlds pedagogy" (Kowalik-Olubińska, 2025).

The most numerous is the group "in the middle" — partial acceptance. It is here, between negation and full acceptance of open space, that the broad area of potential interventions emerges: pedagogic, systemic, but also artistic ones.



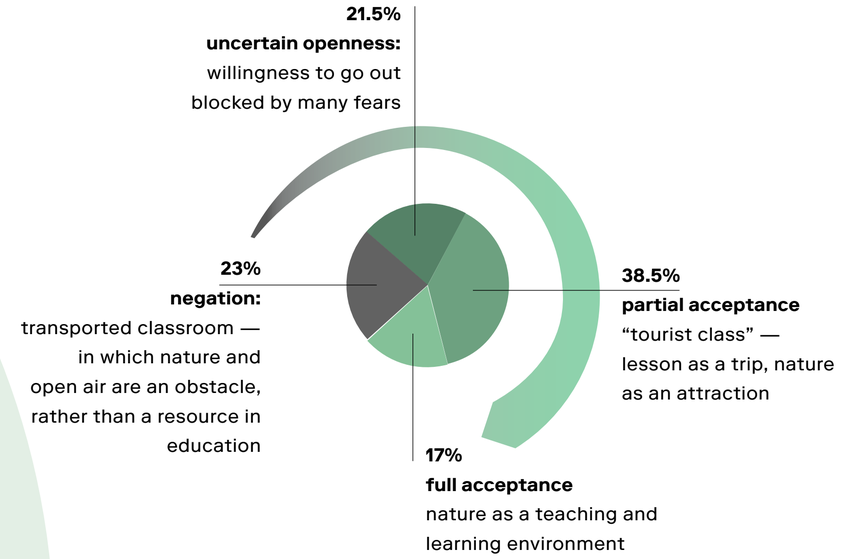


Fig. 5. Statistics of summary codes featuring four main teachers’ attitudes towards outdoor classes

Fig. 6. Diagram of gradual liberation from the school walls. The school wall is not only an architectural structure. It is a mental, emotional and systemic construction.

Education — the practice of captivity or the practice of freedom?

All the data could be read in many ways: as a list of barriers, diagnosis of system deficits, or trainings design material. We would like to look at them mainly as a story about freedom and the lack of freedom. Such a narrative refers to the banking model of education, described by Paul Freire in his book *Pedagogy of the Oppressed*. In Chapter 2, he writes:

> The teacher talks about reality as if it were motionless, static, compartmentalized, and predictable. Or else he expounds on a topic completely alien to the existential experience of the students. His task is to "fill" the students with the contents of his narration — contents which are detached from reality, disconnected from the totality that engendered them and could give them significance. Words are emptied of their concreteness and become a hollow, alienated, and alienating verbosity. (...)
>
> Narration (with the teacher as narrator) leads the students to memorize mechanically the narrated content. Worse yet, it turns them into "containers," into "receptacles" to be "filled" by the teacher. The more completely she fills the receptacles, the better a teacher she is. The more meekly the receptacles permit themselves to be filled, the better students they are.

And he continues:

> Implicit in the banking concept is the assumption of a dichotomy between human beings and the world: a person is merely *in* the world, not *with* the world or with others; the individual is spectator, not re-creator. In this view, the person is not a conscious being (*corpo consciente*); he or she is rather the possessor of a consciousness: an empty "mind" passively open to the reception of deposits of reality from the world outside.

Liberation from the dualism underlying the banking model of education is possible, but only when we resign from hierarchy and move to communication based on partnership and dialogue. It is only when both sides maintain complete openness and mutual respect, readiness to learn from each other, partnership in the relation. As Freire writes further:

> But one does not liberate people by alienating them. (...) Liberation is a praxis: the action and reflection of men and women upon their world in order to transform it. Those truly committed to the cause of liberation can accept neither the mechanistic concept of consciousness as an empty vessel to be filled, nor the use of banking methods of domination (propaganda, slogans — deposits) in the name of liberation.
>
> (Freire, 2017, pp. 44 — 52)

Freire wrote about liberation of masses of illiterate peasants from exploitation in Brazil, where he carried out reading and writing courses, yet his discussions about freedom and liberation refer to the universal area of communication between a teacher and a student. The author associates freedom with development of critical awareness, emancipation to the world of freedom, in which the sense of dignity and values, awareness of one's position, allows for rational decisions and activities towards improving the situation. Freire's thought regarding mechanisms of critical awareness development and emancipation understood as regaining dignity and freedom, is expanded in Poland by Maria Czerepaniak-Walczak, who wrote the textbook *Pedagogika*



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emancypacyjna (Emancipatory Pedagogy, Czerepaniak-Walczak, 2006). Our research revealed different approaches that teachers' take to outdoor classes, which could be referred to different levels of their freedom and liberation, as well as reclaiming autonomy, as they restrict students' desire for freedom and latitude in learning about the world, while themselves constituting a group suppressed by the system, limiting their own autonomy and creativity in many efficient ways. Teachers, fatigued by the oppressive system, have no power to fight it, nor go against the grain, nor make extra effort, as if what they do at school every day would not suffice. They are also somehow pinned down to the desk system with their fear of freedom and the resulting responsibility. Going outside the school walls, therefore, is not a simple change to classes in a form different from the usual, since it entails not only physically leaving the classroom, but also overcoming the internal barriers, and readiness for non-banking, non-hierarchical education in nature and with nature. As demonstrated by the report SOS for Education, one of the barriers to opening to less hierarchical forms of education is some teachers' attachment to the traditional model of school relations, based on discipline and inequality of the teacher's and the students' positions (Prachnio, 2025, p. 37).

In the traditional critical pedagogy, school is sometimes described as an institution of oppression, in which knowledge is a tool of control, and the student's body — an object of discipline. The walls, desks, the bell, charts, e-registry — all that entangles into the image of a closed, captive world. The surrounding wall has both the literal dimension — of the school building wall, the classroom wall — and the symbolic one, which teachers carry within, originating from their:

→ need for control,
→ conviction that a good lesson requires silence, rows of desks, a whiteboard at the front, and "teaching" by the teacher, who is the source of knowledge,
→ fear that students could start "looking somewhere else" than at the whiteboard.



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Such an internalised need for order, control, and designated functions could be interpreted as a symptom of the "educational monoculture" as understood by Michał Paluch. From this perspective, the results of his research come as no surprise, as pedagogy students designing the forest pre-school, recreated the schema of an orderly, colourful playground known from urban surroundings of educational units, rather than imagined the forest as an open space of relations, exploration, and free activity (Paluch, 2023).

Outside the school walls, there is a space free from these limitations — without desks, whiteboards, projectors, and the teacher's desk, situated at the physical or symbolic elevation. At the same time, in the school system teachers themselves remain under permanent control: they are snowed under requirements and function in the conditions of limited trust of the education authorities. In the name of "safeguarding the quality of education", the said authorities mould them into detailed program instructions and organisational frameworks, which restrain their creativity and innovativeness. It is not solely about teachers' individual attitude, but also about the durability of the classroom-lesson system, which organises school time, space, and relations in a manner hindering more open forms of studying (Śliwerski & Paluch, 2021).

In our story, nature becomes a space of freedom — not necessarily desired freedom. The open natural space stimulates imagination, attracts with its views, smells, movement — which can be unconnected with the topic of the lesson. For teachers attached to the banking model of education, it is, therefore, unwanted freedom, which comes as a threat — to covering the program, sense of control and safety, the idea of a lesson as such.

Nonetheless, if instead of perceiving freedom as the opposite of order, we treat it as a condition of authentically becoming a human, as stated by Freire — the results of our research obtain a different meaning. They allow to look at outdoor lessons as a practice of freedom:

→ freedom of the body — the possibility of movement, change of position, contact with other beings,
→ cognitive freedom — the possibility of following one's curiosity, and not only the textbook table of contents,
→ relational freedom — establishing an authentic relation with extra-human beings, symbiotic co-existence, instead of observing the world from a safe distance of the school desk.

Such an approach would allow for bringing environmental education to the symbiotic perspective — founded on connections, relational, interdisciplinary, project-based, the one which fosters developing a different mode of being in the world — less exploitative, more co-dependent (Ochwat, 2023, 2025; Skubała et al., 2023).

Our data shows that as much as such a vision is tempting for many teachers, they also feel restrained by the school system. In the majority of the answers provided by the respondents, the desire for change co-occurs with the fear of liability, and the willingness of leaving the classroom — with the need for "transporting" the classroom along. These worries work like mental restraints, keeping teachers within the school walls — even when they physically leave them. In this mixture of desires, needs, resources, and fears, we can see a great potential of artistic-and-didactic intervention, which could help shift education from the axis "control—fear" to the axis "relation—freedom".

The world outside the walls — the space of freedom — does not require many days of excursions. It is within our reach. It starts right outside the school doors, sometimes on the narrow stripe of grass between the lawn and the parking lot, sometimes in the neglected school garden, sometimes in the park across the street.

The problem, therefore, is not that the teacher has nowhere to go out with their students, but that they lack readiness, and sometimes even the need to leave the familiar, safe space of the classroom — the space

surrounded by the wall. The wall also has a non-material dimension, consisting of imaginations about the teacher's role, what a lesson is, how the process of building and development of knowledge takes its course.

Paulo Freire (2017) wrote that *one does not liberate people by alienating them* (p. 79). Further in his book, he also said that: *No one can (...) unveil the world for another* (p. 169). Our data demonstrate how strongly teachers are entangled in the system, which — in the name of protection, order, comfort, safety — makes it difficult for them, and their students, to experience freedom: movement, curiosity, contact with the more-than-human world. The experience of freedom also includes facing and experiencing the consequences of risk — the same one, against which teachers, supported by parents, struggle to protect their students at all cost.

The first step toward returning students to nature might not be to "move school to the forest", but rather to notice and understand teachers' fear of disappearing walls, lack of whiteboard, multimedia, and "didactic base". This fear should be domesticated, drawn, narrated. And then — with students, together, explore what is outside the wall — adventure, something new, all the way to the scratch on the elbow and mosquito bites — the tangible evidence of participating in the excursion to the other side of the wall.

TEACHERS





An effective educational policy must be based on reliable knowledge about teachers. The demographic structure of teaching faculty: teachers' age, gender, qualifications and experience, influences not only the quality of education, but also the stability of this system, and its readiness to respond to new challenges. In the era of increasing expectations towards schools and growing diversity of students, the question of who teaches in Polish schools today becomes especially important.

(Sitek, ed., 2025)

p. 78
A gall, that is a pathological growth formed as a result of plant tissue developing on the leaves attacked by insects — gallflies.
p. 79
The "talking stick" Klembuszek — element of forest bathing, Klembowo 2025

Who are teachers and what are the realities of their work in Poland? In order to obtain answers to these questions, we decided to refer to the report from The Teaching and Learning International Survey OECD 2025, *Results from TALIS 2024: The State of Teaching*.

The Teaching and Learning International Survey (TALIS) is a cyclic international research program, coordinated by OECD (Organisation for Economic Co-operation and Development), and its 2024 edition included more than 50 countries. In Poland, on the commission from the Ministry of National Education, the research was conducted by the Educational Research Institute. Its key methodological assumption is that the research results are based solely on teachers' and principals' declarations, reflecting their opinions, convictions, and relations regarding work.

In Poland, the study included the population of teachers of forms 5—8 of primary schools (level ISCED 2) and principals of these centres. The research sample included 3,783 teachers from 279 schools, and the study survey completion rate was very high, it reached 94%. The report concentrates on several pillars: demographic structure, well-being, work environment, and professional development.

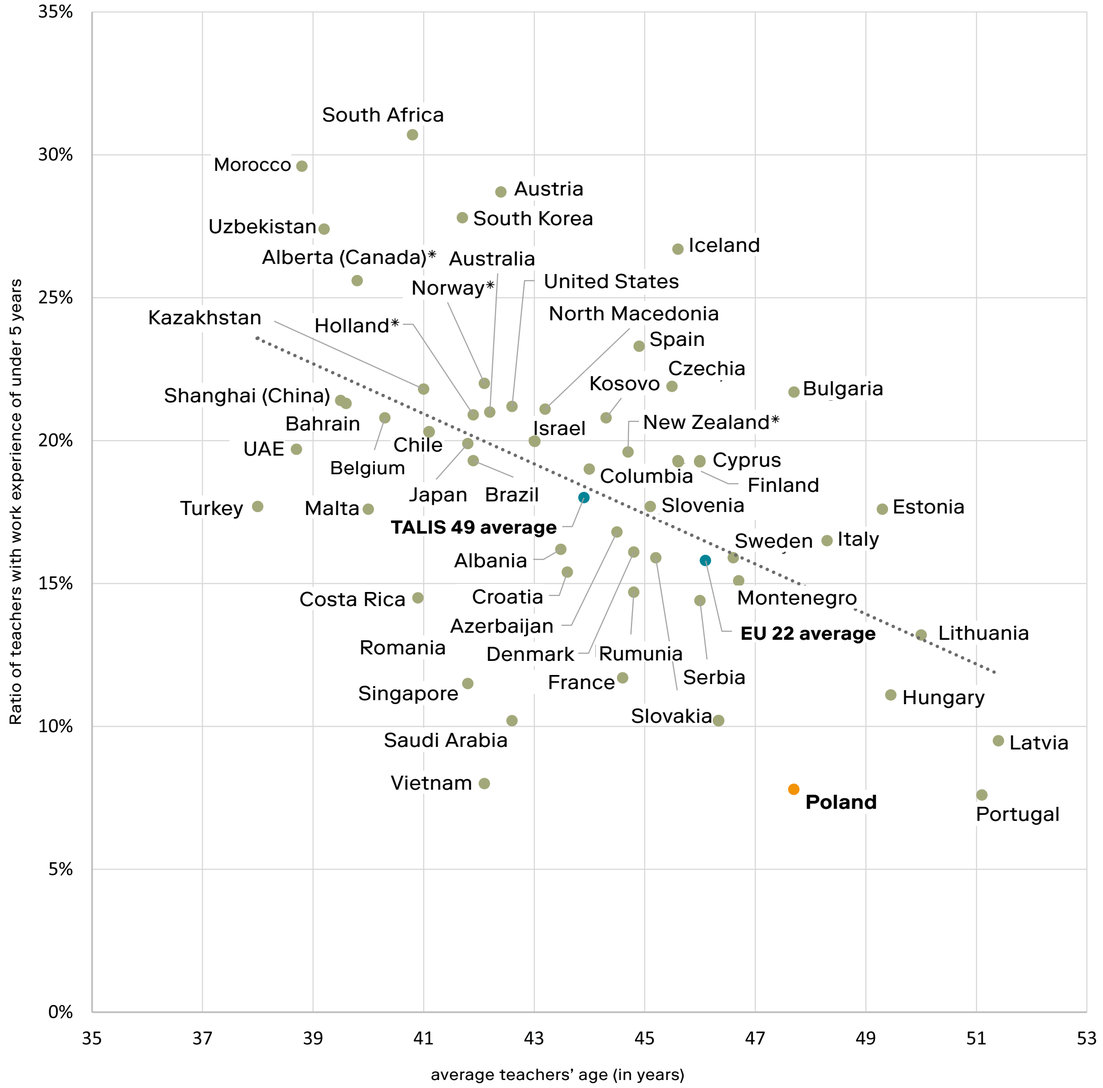


Fig. 7. Average age of teachers and ratio of teachers with work experience of under 5 years – international comparison.
Ratio of teachers with work experience of under 5 years / average teachers' age (in years)
Refers to level ISCED 2 (in Poland forms 5–8 of primary school). For countries marked with an asterisk (*),
the results should be interpreted with caution, due to them not meeting requirements regarding the survey completion rate.
Source: own development based on TALIS 2024 data.

Who teaches in Polish schools? Demographic structure and career paths

The report reveals an image of a system of education facing a staffing crisis. The authors directly demonstrate that Polish school is confronted with serious challenges resulting from demographic changes. The main problems are the ageing of teaching faculty, the low influx of young people, and the risk of generational gap.

Ageing teaching faculty

"Polish teachers are among the oldest in Europe. The average teacher is 48 years old, one in ten has already reached retirement age, and within a decade every third one may leave the profession" (Sitek, ed., 2025). The percentage of teachers aged 50+ in Poland is 45%, while the EU average (EU 22) is 40%, and the TALIS 49 average is only 32%.

Feminisation

The system remains strongly dominated by women, which the authors associate with gender stereotypes and low economic status of the profession. 78% of teaching faculty of forms 5—8 of primary schools are women, which places Polish school among the most feminised in Europe.

Young teachers and the risk of resignation

The profession attracts very few young people — only 4% are under 30 years of age. Additionally, every third person (29%) under 30 wants to work in this profession not longer than 5 years.

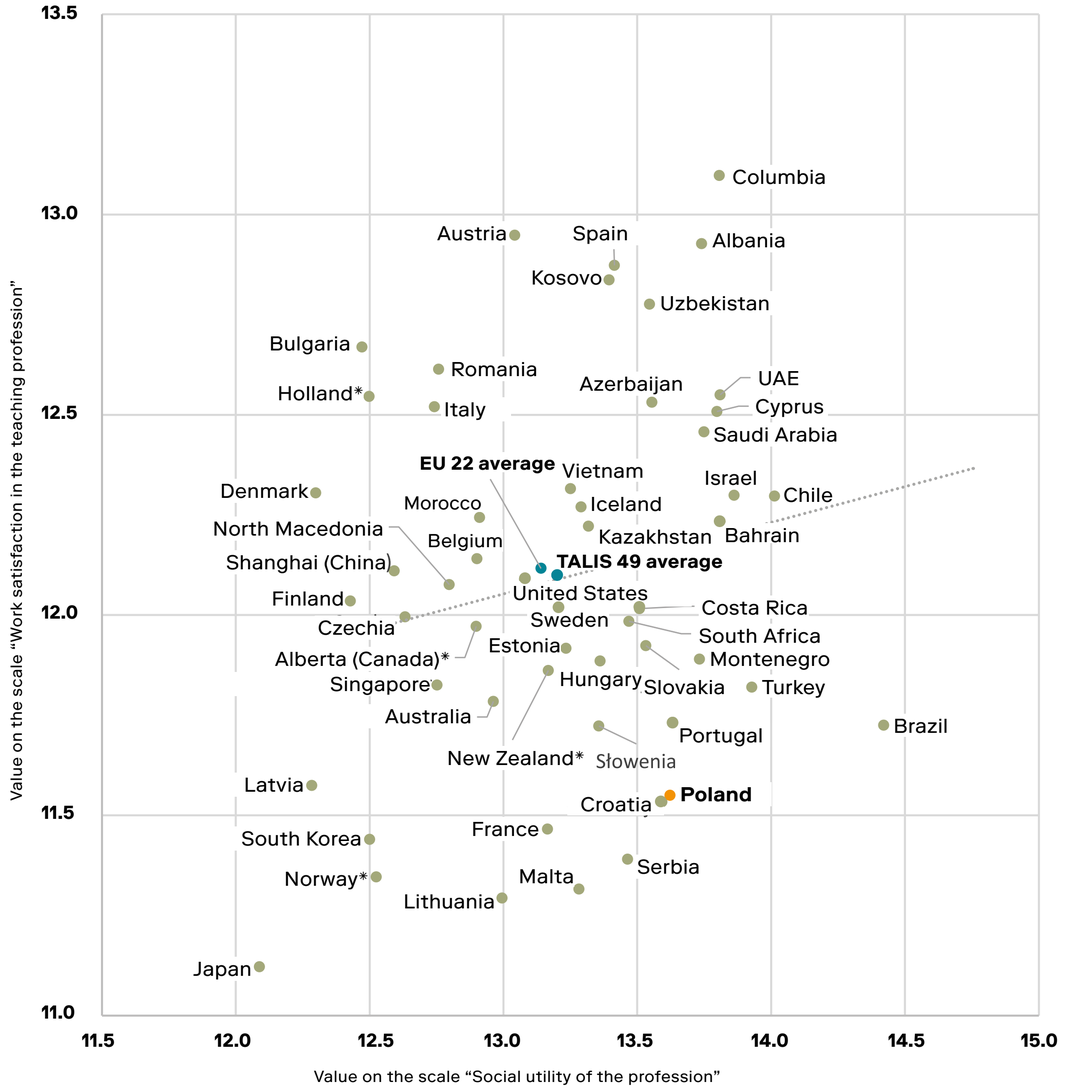


Fig. 8. Social utility of the profession versus work satisfaction in the teaching profession — international comparison
Average result on the scale of meaning of social utility of the profession and on the scale work satisfaction in the profession. Refers to level ISCED 2 (in Poland forms 5—8 of primary school). For countries marked with an asterisk (*), the results should be interpreted with caution, due to them not meeting requirements regarding the survey completion rate. Source: own development based on TALIS 2024 data.

Stability and career paths

The Polish faculty is stable (an average teacher works in the profession 22 years), but closed to the outside experience. Almost all (94%) obtained their qualifications in the course of a standard educational path, while the influx of people from other professions ("second career" teachers) is marginal, only 5%. The report evaluates this critically: "although Polish teachers' work experience is an advantage, its unilateralism limits the possibility of experience transfer from other professions and might hinder implementation of innovations" (Sitek, ed., 2025).

How do teachers feel at work? Well-being and perception of the profession

The analysis of teachers' subjective experience in comparison with their internal motivation and external mistrust

Internal motivation

Polish teachers declare strong attachment to the profession, understood as a mission. Almost all (99%) like the subject that they teach, and declare to teach it enthusiastically (93%). For 88% it is crucial that they like working with children, and 74% emphasise the social utility of their profession and its influence on the future generations.

Prestige and appreciation crisis

Positive emotions clash with the lack of respect on the side of society and the state. "Only 10% of teachers think that their work is valued by society, 9% — that the media appreciate teachers, and 15% that the decision-makers value teachers' opinions (Kutyłowska, ed., 2025). This sense has dropped rapidly since 2013, when 18% perceived their profession as appreciated. The report also considers the issue in the context of local relations — almost every other teacher faces the lack of appreciation on parents' side.

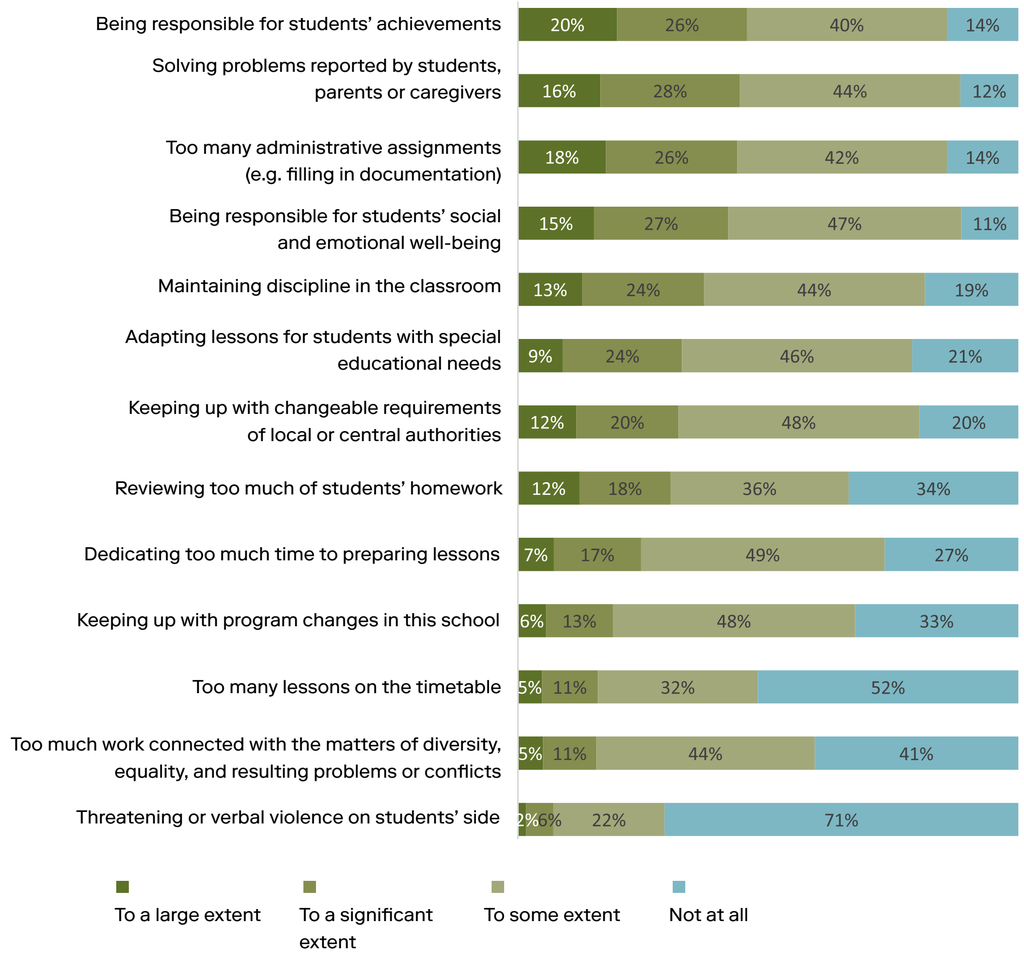


Fig. 9. Sources of professional stress in teachers of forms 5—8 in Poland
The data were sorted in ascending order according to the total ratio of answers "to a large extent" and "to a significant extent".
Source: own development based on TALIS 2024 data.

Job satisfaction

Although teachers like their respective schools (92%), their satisfaction with the profession itself is lower. 14% of teachers in Poland regret their decision to become a teacher, which is a result higher than the EU average (9%).

Stress and health

A considerable portion of Polish teachers struggle with professional stress — more than one in three (38%) experiences work stress in a significant or large extent. The consequences of stress are reflected in their psycho-physical condition: "30% of teachers evaluate that their work negatively influences their mental health, and 21% — their physical health" (Kutyłowska, ed., 2025).

The main stressors

The most common source of tension is responsibility for students' achievements (46%), solving problems reported by parents (44%), and excessive bureaucracy (44%). The authors emphasise that the strongest negative effects on the Polish teaching faculty's psycho-physical condition are tensions arising from relations with students' parents, and the sense of responsibility for the socio-emotional well-being of young people.

Work environment: conditions, autonomy and relations

High satisfaction with organisational conditions at extreme dissatisfaction with wages

Wages paradox

80% of teachers of forms 5—8 declared satisfaction with employment conditions (apart from wages), and only 20% expressed satisfaction with their wages, which, in turn, is one of the lowest results in the TALIS study.

Working time

The average declared working time of a full-time teacher is 40 clock hours a week, which is consistent with the international average. The structure of this time, however, has changed — the average declared number of clock hours dedicated to teaching increased: in 2024 it reached almost 24 hours, which is 3 hours more than in 2013.

Students and forms

Polish forms are relatively small — the average is 18 students against 22 in EU, the work, however, is becoming more demanding due to growing diversity. Only 12% of teachers indicated not having students with special educational needs. A huge change occurred in the national composition: in 2013, 88% of teachers had no foreign-language students in their forms, and in 2024 the ratio dropped to 58%.

Autonomy and leadership

Teachers in Poland enjoy freedom in the classroom — “vast majority of teachers (95%) in Poland feel high or total autonomy in planning and conducting lessons” (Penszko, Wasilewska, eds., 2025). They are also encouraged to take initiative (87%). Unfortunately, their sense of agency stops at the school threshold, since only 9% think that teachers have influence on educational policy in Poland.

Relations

Relations within teaching faculty are evaluated very high (88% think that teachers can rely on one another). The weakest link is parents — only 53% of teachers consider themselves valued by them. “Mechanisms counteracting bullying among students, such as students’ trust in teachers or teachers’ engagement, do not significantly lower teachers’ stress level, even though they benefit their higher satisfaction. Cases of bullying and discrimination of students, however, which could be related with other negative phenomena among school community, not included in the TALIS study, such as verbal violence or even students’ aggression towards teachers, are connected with teachers’ higher stress level and their lowered psycho-physical condition” (Penszko, Wasilewska, eds., 2025).

Professional development: preparation and further training

The process of teachers' education and support in Poland is strongly formalised and common, but it has gaps in practical areas, and it limits flexibility that would make it possible to react to the changing needs.

Professional training

Although 87% of teachers think that studies provided them with in-depth understanding of the subject they teach, only 53% feel prepared to effectively manage students' behaviour in the classroom. Only one in three teachers (33%) feels educated for working in the multi-cultural environment.

Introduction and mentoring

Thanks to the system of professional promotion, Poland ranks favourably as regards the initial career support. Using mentoring supervision was declared by considerably more teachers in Poland (57%) than on average across TALIS (30%).

Collaboration

Poland stands out in one aspect of collaboration — participation in conversations about study progress of particular students is declared by as many as 80% of teachers (the highest indicator next to Finland). Deeper forms of collaboration, however, are uncommon: "teaching as a team or lesson observation with feedback are rare in Poland (Telusiewicz-Pacak, ed., 2025). 58% of Polish teachers have never conducted a lesson with another teacher.

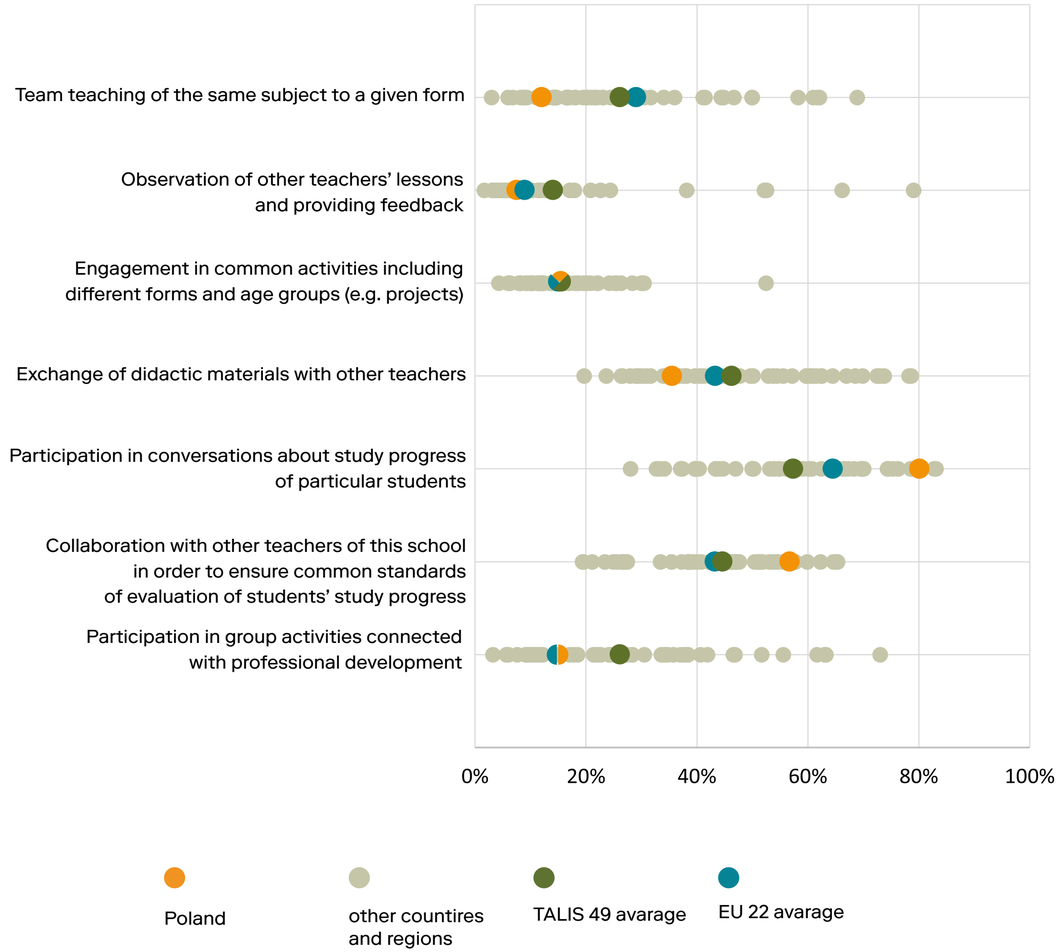


Fig. 10. Collaboration among teachers — international comparison
Ratio of teachers involved in the listed activities at least once a month.
Refers to level ISCED 2 (in Poland forms 5—8 of primary school).
Source: own development based on TALIS 2024 data.

Further training

It is common (almost every teacher participates), but based on traditional methods. Teachers participate in trainings and courses, but the potential of work environment, coaching or visits in other schools are used to a lesser extent.

Special needs

Polish teaching faculty stands out with their intensive training in the area of working with students with special educational needs (84% against 55% across TALIS), and collaboration with parents (71% against 55% across TALIS). Notwithstanding, students' behaviour management remains the area of the largest developmental needs (30% of indications).

Barriers

The main obstacle to teachers' professional development is the lack of time because of other duties (62%). In comparison with 2013, this sense has risen by 18 percentage points.

1. THREATENED STABILITY

The generation gap and young teachers' plans to resign require a strategy that would combine increased attractiveness of the profession, opening it to new career paths, and development of teachers' competencies throughout the career.

2. RELATIONS CRISIS

Tensions on the line school—
—parents and very low sense
of appreciation from the media
destroy teachers' well-being
and discourage from
the profession.

3. PRACTICAL GAP IN EDUCATION

Study programs place too
much stress on theory. What
is needed are alternative,
shorter than standard career
paths of the profession, that
would combine theory with
school practice.

4. COLLABORATIVE CULTURE

We should shift from the culture of individualism and teacher's isolation towards professional teaching-learning communities, because there is still the advantage of "exchange of materials" over activities which require more intensive collaboration.

The authors of the report conclude it with the warning, that within a decade, the staffing problem could become a barrier to development of the entire system, while the sense of mission can easily transform into the source of frustration — in collision with low wages, lack of appreciation, and growing requirements.

The entire Polish report *Nauczycielki i nauczyciele o pracy w zawodzie. Wyniki Międzynarodowego Badania Nauczania i Uczenia się TALIS 2024* is available at:

https://ibe.edu.pl/files/BIBLIOTEKA/TALIS/talis-2024.pdf

2.

TOOLS AND METHODS



FOREST BATHING — AGAINST ALL WALLS





pp. 90, 91
Earthing (physical) and grounding (mental) is the literal, physical full-body contact with the surface of the earth and a mindfulness technique, which helps to return to “here and now”, when we feel fearful, stressed out, or distracted.

On this page
The natural relaxation forest Akasawa is the origin of forest bathing. This forest, situated in Nagano prefecture, is considered among Three Most Beautiful Forests of Japan and was added by the Ministry of Environment to the list of A Hundred Most Fragrant Landscapes.

One of the existing, deeply studied and well-described methods of spending time in nature are forest baths (Japanese: *shinrin yoku, shinrin* — bath, *yoku* — forest). In some Asian countries, this health-promoting practice is considered conventional medicine, sometimes funded by the health care. The history of research, which we can refer to today, had its beginnings only in 1982 in Japan. It was then that Tomohide Akiyama, the general director of the Agency of Forestry, under the Ministry of Agriculture, Forestry and Fishery, launched the national program and developed a health conception regarding unguided walking, inhaling the forest air filled with phytoncides (Greek: *phytón* — plant, Latin: *caedo* — cut down, kill) — natural substances produced by various plants to stop the growth of microorganisms. Since then, the definition of forest bathing has evolved, depending on the country, organisation, and influenced by new knowledge gathered on the subject. According to Professor Yoshifumi Miyazaki, the idea started as a marketing way of attracting people to the beautiful Japanese forests. As we already know, it was only a beginning of many research projects all over the world. Since 1990, there had been experiments testing the levels of cortisol — the stress hormone, in the saliva of people walking in the forest (Miyazaki, 1990), but only after the year 2000, when technology enabled testing the brain activity, the autonomous nervous system, and stress level markers in the human body, the research accelerated. Until 2003, enough scientific evidence was gathered for the intuitive health-promoting practice to become a medical prophylactic method, and the forest therapy to be used with the goal of promoting health in forests, as well as in people (*shinrin-ryoho*).



Komorebi is the sunlight shining through the tree tops. It shimmers, illuminating the colours of the leaves.

"(...) *shinrin-yoku* means bathing in the forest atmosphere, or taking in the forest through our senses. This is not exercise, or hiking, or jogging. It is simply being in nature, connecting with it through our sense of sight, hearing, taste, smell and touch," such a definition is proposed by Dr. Qing Li, an immunologist, currently a vice president of the International Society of Nature and Forest Medicine (INFOM), who carries out research in the context of human immunity and the presence of NK (natural killers) cells, responsible for it.

Japanese practices and studies also inspired M. Amos Clifford, the founder of the American Association of Nature and Forest Therapy (ANFT), and the "father" of the version of bathing popularised in the US and Europe, adapted to the needs and cultural conditionings of the "western" recipient.

In Poland and the neighbouring countries, the practice and training account for both — the eastern and the western — versions of the method. We take the best of both worlds in the context of the possibilities and needs of an individual or a group, in reference to local conditionings and traditions.

Forest bathing can be an independent, individual practice, or a guided group practice. It is held in a particular place and time — time of day or night, or season. The recommended duration time of the walk is the minimum of 2 hours a week (Li, 2018), which helps maintain the proper level of NK cells in the human organism.

The role of a guide is i.a. to choose a place for the walk accounting for the weather conditions, possibilities of the group and their special needs. The place is the basic source of inspiration for selecting and sequencing the proposed activities while designing the forest bathing scenario. In itself, the place is interesting and often sufficient, it prompts and inspires — moreover, the entire forest bathing can be experienced without moving from one glade. Not going far, the bathing can be held in a nearby park, and when it is impossible to leave a building or a hospital — even indoors (Li, 2018).







Heavens Sonohara (Snow World) in Nagano prefecture in Japan is a skiing station. Within this area (often off season), you can walk on the certified forest bathing path in the Iwana no Mori Forest. At the beginning of the route, there is a hostel, where you can order a meal, which, like on any certified route, is prepared from plant-based products.

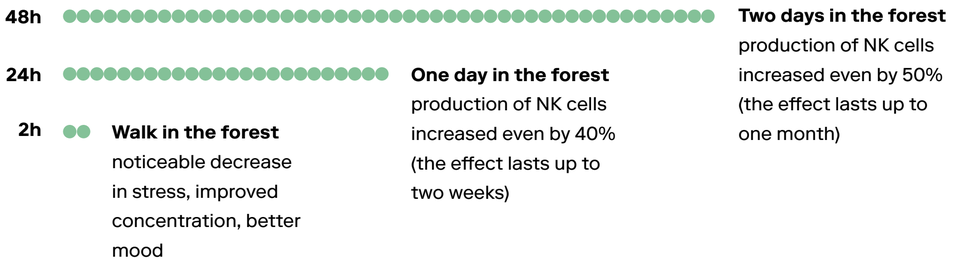


Fig. 11. The effect of forest bathing on human immunity, own development in reference to U. Felber

Forest bathing is benefiting
from the forest atmosphere
by immersing with all the senses.
Just that and that much.

Why forest “bathing”? The name derives from another activity, well-rooted in the Japanese culture – the hot springs culture — onsen (Jap. on — warm, hot, sen — spring, fountain). It is more than a regular bath in hot water. It is a basis of the Japanese lifestyle, which combines hygiene, medicine, spirituality, and a specific type of social bonds. Onsen is a place, where time slows down, which operates by its own rules, with unique etiquette to provide comfort to all. Undressing and leaving all properties outside, everyone strips off their social status and becomes equal. Before plunging in the pool, everyone washes carefully, and while bathing, keep calm, listening to the sounds of nature — because the best onsen is the one, from which one can observe changing seasons. Mineral water is treated as a “gift of the earth” with many healing properties — such as the air filled with numerous health-promoting particles, which we inhale, in which we “immerse” while walking in the forest environment.

Forest bathing IS NOT...

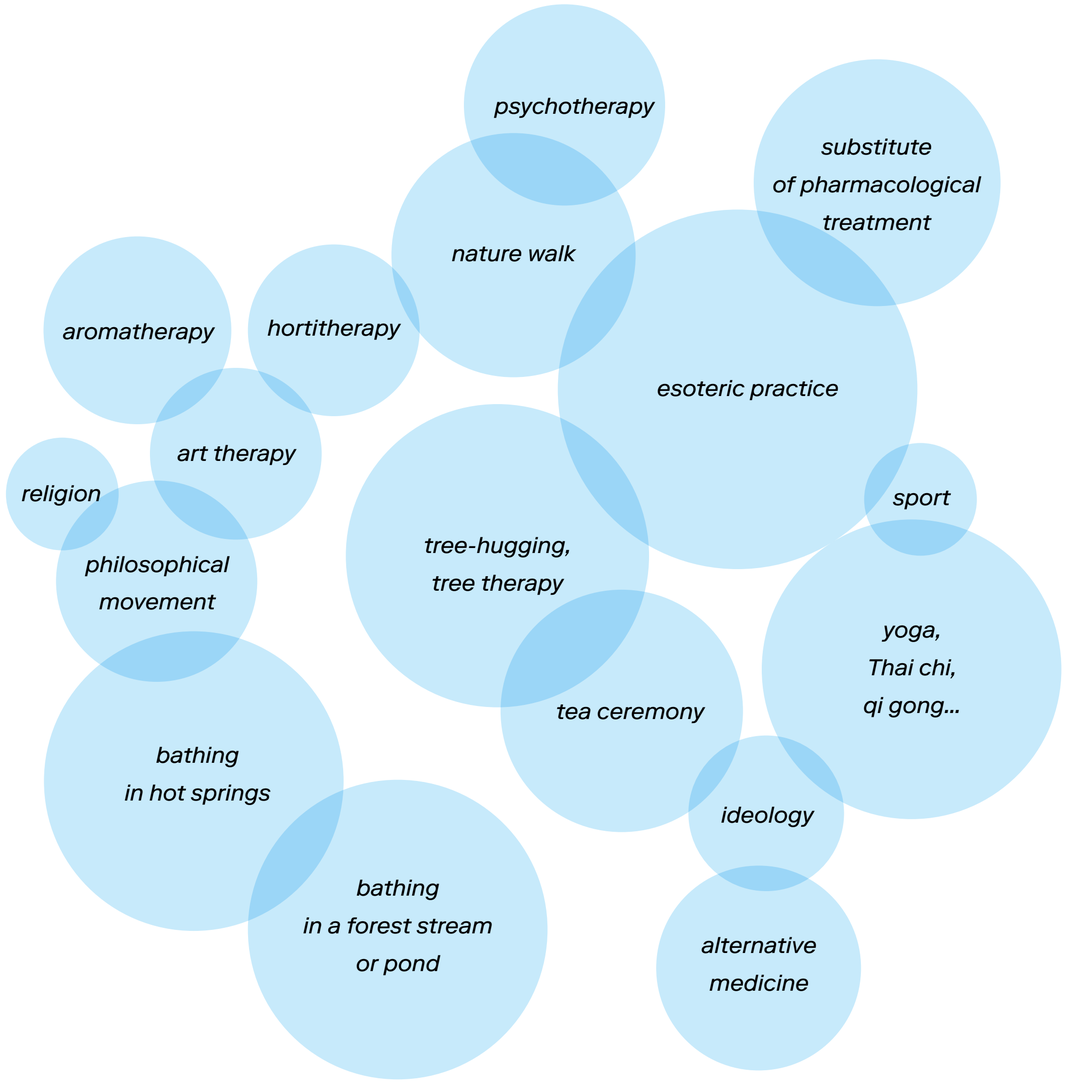


Fig. 12. What forest bathing isn’t (own development based on Simonienko, 2021 b)



Forest baths held in protected areas should be carried out according to the regulations, i.a. the route should run along marked paths or in their nearest surroundings, nothing should be picked or taken away. The Murckowski Forest Reserve, autumn 2024





This perfect forest bathing route accounts for diversity and changeability of the landscape from thickets to open spaces, such as e.g. the goldenrod glade in the forest near Klembowo, autumn 2025





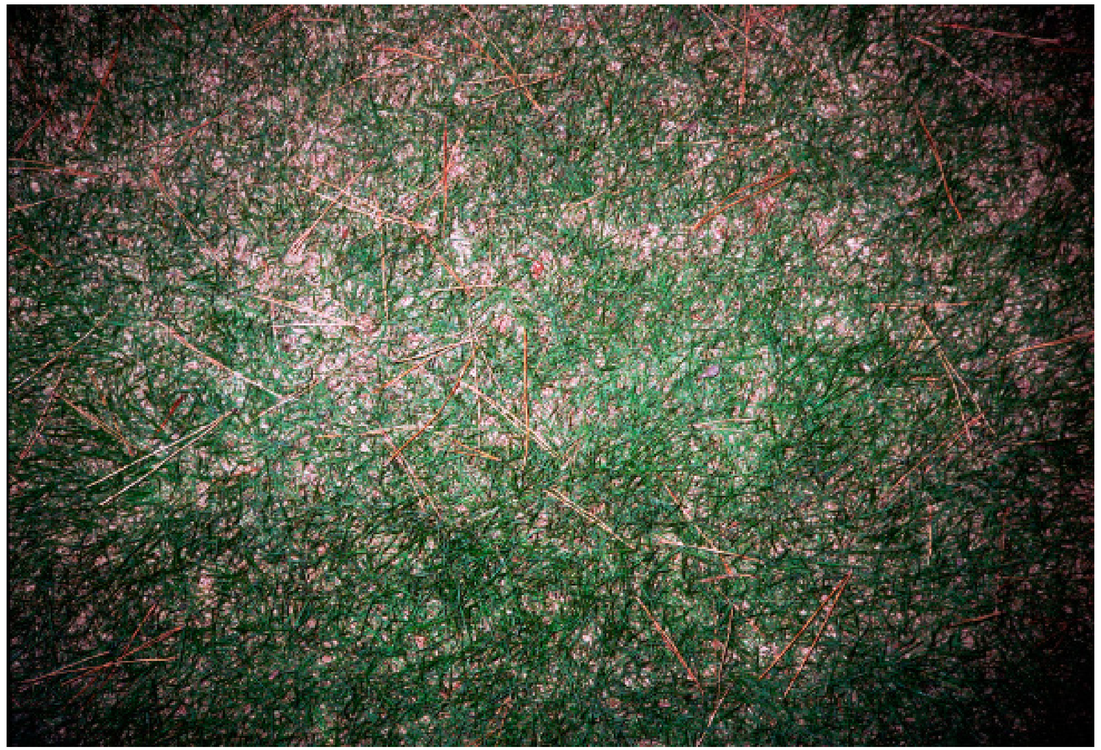
Forest bathing can take place in any season
of the year and time of day,
The Murckowski Forest, winter 2025





Hammocking is a great way to “immerse
with all the senses” in greenery,
also as one of the parts of forest bathing.





A forest bath can be taken in the park
at the heart of a multimillion metropolis as well.

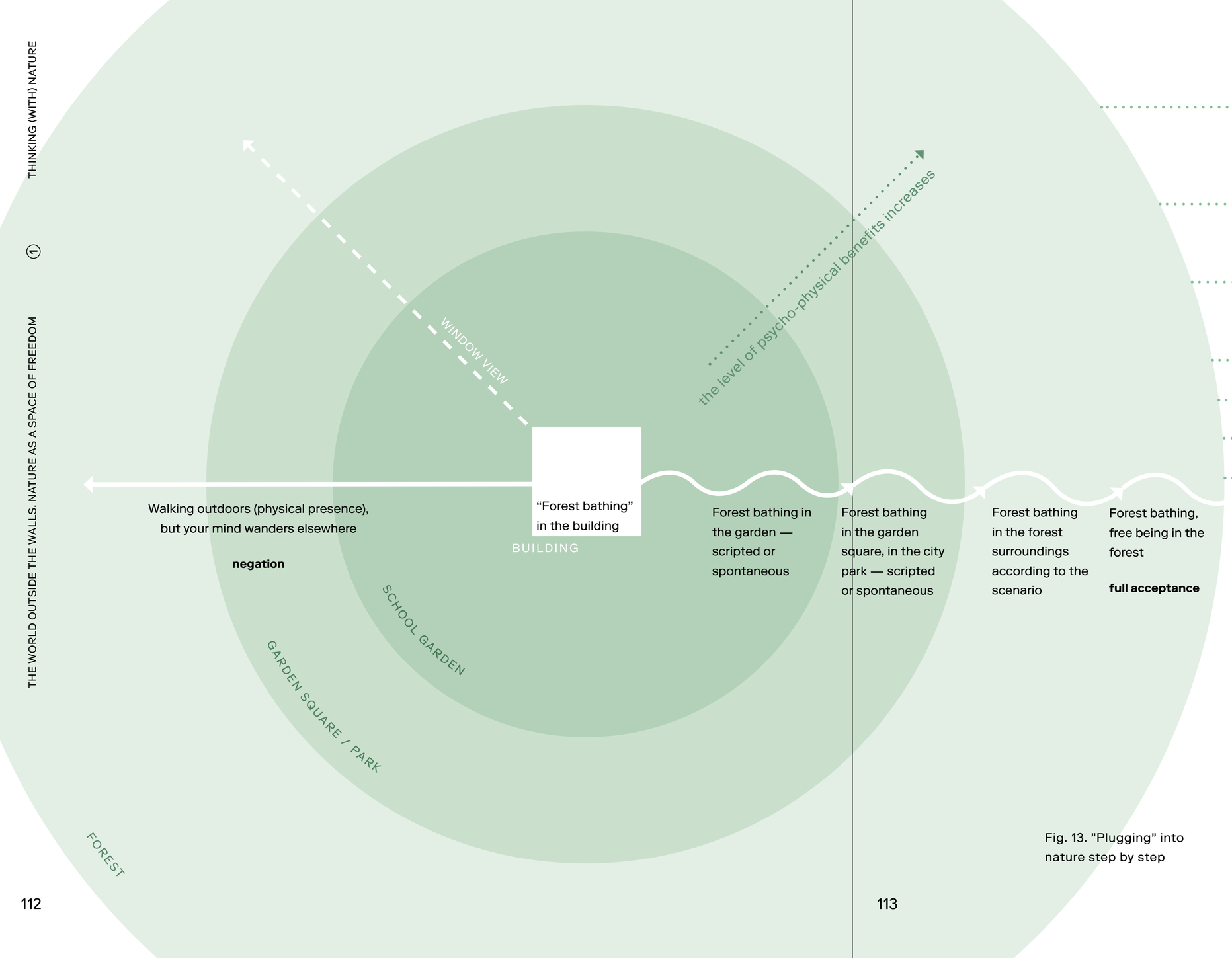




Hero of the Month. The Tree of Health. Primary School No. 28 in Zabrze Rokietnica



Pałac Młodzieży [The Palace of Youth] in Katowice



Mechanisms of natural environment influence are very complex and include many layers:

biochemical
inhaling active terpene molecules, phytoncides and essential oils, produced by trees and other plants

biological
interactions with the bacterial flora near-soil and on the leaves

physical
grounding process, beneficial in reduction of fatigue and oxidative stress

emotional

spiritual

intellectual

other — we have probably not learned them all yet

Fig. 13. "Plugging" into nature step by step

Scientifically studied influence of forest bathing on human health (Simonienko, 2024)

Forest bathing elements and scenarios

The basic elements of any forest bathing are:
— “unplugging” from the world, where we come from
— "plugging" into nature

In the Japanese art of forest bathing, no scenario actually exists, and activities smoothly go from one into another, depending on the sensory elements accessible nearby. Such an approach encourages the practice of mindfulness and deepening your relation with nature, no matter if the walk is solo, or in a group.

Some characteristic qualities of the “western” structure, present during trainings of the Polish Relational Therapy Institute, are:

→ possibility of sharing your impressions in the circle of participants after having completed the activities, so-called “invitations”,
→ additional activities dedicated to reflection and deepening your relation with nature (for example art therapy, ceremony of brewing tea or herbs),
→ possibility of active participation in pairs or in group, which can deepen integration / relations among the participating persons and other beings,
→ voluntary participation in any activities.

Below, I present three forest bathing scenarios. They were realised during certification on the course of forest therapy and forest bathing guide, conducted by the Relational Ecotherapy Institute [Polish: *Instytut Ekoterapii Relacyjnej* — IER] in 2025. Their basis was the IER scenario, extended by educational content, references to texts of culture, and the prior experience of certification in the Japanese INFOM association under Dr. Qing Li’s supervision. The scenarios consist of original propositions of activities, inspired with places, and simple invitations to being in the forest and play, surely known to all enthusiast of walking.

Every walk was designed for a different target group of participants (children, young adults, and healthy adults). All routes are situated in the area of the city of Katowice, in the Murckowski Forest Reserve, and in the Kościuszki Park in the city centre.



Fig. 14. Upper Silesian-Dąbrowa Basin Metropolis



SCENARIO

1



My neighbours

forest bathing: FOR CHILDREN

place: BUFFER ZONE
AND THE MURCKOWSKI
FOREST RESERVE IN KATOWICE

Children, with their innate curiosity and readiness to discover, are ideal participants of forest bathing. It is worth noticing that a scenario of such a walk should be appropriately dynamic, suitable for age, possibilities, and size of the group. One of the useful qualities of a forest guide is flexibility and ability to adapt their plan to what is currently happening in nature (and in the group), react to weather changes or other unusual — yet interesting — situations, which we cannot predict and plan in advance.

This walk requires prior preparation — also by the small participants (or being familiar with works of selected authors — i.e. school readings). The leitmotif of this walk was the art of Hayao Miyazaki and his Japanese Ghibli Studio — i.a. animated films *My Neighbour Totoro* and *Kiki's Delivery Service*, the adaptation of Eiko Kadono's novel. In this case, the story of a little witch becomes a reference to the local legend about a black well and the character of a witch living in the Murckowski Forest. Totoro, in turn, is a forest spirit, living in the roots of a giant camphor tree, which is a pretext to conversation about what forest baths are and where they come from. In the process, children learn at least two Japanese words: *shinrin* and *yoku*.

They can take their favourite cuddly toy on the walk, which is an additional reference point for conversations and outdoor activity. In this case, thinking about animals (also the cuddly ones) is encouraged by the very route of the walk — partially located in the nature reserve, which is a protected area, where different rules apply.

Depending on the group and age of children, such a forest bath can smoothly transform into a botanical walk or a field class, with the goal of acquiring (generating) knowledge or completing particular assignments.

pp. 116, 117
The Murckowski Forest Reserve and making autumn packages at the table near the Black Well

place: The Murckowski Forest Nature Reserve, entrance from Sięgarnia — parking lot at Bielska Street

route: a loop, ca. 2 km in length

accessibility: most of the route leads on the road inside the reserve, which is also a cycling path. It is possible to use it with a buggy or in a wheelchair, yet there are certain difficult fragments with many stones. After it rains, there could be puddles and mud. The first part of the walk also runs along a side road in the reserve buffer zone, the condition of which depends on weather conditions.

duration: ca. 2.5 h

participants' age: 6—8 years (my walks were participated by healthy children as well as children with hyperactivity and children with heart disease — predisposed to faster fatigue)

season: autumn

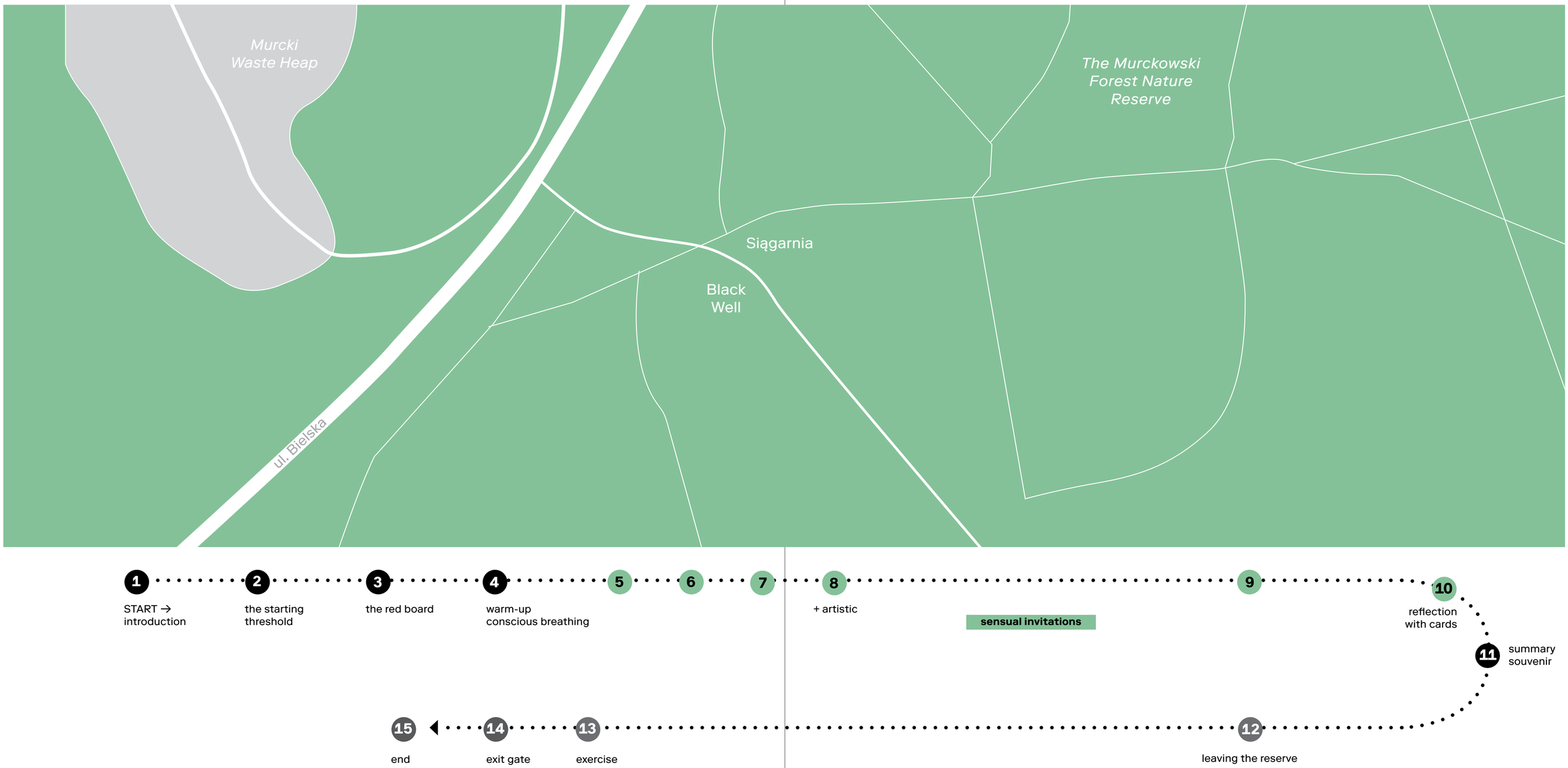


Fig. 15. Route of forest bathing for children. The Murckowski Forest Reserve

1.1 Introduction → ca. 15 minutes

My name is Ania and I will be your forest guide today. We have met here to take the so-called forest bath in children version; it is *shinrin-yoku* in Japanese. *Shinrin* — is bath, and *yoku* — is the forest. Do you happen to know any other Japanese words?

Forest bathing was invented in Japan on the basis of many years of research and experiments. It turns out that being in the forest can have a very good influence on our health and well-being, while we can have a great time and learn many interesting things about the world, to enjoy it and protect its rich diversity. Where does the name "forest bath" come from? From the fact that, in a moment, we are going to pretend-immerse in the forest atmosphere and beneficial substances, which are released by plants, and inhaled with the air.

Our walk today is going to last 2.5 hours. We are going to be in the reserve, and also outside it.

During the walk, I'm going to suggest various activities, so that we subsequently activate your five basic senses: touch, smell, sight, hearing, and taste — and yes, we do have some packed lunch, so there will be time for snacks as well. You can join any of the activities if you want to, and after completing the task, we are going to play with a talking sick — and what is that? You'll see in a minute. I have my new whistle (it also has a thermometer and a compass!), to call you back, and it sounds like that... (*I whistle steadily, not too loud, for 5 seconds*). When you hear this sound, finish your explorations and come back to me, please.

I would like to ask you to be really careful in the forest — it is a home to many species of animals and plants; we should also care for one another. Go only so far as to see me all the time. If someone wants to go to the toilet — let me know, I have a toilet roll and a camp shovel, if needed. We are not going to play hide-and-seek in the forest today!

We will probably meet other people, who have come to relax in the forest. Let's watch out for cyclists, who can ride quite fast on the paths.

We are going to start our excursion by spraying mosquito and tick repellents on. On the way to the reserve, we must cross a busy street. On the other side, there is the forest — the pedestrian crossing will be our entrance gate.

walking from the parking lot, crossing the street at the traffic lights to enter the reserve

1.2 The starting threshold | the street crossing with traffic lights

When all the cars stop, we can easily take the pedestrian crossing and go from the "city side" to the "forest side" to start our walk today.

On the other side, the forest side, a bit different rules apply: we try and lower our voices, to hear more. We are going to "high five" the first tree we meet on the other side, to say hello... So now is the last moment to say good-bye to the city, shout at the top of your lungs, if you need, because you might have no chance to do so later!

1.3 The red board — The Murckowski Forest Reserve

Look at this red board. It says that left of the road, where we are standing, the Murckowski Forest Reserve starts. Its first wealth is the tree stand, which includes many ancient, monumental trees, especially beech trees. The major portion of beech trees in the reserve are more than 150 years old. In the area, there are also many protected species, such as this plant — do you know what it is called? It is the common periwinkle, which has beautiful blue-and-purple flowers in spring.

Here, on the board, you can read dos and don'ts connected with our behaviour in the reserve. We are going to take a better look at it later, when we enter — for now, let's keep walking on this road, which separates the reserve from the so-called buffer zone, that is a stripe

of forest, which is not protected by law yet. Let's see if these two forests are different in any ways.

1.4 Warm-up

(scripted + engaging the participants to propose one exercise + inviting the cuddly toys to exercise)
+ conscious breathing, body scanning, sensations on the skin, balance

Let's stand at a safe distance from one another (*I spread my arms and spin around*), in a safe place.

→ Imagine that there is a string attached to the top of your head and someone is pulling it up — straighten your body. You can close your eyes.
→ You can relax your jaw and open your mouth a little.
→ You can stretch your shoulders to make space between your ribs.
→ Now, if you want, put one hand on your stomach, and the other one on your chest and feel in your hands, how the air you are breathing in and out is moving around your body.
→ And now, open your eyes. I would like to invite you to a short warm-up, to prepare our bodies for the walk.

> *Warm-up. Walking along the road, which divides the reserve and the buffer zone, where we can play, pick plants, and arrange them (5 minutes). Going down to the "dead" tree with polypores, and then to another windthrow*

The local Legend says that a witch once lived in this forest — do you know, who a witch is? What do witches do? Maybe you know some witches? Where do they live? Do you know any other mysterious characters or spirits living in the forest?

> *Reference to texts of culture: Kiki's Delivery Service written by Eiko Kadono, and adapted as a film by Hayao Miyazaki, also My Neighbour Totoro by the same director*

Both Kiki and Totoro, as well as many more characters, come from Japanese animated films, directed by Hayao Miyazaki. Do you remember, where little Mei met Totoro? Where did he live?
— In the roots of the tree
Right you are! Now, we are standing under a tree, which does not have a crown anymore, it is only a trunk with polypores — what could that mean?

Even though the tree does not have any leaves, so it does not perform the process of photosynthesis, its roots underground are still connected with other roots through the mycelium, which transports nutrients and information, like, for example... the Internet. What is interesting, the dead mouldering tree is very important for many forest species to live. For example, fungi — polypores — can grow here; woodworms could live here, and they are food to woodpeckers; birds can build their hollows here, and so on.

Let's go a little further to see another type of a partially fallen dead tree — the so-called windthrow, that is a tree, which has been fallen by some very strong wind. Look at how its roots are lifted — it lets us see what it is like underneath, and inside, almost like at Totoro's home.

1.5 Senses: TOUCH | a small burrow for figurines

Our tasks today are intended to activate your five senses. The first one is TOUCH, and your job will be to get your hands dirty. Don't worry, I have water and tissues to wash them later, but we need it all to build a small burrow for... Totoro. You can use whatever you can find around. Let's try and use what is lying on the ground first, and not damage plants. In a while, when your time is up, I will give you a whistle signal.

I hand around figurines of the fairy-tale character, and start the clock. After 15 minutes, I whistle and call the children back in one place.

CIRCLE WITH THE STICK

This is the talking stick. Whenever we meet after I have whistled, and I have some questions to ask you, I would like you to speak in turns, and not over one another, so that everyone can say all they want and think for as long as they need. This order will be watched by the talking stick. At a given time, it can be held by only one person, and this person has the voice — while the rest of us listens carefully.

Have you met any animals while doing the task? Have you met the residents of this tree?

Do you know, which animal leaves such tracks? (*there is wild boar rooting all around — the ground ploughed by boars*)

Have you accidentally touched something really unpleasant, or maybe something very pleasant?

Is this tree similar to the one in the fairy-tale? Maybe you remember, what species was Totoro's tree? It was a camphor tree. Japan is very far away, in Asia, on the distant continent, with different atmospheric conditions — it is not easy to meet such a tree here... Still, is this fallen tree similar to the one in the fairy-tale in any way?

Now, we are taking the figurines on our forest journey in search for a "Katowice camphor tree" or something similar...

1.6 Senses: SMELL | making forest potions | vials

Now, we are going near the so-called black well, so the place, where the local witch lived. Do you remember, what the mother of Kiki the Witch did?

She was a herbalist and could prepare a cold medicine, so she was making natural mixtures. I have small vials for you, like the ones she probably had in her laboratory. I would like to ask you to focus your SMELL and sniff around for something with a nice or intriguing smell. Put a piece of this something in this little vial. It can be one smell, but also a magic mixture of several smells.

You have a while to explore the surroundings — I'm going to whistle again soon to call you back.

CIRCLE WITHOUT THE STICK

Find a pair, please, and give each other your vials to smell. Try to smell this new smell with your eyes closed, and tell me, what it brings to your mind. Can you recognise the smells?

1.7 Senses: SIGHT — acorns, magnifying glasses

Do you remember what present the girls, Satsuki and Mei, got from Totoro?

The children answer that those were acorns or pines — or seeds of some trees.

I would like you to focus your SIGHT in search for acorns — it is not easy in the Murckowski Forest, because mostly beech trees grow here, but what tree do we need to find?

The children answer that we are looking for an oak tree.

Yes, we will be looking for an oak tree...

On the way — collecting acorns.

Next to the oak tree, there is a bench with a table, where the children arrange their collections on the leaves they have gathered (like in the film), and use small magnifying glasses to take an even closer look at the acorns.

We discuss, what they see, and then try to wrap up a leaves package and secure it with glass blades bound in a knot.

We walk past a small gingko on the right, as we continue towards the reserve.

Do you know this tree species? It is a gingko — and as you can tell from the name, it comes from Japan, like Totoro. Is it similar to the tree we are looking for? Would Totoro like to live here? I think it is far too young...

We continue our search for a tree "worthy" of the figurines. Approaching the huge beech tree "with eyes" on the reserve side — finding a new tree for the figurines or searching on...
5—10 minutes

1.8 **Senses: HEARING** + artistic task

During our slow walk towards the reserve gate, I would like you to try and maximally focus your HEARING. Find a pair.

First, one person covers their eyes with a scarf, and the other person leads them carefully. Listen very carefully, you can also stand still for a while. When we come to the (indicated) tree, you will tell us, what you have heard, and the other person will get a piece of paper and crayons, and try to sketch it or take notes. The second person will walk another fragment of the path the same way. Who would like to start?

In order to hear better, you can try to make the deer ears, that is form your hands into boats and put them to your earlobes to make them bigger (*I demonstrate*). Like deer, you can try and move them around — then you can hear even better.

After the walk, one person describes, what they have heard, and the other person sketches it / takes notes.

Would you like to tell us what you have heard?
Did you manage to hear a bird, or maybe the cars driving on the road?

Carefully approaching the reserve gate. The children's hearing is more active now, and they keep looking for the "even better" tree for the figurines.

1.9 **Senses: TASTE** | snacks and drinks, leitmotif: forest fruit

And now, look at this board. Here, the reserve starts on both sides of the road. Let me read the rules on the board for you, and let's see the icons... Since we are going to be in the protected area, our route runs along the marked paths. No-one walks off the path (especially I, with this huge cart) — we allow exploration under ten metres around, so that we can see one another and feel safe together.

Why do you think it is not allowed to walk into the reserve with a dog, even on the lead?

Before we enter the reserve, I have a snack for you — it is good to eat it here, on the right side, to avoid bringing any alien seeds, for example, to the reserve, as they do not belong to its ecosystem. We wouldn't like to suddenly grow some tomato here, right?

Do you remember, what little Mei wanted to bring her mother to the hospital?...

Food.

Between these two posts, there is our reserve "gate" — I would like you to enter it, like you enter someone's house — carefully; we don't have to take our shoes off (!), but you can touch or push the post, or jump on the small one. If you want, mark your entrance and remember it, because we will be leaving in a similar way.

Going through the gate — saying hello to the reserve by climbing on a small post.

In order to walk together and not go off the path too much, and not get lost, of course, I have a certain protector for us all. Come inside it — now let's try and move in a relatively safe way together. I'm curious, where our band will take us. I need to go get my cart, and you find a place to spread our mat, please, so that we can all sit down.

The children go wild with the band among tall beech trees, and once they get tired, we sit down (often, even after the mat is spread, no-one sits on it).

1.10a Senses: TASTE | continued...

CIRCLE WITH THE STICK

Let's sit on the mat together. Try and recognise, what exactly this brew is made from. SMELL it first... How is that?

Now take a sip... Has anything changed? What is that TASTE?

We talk about ingredients, honey, wild bees, and so on.

In the meantime, I spread out all my picture cards on the mat.

1.10b The Circle: reflection with cards

CIRCLE WITH THE STICK

On the mat, I have spread out cards with pictures, which present the forest in different ways. I would like you to try and choose 3 cards, about which you could finish the sentence: *Today, the forest is*... You have a few minutes to think about it.

1.11 The Circle: summary and taking a souvenir home

I also have some water to drink, if you like, and tattoos. Can you recognise any species of these insects? Maybe you have met some of them today? Would you like to meet them?

Since we are in the reserve, we cannot take anything home with us — we must leave this place in unchanged condition, as if we were never here, but thanks to these tattoos, we can pretend-take insects with us for some time, without risking any stings as well. Additionally, after you are back home, these tattoos will remind you to carefully inspect your body, if a tick hasn't come home with you by any chance.

the children choose and (we) make insect tattoos

Do you remember, when in the fairy-tale Satsuki and Mei were going to sleep in their new, yet old traditional home, and their father made their beds and something else: a special mesh, so that they wouldn't be stung by insects? The same night, their seeds sprouted.

Depending on the children's condition, it might be possible to lay them down to observe tree crowns... And have some relaxation... They might, however, already be restless and want to go back... Then sitting and making will have to be enough.

Walking to the entrance gate in the elastic band or freely with the figurines — they are still there — either in their hands, or in the cart.

1.12 Leaving the reserve

CIRCLE WITH THE STICK
We are coming to the place, where we entered the reserve, so to the concrete posts. Would you like to wish something to the forest on your way out? — *I ask the children*.

Leaving the reserve the same way that every person entered it — saying good-bye to the forest and its residents

Walking past the tree with eyes. We take the figurines home — they also say good-bye to the forest, where they have not found any camphor tree

CIRCLE WITH THE STICK
Have you named this tree by now?
Would the figurines like to say good-bye to the forest, or the tree and its residents?

I ask the figurines, but the children can say whatever else has come to their minds in the meantime. Walking past the fallen trees...

1.13 Exercise/stretching, breathing | on the way to the street

There is a little slope there, so a little uphill walk.
The children and I take turns leading stretching

1.14 Exit gate | return to the noisy world | crossing the street with traffic lights

We are coming to the noisy street, which means that our forest bathing is almost over. Try and find the same tree to high-five it good-bye.

15 Going to the parking lot | the time after forest bathing
→ 10 minutes

Summing up the forest bath — scenario 1: gadgets

The forest or the park are usually enough in themselves, and many activities can be carried out using whatever we find there (like collecting acorns and making leaves packages, binding them with grass blades). In this scenario, there are also ideas using all sorts of gadgets and extra elements, which should be prepared in advance or engage the children to do it. What is worth taking with you?

Absolutely:

→ appropriate clothing and shoes, for example rubberised overalls, wellies, or clothes and shoes to change,
→ baseball caps or brimmed hats and mosquito and tick repellents, high socks over trousers or high wellies, protecting the lower parts of the body,
→ snacks and water to drink (or a flask, depending on the weather); ideally, the snacks are also "forest snacks" or matching the leitmotif of the walk,
→ water and tissues to wash hands,
→ garbage bags and gloves.

Additional aids/gadgets in this scenario are:

→ a whistle, a pipe, or some other way to call the children back,
→ figurines of fairy-tale characters,
→ a cuddly toy,
→ vials/boxes/small jars,
→ bands/scarves to cover the eyes,
→ a pencil, piece of paper and a pad for writing or drawing,
→ an elastic sensory band/gumizela/string,
→ illustrated cards for forest bathing or forest illustrations.

Richard Louv, cited many times above, recommends what to do to achieve the effect of an unforgettable lesson for children: "Show them something gross!" In the case of this scenario and walks, it happened as well — the strongest point is a moment with something disgusting. For some, it was getting their hands dirty at the very beginning, while building houses for the figurines, for others it was smelling animal droppings, which the children found during the activity of preparing olfactory vials.

While walking in the forest on this route, we often find litter — we collect it together into a bag and talk about the rules applying in the reserve, about the forest, nature, and what we would like to do for it.

Every child can be taken to the forest, regardless of their disabilities, disorders or diseases — every child will find their place there. The forest activities and being in the space offering numerous therapeutic possibilities "can become the beginning of the way towards the *wanted*, towards the *better* for the child" (Żachowska, 2024), and enable parents, teachers, and therapists to do something different, new, help bring freshness and a new perspective — indispensable especially in the event of the lack of effective collaboration with the child and minimal therapeutic progress.



SCENARIO

2

Carboniferous Jungle



forest bathing: FOR YOUNG ADULTS

place: THE KOŚCIUSZKI PARK IN KATOWICE

pp. 136, 137
Fern and horsetail, species growing in The Kościuszki Park, and present in the relaxation about the Carboniferous jungle

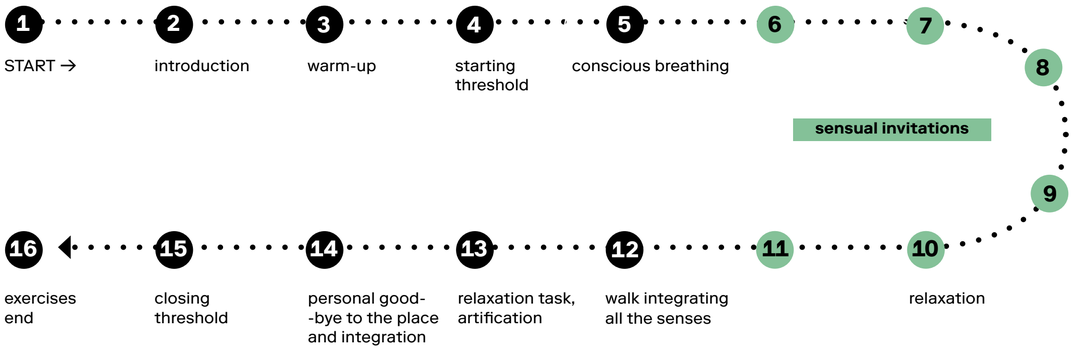
On the next page:
Fig. 16. Route of forest bathing for young adults. The Kościuszki Park, Katowice.

Forest bathing can also be held right in the centre of agglomeration, next to the motorway and tramway. The Kościuszki Park is the green area closest to the campus of the Academy of Fine Arts and Design in Katowice. The scenario of this walk was designed for students of art therapy and the course of nature in therapy. I was also important to account for the context and history of the place. The park is situated in the area which used to belong to the "Beata" coal mine, and it includes many other historic objects, such as the parachute jump tower, and the Red Army soldiers graveyard. How, with such an accumulation of various motifs, do you prepare a route of the walk to activate all the senses and transport yourself and the participants to the forest? I decided to try and tell a story, but I wanted to do so in reference to the life cycle of plants growing in the park — this time bypassing political issues, industrialisation, fossil fuels and environmental degradation in Upper Silesia. During the walk, I also purposefully omitted in-depth historical motifs related with the identity of the region in reference to particular objects on the route.

Due to the high level of noise, usually occurring in the park, and the considerable numbers of people strolling there, I tried to plot a route, which would help to avoid the hustle and go to the wilder areas, where there is still a challenge of the huge urban playground.

place:	The Kościuszki Park in Katowice, entrance on the side of "Gruba Ciotka" café, Piękna Street
route:	a loop ca. 3 kilometres in length
accessibility:	The park is an accessible place, yet a large part of the route does not include paths and leads through some wider stretches. The route of the walk can be modified and adapted to the needs of the group.
duration:	ca. 3 h
age of the participants:	ca. 20 years old
season:	autumn





2.1 Testing with a blood pressure meter

under the shed of the "Gruba Ciotka" café or inside, one by one, when the group is gathering (or in the Academy's building and walking the park as a warm-up)

2.2 Introduction

→ 15 minutes, or part of the introduction content can be send to the participants in advance as a text or voice message

Hello everyone, I'm pleased to be your forest bathing and forest therapy guide today. My name is Ania Kopaczewska, and I'm a visual communication designer. Once, I had the opportunity of collaborating on a working team, dealing with Kościuszki Street in Katowice, within which we designed an exhibition and released a series of publications *Promenade to the South* about the history of this neighbourhood — and we have just arrived at The Kościuszki Park.

We are meeting here today to take a forest bath, that is, a slow walk dedicated to immersion in the forest atmosphere and its beneficial substances, which we are going to inhale, and are inhaling now, being here. The forest has always been an important place to people, but only in the 1980s, on the initiative of the Agency of Forestry, under the Ministry of Agriculture, Forestry and Fishery in Japan, there started the research and experiments, which evidenced the effect the forest might have on the human organism.

Forest bathing is not a sport or other goal-oriented activities, such as climbing or northern walking. Today, we are going to walk for the mere 2—3 kilometres, because the distance of the forest immersion actually does not matter. The entire bath could be taken in one place as well. Today, I'm going to talk mostly about the forest, but forest bathing can take place also in a park, on the garden square, even one tree will suffice. Following Dr. Qing Li, a Japanese researcher and author of many publications, who introduces his students to the park near their university campus, we are going to explore the forest possibilities of The Kościuszki Park.

During the walk, I'm going to suggest various activities dedicated to subsequently activating the five senses: smell, touch, sight, hearing, and taste. Participation in these activities will be completely voluntary.

After a task is over, I'm going to call everyone back with a whistle, and invite you to the circle, in which we will share our discoveries and emotions as we wish. Forest bathing in larger groups can also have a great power of integrating people — not only with the forest, but also with one another.

Before we start our walk, I suggest using tick and mosquito repellents. In the invitation, I wrote about appropriate clothing, and, for example, wearing high socks over the trousers.

A few words about animals: you often hear about people meeting wild boars in the park, but mostly after it gets dark — it has never happened to me, though. If, however, we meet a boar today, let's remember about staying calm: do not stress the boar — don't shout, don't come close to the piglets, don't make any sudden moves, don't chase the boar away, don't run away; instead, calmly and quietly, walk away from the place. Boars do not attack people for no reason, and usually, when they see people, they simply walk away. In the face of danger, however, when they are scared and stressed out, they can strongly bash out a person, who stands in their way.

During the walk, you can have snacks and drink, if you need to, and you have refreshments with you. We are also going to have a moment for that is an interesting place.

If anyone wants to leave, inform me, please, here is my number — (*I give the participants my visiting card*). Your mobiles should be on the vibration mode, so that we can keep in touch, just in case. I have a new super whistle, which I'm going to use to call you back — I'll demonstrate it in a minute.

A few words about the place, where we are. In a while, we are going to enter The Kościuszki Park. At the time when it was launched, it was called Sud-Park, and just like all the objects and streets in Katowice, had its name changed from German to Polish in the course of history. Sud, that is southern — because it is situated south from the centre, and Kościuszki Street used to be called a promenade to the south. The Park was launched in the area, where the "Beata" Mine was previously situated, in German *Beata Grube*, and it is actually what is here underground and what grows from it, that is going to be our major inspiration today. I tried to plot the route so that we immerse in nature as much as possible, omitting historic objects.

And now, I would like to invite you to have a short warm-up and prepare out bodies for the walk.

We get up and go to the place of the walk

2.3 Warm-up | scripted + engaging people to suggest one exercise → 5—10 minutes

2.4 Starting threshold | a gate made by two selected trees — welcome — the Park is not a background, it is the host → 5 minutes

I would like you to realise that the park is our host today, rather than just a background of our walks. It is not a natural forest, where the ecosystem is much more complex, but let's remember that we are entering a home of many species and we are only guests here today, only for a while. Going through this symbolic entrance, let's say hello, as if we were entering someone's home. If you have any intention for this time, you can say it in your mind at this very moment.

I'll start, and could you follow me and come with me at the same slow pace, which is characteristic of forest bathing.

Walking with me to the pond

2.5 The Circle: conscious breathing, body scanning, sensations on the skin, balance → 10 minutes

Let's stand at a safe distance from one another (*I spread my arms and spin around*) on the side of the road, so that we don't disturb other people.

→ Stand comfortably with your legs slightly apart.
→ Close or squint your eyes.
→ Imagine a string attached to the top of your head — straighten your body.
→ You can release your jaw, your neck, your shoulders.
→ Try and spread your shoulders to make space between your ribs.
→ And now try and observe your natural breathing, as the air is filling your lungs, your stomach, and how it is exhaled... effortlessly...
→ If you want, put one hand on your stomach, and the other on your chest, and feel with your hands, how the inhaled and exhaled air moves around your body.
→ Immersing in the forest atmosphere, we breathe the air with a higher concentration of oxygen and rich in substances released by plants, mostly trees, such as phytoncides, volatile substances, and essential oils. Phytoncides are produced by plants and participate in the process of communication among trees, as well as serve for protection against bacteria, insects, and fungi. The main type of phytoncides are terpenes, and they are what we smell while practising forest bathing.

Doctor Qing Li and his team in Japan have proven that thanks to inhaling them, our immune cells (*natural killers*, that is a type of white cells, which attack and kill the unwanted cells) become more active, and their number increases. It was tested that even two hours a week spent in the forest maintain their high level over the following week, and 3 days in nature maintain their high level for about a month.

Additionally, coming close to the ground (stirring it), we inhale the soil bacterium *Mycobacterium vaccae*, which has an anti--anxiety and anti-depressant effect on our organism.
→ Try and inhale through your nose, and exhale through your nose or your mouth. You can slowly open your eyes.

2.6 Senses: SMELL | individually around water → 15 minutes

Now, I would like to invite you to individually explore the nearest area around water — it will be the search and activation of the sense of SMELL. To help your concentration, you can close your eyes from time to time, and if you are chilly, warm up your nose. Maybe somebody can smell the water...?

In about 10—15 minutes, I'm going to whistle you back like that, but louder — when you hear the whistle, I encourage you to bring back a smell, which you would like to share with others — a smell, which you find interesting today.

A communicate about the smell, before it reaches our frontal lobe, that is the place responsible for rational thinking, such as naming, recognising, first goes through other parts of the brain, transporting us in time and space, and often activating our memories.

CIRCLE WITH THE STICK

I invite you to share, what you have found. I'm holding a stick, which can surely be smelled as well, but it also has another function — it is the talking stick: whoever is holding it in their hand, have their voice and their time. It can be passed on — sharing is voluntary.
We are sniffing in the circle, and a person is speaking...

We are now in a quite busy place — open space under the sky and additional reflections of the sky in water. With every task, I'm going to try and go deeper, and if possible, go off the main paths, so that we can feel like in a natural forest, at least for a while.

Walking towards Tadeusz Kościuszko's monument

2.7 Senses: SIGHT | various species of trees → 10 minutes

Let's stop in this area for a moment, in this inconspicuous little forest next to the monument. Forest bathing is not a biological walk, dedicated to recognising and naming species — and such a familiarity with particular Polish or Latin names is not necessary to be able to notice similarities and differences between representatives of different species. We are now standing surrounded by trees, which might look similar at the first glance, because they are more or less the same age, but representing different species. I would like you to try and look carefully to find as many different species as possible in the immediate surroundings.

After a while, I approach each person and give them a magnifying glass, asking if they recognise trees by their leaves, or by their bark, and encourage them to further exploration with the ten-fold magnification.

CIRCLE WITHOUT THE STICK

Let's gather round. Together, let's try and name the species that surround us, and determine, what you can recognise them by. Has the magnifying glass been helpful?

We walk on, past the Tadeusz Kościuszko's monument, but as I promised at the start, I'm not going to make any historic-political digressions during this walk.

2.8 Senses: HEARING | listening to nature in the city park
→ 7 minutes

Instead of 15 minutes in one place, I suggest more stops of several minutes in different characteristic places, for comparison: next to the fountain, next to the playground, under the trees

Since we are in a noisy urban park today, most of the time we are going to be accompanied by anthropogenic sounds, either from the motorway, or from other streets around us. I would like us to stand here, next to the fountain (*if it is working and splashing*), maybe with our eyes closed, to try and carefully listen to this whole orchestra. Are we able, in this flux of industrial sounds and rhythms, to hear any residents of the park? It can be quite demanding at times, but let's try and treat whatever we hear as a song, composed of many layers and various improvised fragments. Soon, we will go deeper into the park, and by changing our location, we will be able to compare, how it is different and where we like it the most. When the time is up, I'm going to whistle you back like that (*I whistle steadily, not too loud*).

> *When the time comes, I whistle, calling back those, who have scattered around.*

CIRCLE WITH THE STICK

Have you managed to hear any resident of the park? (*including the rustle of the trees, plants*)

> *Walking through the wild part, passing through the bushes — the path is narrow, so we go single file towards old trees.*

2.9 Senses: TOUCH | old trees → 15 minutes

Forest bathing is not silvotherapy or any other esoteric practice. Of course, if someone feels like hugging a tree to know, how it is, by all means do! Tree therapy has not been scientifically proven yet, but maybe someday it will be possible to test what has been believed by native peoples for thousands of years.

Here, in this area, I would like to encourage you to touch, touch the bark and whatever you find interesting. It is also good to use a less

standard place than the palm of your hand. Maybe it is worth trying to touch with the back of your hand, your forearm, your cheek, your forehead...? Our skin differs on different places of our body. You can also take off your shoes, if you have no counterindications to walking barefoot (*it is quite safe in this part of the park, so it's OK*).

To make you even more sensitive to TOUCH, to various textures and temperatures, I suggest you find a pair: one person closes their eyes or puts on a mask, and the other person leads them with their voice or holding their hand. You can give instructions or put something interesting in their hand.

CIRCLE IN PAIRS

I whistle when the time is up and, distributing wet wipes to wash their hands, I say: Now, in pairs, you can share your experience: what did you like the most or what was the most surprising?

> *We are going on across the playground; then, on our left, we pass by the Beata's Hill (one of the highest points in Katowice)*

On the left, we are now passing by one of the highest points in Katowice, after the Wanda's Hill in Murcki — it is the Beata's Hill (323 m a.s.l.). Whay Beata's? It is the site of former operation of the Beata Mine, and the city park was launched here after its closure.

> *We continue on the footbridge, and then enter the wild part of the park again. Left, and then at the birch tree, right — we arrive at the place with beech trees, a birch, and an oak*

2.10 Relaxation + continued... HEARING | imaginary section through the earth, to coal deposits — relaxation with our eyes closed, lying down or in seated position, under a tree, with one's

head or another body part on the root, but so that everyone can hear me → 15 minutes

Find a comfortable place, best near a tree. If possible, sit with your back against the trunk, or rest your head on the root. We have mats at our disposal, but you can also try sitting or lying down directly on the ground.

→ Pay attention to the surrounding sounds, those most distant, but also these closest to you, maybe also coming from you, like rumbling stomach or your breathing.

→ And now close your eyes and release your body. Let's start from our feet, through our knees, hips, and back. Our right hand, elbow, arm... Our left hand, elbow, both shoulders, and now also our head is resting easily... Feel, how heavy it is.

→ Concentrate on your breathing. Observe it, without changing its natural flow.

→ Feel, how heavy your entire body is and how it is falling into the mat.

→ **Now try and imagine, one by one, every layer of the ground, on which you are lying now.** Your body is touching, pressing on them one by one:

— your skin is touching your underwear, your clothing... and then there go:

— the sleeping bag or the blanket, the mat, on which you are lying,

— the mat is lying on the forest cover, which can be different, depending on the type of forest. Here, we are under deciduous trees, so it consists of leaves, seeds and remnants of beech, bitch, oak, and other trees, carried by the wind, this and previous years.

Some very important micro-organisms live here (mainly bacteria and fungi), which feed on dead organic matter from plants and animals, as well as beneficial soil fauna and flora...

— underneath, in the sand layer, the rooting systems of trees and bushes entangle, as they transport nutrients... the thick and strong roots, like underground branches, and the little fine ones, spread in search of water...

— roots are bound together with the mycelium like a network of tiny connections responsible for communication and transportation in this area...

— and deeper... you are also lying on water — on the underground water from the rainfall, which penetrates through the sand layer and collects on the impermeable layer. You have just reached the water table...

— beneath, there are subsequent layers of rocks from different periods in the history of Earth and formation of this terrain... the deeper you are, the longer time distance between you and the formation of a given layer... now you are a thousand years ago... a million years ago... 10 million years ago... 50... 100 million years ago... 150 million years ago, when dinosaurs were walking the earth... 200... 250... 300... 350 — and here we will stop for a while, because here, 350 million years ago, the forest grows... the evergreen Carboniferous forest.

It is quite hot and humid here. It has just stopped raining for a moment... It resembles a contemporary jungle a little. Instead of trees, there grow i.a. giant ferns, horsetails, and clubmoss, which do not have roots but rhizomes, spreading horizontally near the ground surface. What is interesting, you cannot hear any birds — because they don't exist yet... Here, let's stop for a while, and then we are going to slowly rise back to the surface...

Dying Carboniferous plants gradually sink in lakes or swamps, and their matter transforms into peat.

→ Peatlands, overthrown with rock material carried by seas or rivers, will be transforming for the next millions of years... Let's slowly return towards the surface of the Earth.

→ First, layers of brown coal are formed.
→ Over time, hard coal is formed. The huge ferns and horsetails are now the black shiny layers at different depths.
→ That means you are about 300 million years ago and about one kilometre deep inside the Earth. Slowly, we are returning to the surface.
→ Now, you are half a kilometre higher, and once again, between rocks, you find a deposit of the shiny matter...
→ You are coming back through sands, groundwaters, roots and the mycelium... various types of fungi are leading you to the surface. You are struggling through the forest cover and springing to the surface as... a beautiful cap.
→ Still with your eyes closed, try and imagine that you are standing next to the fern (which seems giant to you, and there is the equally huge family of horsetails)... What does your cap look like? What shape and colour is it? Do you even have a cap? What time of day is it, what season, what does your further surroundings look like?
→ You can slowly start moving your feet, hands, stretch your body. When you are ready, slowly open your eyes...
Roll gently over your right side and sit up. When you are ready, come here, I have something warm to drink...

2.11 Senses: TASTE | the brew, after rising from the ground, and a snack

If you feel like it, we can taste some brews, which I have prepared for this walk. This is horsetail and (*probably oak bark*) — I hope that beside ferns, we will also come across some horsetails in the park, to take a closer look at them, maybe through the magnifying glass, and imagine them in a different scale. Until some point, scientist considered horsetail to be the oldest contemporary plant of this type — we could imagine that we are drinking the brew of these giant Carboniferous horsetails. The research, however, is ongoing; they have discovered another periods of speciation, so these horsetails that we can see are several million years younger after all.

CIRCLE WITHOUT THE STICK WITH THE BREW
How long do you think you have been lying relaxing under the tree? — It was 15 minutes. Have you managed to relax and immerse? Would you like to share?

Here sharing, while drinking the brew
What mushroom were you, when you returned to the surface? Further walk towards the gate

2.12 Walk integrating all the senses → 15 minutes

During this walk, I would like to invite you to try and integrate all five senses, which we have activated so far: SMELL, TOUCH, HEARING, SIGHT, and TASTE (*maybe there is still some aftertaste of horsetail*)
Additionally, I would like to say that many other senses have been stimulated, for example:
→ lying motionlessly, and then drinking something warm, we activated thermoception,

→ when you feel your heart beat, your stomach rumble, your intestines at work, or when you are yawning — it is the awareness of the internal body parts,
→ during our warm-up and while you will be getting up soon — the sense of balance,
→ deep sensibility (proprioception) — thanks to this sense, the brain knows, how our limbs are positioned without looking at them; it is the sense of awareness of the position of one's own body.

During this fragment of the walk, I would also like to ask you to pick up small floral findings, which catch your attention, and which could be taken with you, fitting in your pocket

2.13 The Circle: relaxation task, artification → 30 minutes

We sit down under an oak tree far from the main path, a little deeper in the park

CIRCLE WITH THE STICK (summary of the walk)
Have you managed to find something intriguing? And how was the walking after that moment of relaxation with your eyes closed?

During our today's walk, we have been accompanied by contemporary versions of Carboniferous plants, ferns or horsetails, which remind us about the history of the region — the oldest one, but also the industrial one of the (mere!) 200 years.

I have a fern, a horsetail, a pine with me, additionally I distribute small magnifying glasses

Regardless of the time and scale of these plants, their structure has something very characteristic — look at them carefully. The same can be observed in a pine... and maybe also in what you have brought with you...

They are fractals. In common terms, they are objects, which are self-similar — such, parts of which are similar to the whole (for example, leaves or fragments of stems are habits of the tree), or "infinitely subtle", such, which demonstrate subtle details even in multiple magnification of a given image.

Fractals can be observed practically everywhere, but often require the use of a microscope. Ideal patterns are possible to be calculated only mathematically, and when you go deeper into the subject you will see, that many different people have discovered and named another types and operations of a fractal. So we have Sierpinski triangle and carpet, Menger sponge, Koch curve and snowflake.

In nature, we observe them as examples. Now, I would like to encourage you to make your own, non-ideal composition of fractals, based on your finding.

First, you need to take a good look at the selected base shape, determine its characteristic features, to be able to continue it with another, imagined steps.

Things at your disposal include pieces of paper, crayons, felt-tip pens, pads, glue, tapes, but it does not have to be a flat composition — it could be your original pine, or fern, or horsetail from a million years ago.

CIRCLE IN PAIRS
Now, I would like you to find a pair and tell each other, what you have made and its characteristics — so that the other person tries to name a given fractal, for example "Aleksandra spiral" or something like that. In a minute, the other person will try to present what has been made to others. Let's look at all the pieces together — do they have anything in common?

2.14 Personal good-bye to the place and integration — in the same spot→ 10 minutes

CIRCLE WITHOUT THE STICK / CIRCLE WITH THE STICK
(independent reflection)

I spread out different cards to choose from

Our today's walk is almost finished now. We can already see the symbolic entrance and exit gate between the trees, and the café on the horizon.

I would like to invite you to a moment of reflection: what was this walk like for you? What was the park like, and everything you have seen and felt here? What are you taking home with you?

This reflection might be supported by the cards — these are various playing cards or cards for practising meditation or forest bathing. You can choose one, which matches how you are feeling at the moment.

If you want to share with the rest, feel free — here is the talking stick, and whoever has it, has the voice.

We get up and go to the exist gate —
I take the stick with me

We are at the gate, through which we are going to leave the park soon — so the moment, when our walk comes to an end. It is also the invitation to the final reflection: think, how many positive things have you experienced in the park today, and how would you return the favour to nature? What would you like to do for it?

Take a while to think about it, and I'm holding the talking stick — for a person, who is ready to share first.

2.15 Closing threshold | exiting the park

2.16 Exercises/stretching, breathing, taking blood pressure → 10 minutes

At this very end of our meeting, I would like to invite you all to short gymnastics. Stand comfortably with your legs spread at the shoulder width. Hands up, take a deep breath... and exhale — forward bend and release the entire body. Again, up, at your own pace.

Now, we are standing on the surface of the Earth, our bodies are light, well-oxygenated and full of energy. Like at the beginning, feel free to suggest your favourite stretching exercise at the end.

I would like to invite you to the table, to take your blood pressure after the walk. These test results are anonymous, and if needed, we can also take them privately among you, without comparison.

We sit at the table and take blood pressure.

Summary of forest bathing — scenario 2: Weather forecast

In the case of one of the walks the same route served us something that I had not predicted when drafting the scenario, and for what one must be prepared, especially in Poland in autumn. The weather forecast indicated rainfall throughout the day and drop in temperature. We decided not to cancel the walk, but be prepared for what was going to happen in the park. A portion of information which I usually provide at the beginning of the meeting, was recorded and sent to the participants a few days ahead of the meeting, so that they could listen to it in advance. This made it possible for me to speak shortly on site, and give only the most important and necessary information. It was obviously more difficult to conduct breathing exercises and the warm-up under umbrellas in the rain, or try to speak over the patter of the raindrops. At the same time, we gained something much more valuable: due to the downpour, we were alone in the park! The rain drowned out urban noises and drove out the crowds, and so, it removed all the previously predicted challenges connected with guiding a relaxation walk in the city centre. Water became the leitmotif — everything was soaked, and therefore ideal for smelling and touching, and after digging in the mud, you could wash your hands in the puddle. The sense of hearing, in which the scenario used urban noises, was dominating and incredible in this situation! The rain and its intensity changed as we were walking. Raindrops were drumming on everything around, on the umbrellas, hoods, raincoats, and tree leaves. Water was running on the paths, making puddles. In this rain, we kept breaking through the forest to the place, where the participants were intended to activate the sense of touch, where water was running down tree trunks. When we were reaching the place of relaxation — the rain stopped... this time the weather conditions and the scenario synchronised perfectly.

Additionally, a squirrel welcomed us at the beginning of the walk, and then it reappeared (maybe another one, maybe the same one) two more times — it was our actual guide. Some of us also saw a hare, because when it is raining and there are no people in the park, we can meet its animal residents. Thanks to the rain, we could walk across the park in the middle of the city, as if it had been a wild forest — a Carboniferous jungle!



The humid atmosphere of the Carboniferous jungle can be felt at the centre of metropolis with all the senses, under favourable weather circumstances, The Kościuszki Park in Katowice

Forest bathing can be held regardless of the weather conditions. It is important to come prepared, and have i.a. clothing and shoes appropriate to the weather, water, snacks and charged mobile phone, so that you can be in touch with the group or call emergency services if needed.





Magnifying glasses of different types are perfect tools, which facilitate discovering the micro-worlds, invisible to the naked eye.

SCENARIO

3

Flow

forest bathing: FOR HEALTHY ADULTS

place: THE MURCKOWSKI FOREST RESERVE

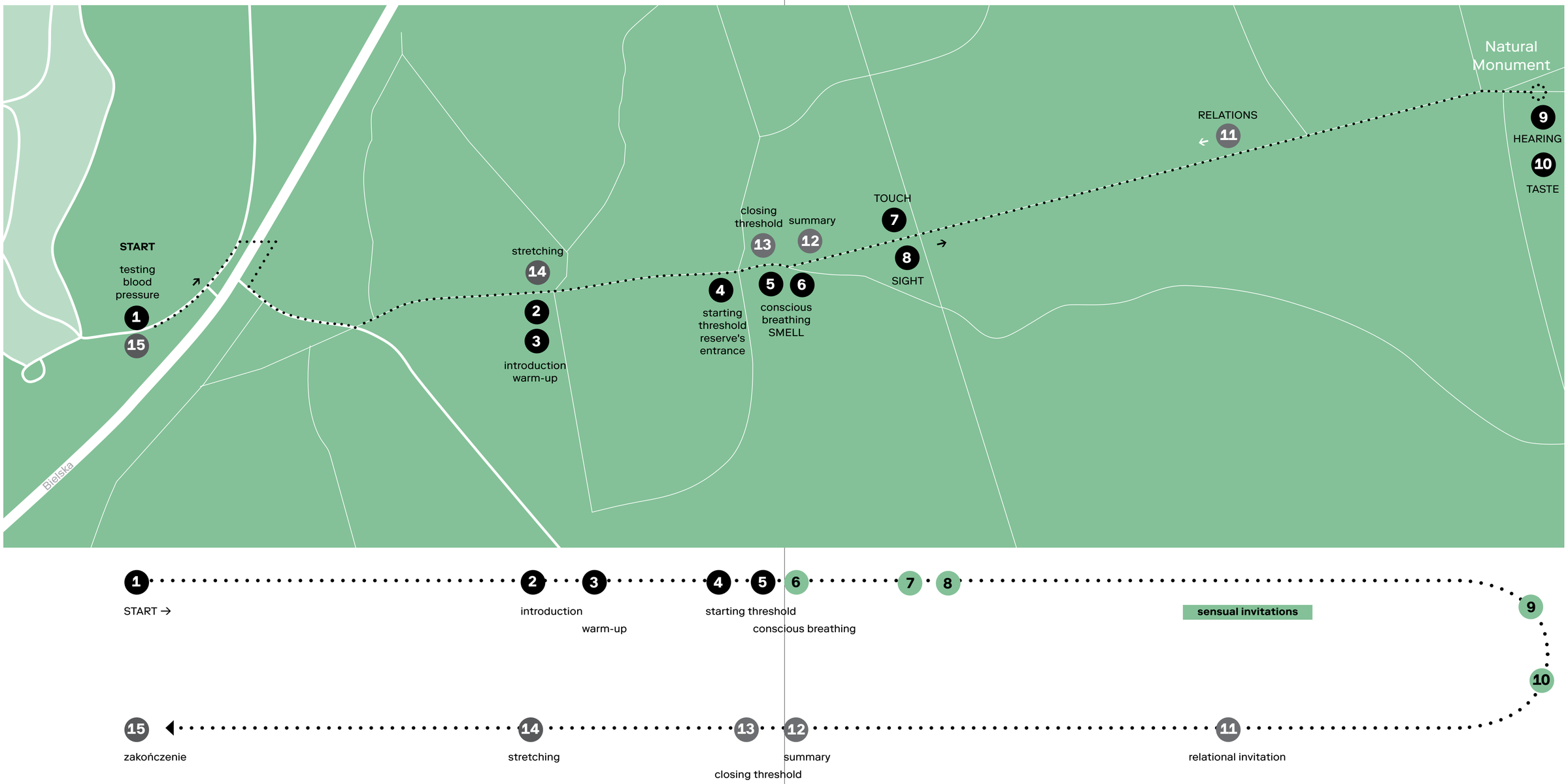


Fig. 17. Route of forest bathing for healthy adults.
The Murckowski Forest Reserve

This forest bathing scenario was prepared for adults, who regularly spend time in nature, walking with their children, or their dog. My presence — as a guide — was intended to provide the sense of safety (in time and space) and allow for complete relaxation and immersion in the forest atmosphere to all the participants. Necessary information was given concisely, leaving as much time as possible for the experience. In this scenario, I also included the activities, which I had learned during the INFOM training in Japan, and experienced during the walks on their certified paths — taking blood pressure before and after the walk, the warm-up and stretching. In my opinion, these two seemingly inconspicuous tasks yield very good results, focussing attention inwards, reminding of corporality and processes happening in our organism.

participants' age: 40+

season:	summer
place:	The Murckowski Forest Reserve, entrance on the side of Siągarnia
route:	ca. 4 kilometres from the parking lot (including ca. 2 kilometres in the reserve itself)
accessibility:	The route is accessible to people with disabilities
duration:	→ ca. 3 hours

3.1 Testing blood pressure (in the car on the parking lot, while everyone is gathering)

Walking from the parking lot, crossing the street at the traffic lights towards the reserve entrance

3.2 Introduction → 15 minutes

Hello everybody, I'm pleased to be your forest guide today. My name is Ania Kopaczewska; we are in the Murckowski Forest, and soon we are going to enter the reserve — a protected area.

We are meeting here today to take a forest bath, that is, a slow walk dedicated to immersion in the forest atmosphere and its beneficial substances, which we are going to inhale, and we are inhaling, standing here. The forest has always been an important place for people, but only in the 1980s on the initiative of the Agency of Forestry, under the Ministry of Agriculture, Forestry and Fishery in Japan, there started the research and experiments, which evidenced the effect the forest might have on the human organism.

Forest bathing is not a sport or other goal-oriented activities, such as climbing and nordic walking. Today, we are going to walk for mere 2—3 kilometres, because the distance of forest bathing actually doesn't matter. The entire bath could be taken in one place as well.

During the walk, I'm going to suggest various activities dedicated to subsequently activating the five senses: smell, touch, sight, hearing, and taste. Participation in these activities will be completely voluntary.

Since we are all well acquainted here, I think sharing our experiences or any fascinating discoveries is going to happen naturally, when we gather after completing an activity. In situations, when groups are larger, we invite everyone to the circle, so that the group have a chance to get to know one another better, integrate with each other as well as with their discoveries and emotions. Today, I would like

to suggest experiencing the walk structure in the *flow* mode, that is the eastern one, less task-oriented, more fluid, in which tasks interpenetrate. We are going to be working mainly individually, with the goal of deepening your bond with the forest (and not with one another).

Before we start our walk, I suggest using tick and mosquito repellents. In the invitation, I wrote about appropriate clothing and, for example, to wear high socks over the trousers.

You can eat and drink, if you need to, and if you have brought some food with you. We are also going to have a moment for that is an interesting place.

In a moment, as I said, we are going to enter the Murckowski Forest Reserve. Its first wealth is the tree stand, which includes many ancient, monumental trees, especially beech trees. A major portion of the beech trees in the reserve are more than 150 years old. The reserve was formed in 1953, and, in the area, numerous protected species have been identified, which we have already met on the way, for example ivy and common periwinkle. Since we will be on the territory of a protected area, our route follows the marked paths. No-one walks off the path (especially I, with this huge cart) — we allow exploration under ten metres around, so that we can see one another and feel safe together. If anyone wants to leave, inform me please, we all have each other's numbers. Set your mobiles to the vibration mode, please, so that we are in touch, just in case. I have a new super whistle, which I'm going to use to call you back. I will demonstrate its sound before we scatter for the first time.

3.3 Warm-up | scripted + engaging the participants to suggest one exercise → 5—10 minutes

And now, I would like to invite you to have a short warm-up and prepare our bodies for the walk.

Walking to the entrance gate

3.4 Starting threshold | the reserve gate — saying hello to the forest — the forest is not a background, the forest is our host → 5 minutes

We are standing at the entrance of the reserve — these two concrete posts — and the information board, reminding us the rules that apply here. I would like to drive your attention to the forest, which is our host today, and not only the background of our walks. Let's remember that we are entering a home of many species, and we are only guests here, for a while. Going through this symbolic entrance, let's say hello, as if we were entering someone's home.

Walking among tall beech trees

3.5 Conscious breathing, body scanning, sensations on the skin, balance → 10 minutes

Let's stand at a safe distance from one another (*I spread my arms and spin around*) on the side of the road, so that no cyclist runs us over.

→ Imagine a string attached to the top of your head — straighten your body.
→ You can release your jaw.
→ Spread your shoulders to make space between your ribs.
→ And now try and observe your natural breathing.
→ Let go of the incoming thoughts, as if they were clouds on the sky.

→ Now, if you want, put one hand on your stomach, and the other one on your chest and feel in your hands, how the air you are breathing in and out is moving around your body.

3.6 The Circle: SMELL | forest perfume (independent work) → 15 minutes

The first sense I would like you to activate today, is SMELL — it is said to be one of the oldest senses, which is very helpful in detaching from the city, which we have left outside the reserve. The smell, before it reaches our frontal lobe, first goes through other parts of the brain, transporting us in time and space, activating our memories.

I have these small boxes for you, and I would like to ask you to make compositions of forest perfume from whatever you can find in the surroundings. We pick nothing, we use whatever is lying on the ground.

When the time is up, I will whistle you back like that. (*I whistle steadily, not too loud, for a few seconds*)

CIRCLE WITHOUT THE STICK

On return, I smell everything, and everyone smells each other's perfume. We share our impressions all together.

Now, when you have exchanged your boxes, try to name the composition made by another person — write its name on the box.

They smell, note down, compare and check, if the name fits.

Now, we are going to continue walking uphill at a slow pace, follow me. On the way, when you come across something new, interesting, you can add it to your boxes.

Additionally, I would like to ask you to take a stone with you — I have already found a larger one, you can choose whichever you like, more or less fist-size, or smaller.

Walking uphill, among tall beech trees.
Looking for one's stone on the way and taking it with us (putting it in the cart).

3.7 The Circle: TOUCH | bark of various species of trees near the bench/board →10 minutes

In the Murckowski Forest Reserve, apart from beech trees, there also occur other species, and their individual specimens can be observed here as well. I would like to ask you to look around in search for a tree structure, which you feel like touching. Before you do that, however, stop for a moment and imagine, what this structure is going to be: smooth or rough, cold or warm? Only after, touch it and verify your imaginations.

Additionally, I would like to encourage everyone to touch with any parts of your body. The skin is different places is sensitive in different ways. Hands, feet, but also cheek or forehead...

3.8 **The Circle: SIGHT** | various types of magnifying glass (continuation of the activity in the same place, I give everyone a small magnifying glass of their choice) → 15 minutes

Thanks to the magnifying glasses you can take another careful look at the structures, which you have been touching, and which have caught your attention. When the time is up, I'll whistle you back.

When the time comes, I whistle, calling back those, who have scattered around.

CIRCLE WITHOUT THE STICK

Putting their shoes back on, they share their observations.

Have you observed anything surprising? Through which magnifying glass have you observed something interesting?

Walking — the forest becomes thicker and intimate — to the monument of nature

Forest bathing is not silvotherapy or any other esoteric practice. Of course, if someone feels like hugging a tree and trying to sense its energy, by all means, do! Tree therapy has not been scientifically proven yet, but maybe one day someone will be able to study what native peoples have believed for thousands of years.

Hugging trees, for example a giant beech tree
Going off the road towards old larches and the fenced glade to relax (glade, different landscape) → 15 minutes

3.9 The Circle: HEARING | imaginative map of sounds — relaxation with eyes closed, lying down or seated, under a tree, with one's head or other body part on the root → 15 minutes

Find a comfortable place, best near a tree. If possible, sit with your back against the trunk, or rest your head on the root. We have mats at our disposal, but you can also try sitting or lying down directly on the ground.

→ Close your eyes and focus on the surrounding sounds — those most distant, but also these closest to you, maybe also these coming from you, such as rumbling stomach or your breathing.

→ And now imagine that you are making a map of the sounds around you. You are at the very centre of this map.
→ Pay attention to what you hear:
on your right...
what you hear on your left...
what you hear behind your head or back, if you are seated...
what you hear from the direction of your feet or in front of you...
what you hear above you...
what you hear in front of you...
→ Imagine your entire map of sounds and how it is changing over time.
→ You can gently start moving your feet, hands, stretch your body.

When you are ready, open your eyes.
Roll carefully to the side and sit up. When you are ready, come to the mat, I have something warm to drink.

3.10 The Circle: TASTE | the brew, after rising from the ground, and a snack → 15 minutes

If you feel like it, we can taste some brews, which I have prepared for this walk. It is oak bark (probably not the one from Murcki, which we passed by) and a relaxing brew *Forest Path*, a mixture of 6 herbs — can you taste any of them?

Here, the participants' answers.

It is lemon mint, camomile, St. John's wort, passion flower, and lavender.

CIRCLE WITHOUT THE STICK WITH THE BREW

Have you made a map of sounds, or heard something, which you would like to share?

Here, sharing while drinking the brew
Return to the path, there is a granite post at the monument of nature → 15 minutes

At this spot, I have a surprise-snack for you, connected with the stones we have collected in the cart — here is where they come in useful.

The snack — cracking hazel nuts with the stones, which the participants have collected on the way; I take out a bag of hazel nuts, and everybody cracks some for themselves.

3.11 Scattering and The Circle → 30 minutes

Immersing in the forest atmosphere, we breathe the air with a higher concentration of oxygen and rich in substances released by plants, mostly trees, such as phytoncides, volatile substances, and essential oils.

Phytoncides are produced by plants. They participate in the process of communication among trees, as well as serve for protection against bacteria, insects, and fungi. The main type of phytoncides are terpenes, and they are what we smell while practising forest bathing.

Doctor Qing Li and his team in Japan have proven that thanks to inhaling them, our immune cells (*natural killers*, that is a type of white cells, which attack and kill the unwanted cells) become more active, and their number increases. It was tested that even two hours a week spent in the forest maintain their high level over the following week, and 3 days in nature maintain their high level for about a month.

Additionally, coming close to the ground (stirring it), we inhale the soil bacterium *Mycobacterium vaccae*, which has an anti-anxiety and anti-depressant effect on our organism.

During this final fragment of the walk, I would like to invite you to reflection on what you, as a human, would like to give plants from you.

Look around and choose a plant on the route, with which you would like to breathe for a few minutes. If possible, inhale through your nose, and exhale through your nose or mouth — try to make the exhale longer than the inhale. Try, as far as possible, to lengthen your exhale. Let's meet at the end of this path, to sum up the walk together.

Mindful walk engaging all the senses. Finding relations in nature, and ourselves in relation with nature. Being here and now.

3.12 The Circle: summary and the closing circle
→ 10 minutes

CIRCLE WITHOUT THE STICK
Our today's walk is almost finished, and we can see our symbolic reserve gate, through which we are going to leave. Have you found a plant and had some exchange with it? What was the forest like for you today?

CIRCLE WITHOUT THE STICK (independent reflection)
Walking through this symbolic gate, think, what do you wish nature and what would you like to do for it?

3.13 Closing threshold | exiting the reserve

3.14 Exercise/stretching, breathing → 10 minutes

Let me invite you all to short gymnastics at the end of our meeting — in the same place, on the side of the crossroads.

Stand comfortably with your legs spread at the shoulder width. Hands up, take a deep breath... and exhale — forward bend and release the entire body. Repeat, at your own pace. And, like at the beginning, you are invited to suggest your favourite exercise...

Walking towards the parking lot

3.15 Testing with a blood pressure meter → 10 minutes

Loose conversations about how we feel before and after the walk; who has come in with what and how they are feeling now. Observing one's well-being in the context of the more or less surprising results.

Summary of forest bathing — scenario 3: east/west

Designing the scenario of this walk, I tried to combine what forest bathing means to the Japanese with what is "western", that is work using the IER structure. Free flow and sharing experience in circles.

The state of *flow* is a perfect for people, who do not have problems to "plug into and unplug from" to nature. Meditation and mindfulness are close to them. They do not need a goal or tasks to go to the forest or a park and simply be there for a while.

Invitations to activities and circles, that is sharing one's experience and listening to others, experiencing together, are very good for people, who need guidance or/and who seek contact with nature as well as integration with other people. Exercising together, and sharing this experience, in turn, become a mutual inspiration and are often helpful in the healing process.

When the walk is completely voluntary and taken in the atmosphere of mutual respect (the forest and people), both approaches — task-oriented and flow, relational and sensory — intertwine and merge naturally. Individuals "plug into and unplug from" to nature at their own pace, as far as possible on a given day, at a given moment. The forest atmosphere affects their organism whether they want it and are aware of it, or not. The volatile particles of phytoncides, terpenes, and soil bacteria involuntarily penetrate their organisms with every breath, with positive influence on their systemic functioning — on their health. Thanks to the *shinrin-yoku* method, a base of ideas for invitations to activities useful while designing walk scenarios, various tools and gadgets, such walks can invite more and more people "unplugged" from nature at any age, and support their the longest possible, regular and sensory being outside the walls.

**STRESS is the keyword,
which should be taken into consideration,
to understand the context of forest bathing.**

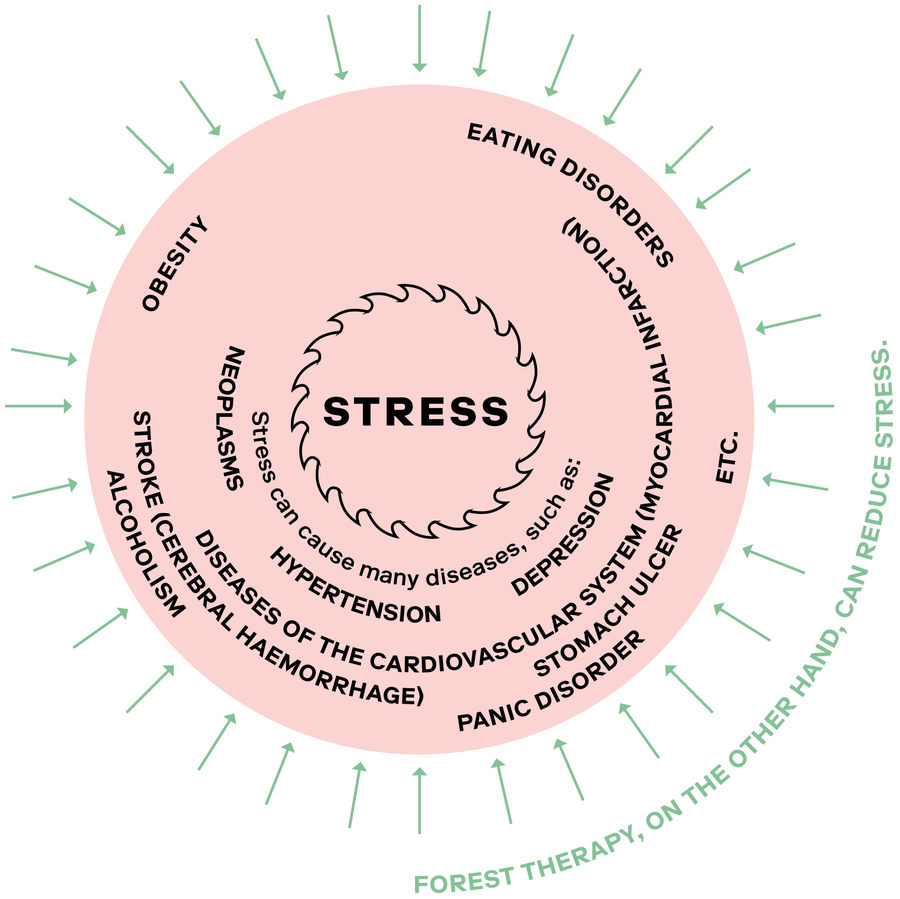
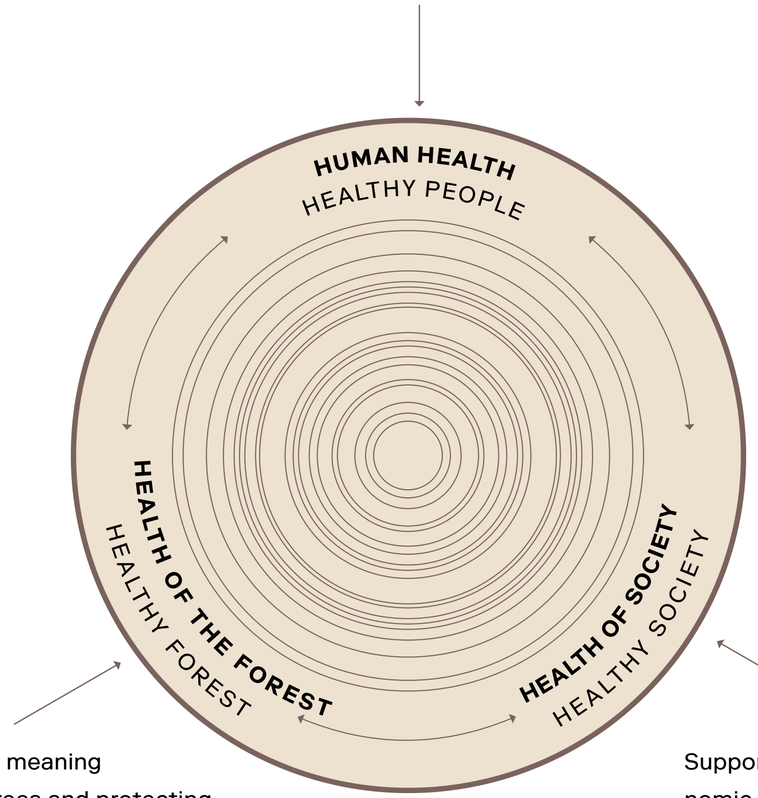


Fig. 18. Forest bathing can reduce stress
(own development based on the presentation:
Li, 2024 INFOM International Seminar)

Forest therapy is defined as a proven effect of forest bathing. It is an activity using healing properties of the forest in order to improve health and prevent diseases. It stimulates five senses to visualise its operation.



Realising the meaning
of planting trees and protecting
forests through forest therapy

Supporting regional economic development and environmental protection through forest therapy

Fig. 19. Philosophy of forest therapy (own development based on the presentation: Li, 2024 INFOM International Seminar)

The presence of water during forest bathing is a multisensory invitation to the state of deep relaxation. Its soothing murmur, the smell of wet moss, chill touching the skin, and the sight of its current, are primary safety signals for our organism. Our subconscious receives a clear message: life is here, there is water to drink, and abundance of food. You are in a safe place, where you can rest. Such a conscious presence at the forest spring allows you to wrap up the stress reaction and enter the state of regeneration, while your body is certain that its survival is not threatened, and its only task now is to be.





RIVER DIALOGUES. Cards as a Tool of Relational Education in the Post-humanistic Perspective

The river is a problem, taking its old-fashioned flow against progress. It complicates the development of the city, only good for flushing down sewage. Like the mines and factories around do. Mainly odour has told us it is here, for years.

The river has never been important here. It is wasting away at the bottom of the concrete bed, as it would.

Filip Springer
The River View

Every Polish city with a river,
also has some river-related sin.
The lightest would be the sin of neglect.
The heaviest - premeditated murder.

Filip Springer
The Peristyle Bath

p. 180
One of the graffiti, which cover the concrete slabs/walls of the Rawa waterfront in Katowice. The Rawa is a rain-supplied watercourse, the source of which disappeared as a result of land transformation connected with hard coal mining in the area.

Interspecies meetings

In the face of the climate and environmental crisis, education requires rethinking its fundamental assumptions and the tools it uses. There is an increasingly apparent need for shifting from the anthropocentric model of education in favour of practices supportive of relationality, co-dependency and responsibility for the more-than-human world.

In this chapter, we offer a tool of outdoor education — cards of river dialogue, which facilitate initiating interspecies meetings in the urban space. We present theoretical assumptions, inspirations and goals, as well as demonstrate how they can be used in education — especially in post-industrial cities.

Purposefully, we place rivers as our key reference point. In the recent years, rivers have returned to social awareness with unpredictable force. Due to the prolonged hydrological drought, systematic decrease in water levels, drying up of lakes, and degradation of watercourses, water has ceased to be an obvious and unlimited resource. In parallel, subsequent environmental crises — connected with saline mine water disposal or discharges of municipal and industrial waste water — made the scale of threats to the Polish rivers evident. The most dramatic symbol of these processes has been the Oder River catastrophe, recognised as the largest river contamination in the contemporary European history. Until recently, the problem area of rivers remained on the margin of the public debate. Rivers functioned more as an element of the landscape than as a subject of care or deliberation. The Oder catastrophe, however, became a turning point — an impulse to wide-spread social mobilisation, and a certain environmental wake-up call. It made us aware of the fundamental importance of natural rivers, maintaining their unregulated riverbeds and the ability to sustain diverse life forms, as well as of the fragile balance of aquatic ecosystems (Ochwat & Skubała, 2024).

Our considerations in reference to the educational tool for building relations with rivers are located in the scope of assumptions of the **blue humanities**. It is a dynamically-developing research direction, concentrated on water as a material, symbolic and relational category, and on its connections with different dimensions of social, cultural and environmental life. The discipline emerged within the environmental humanities as a relatively autonomous perspective of deliberations, which is emphasised in numerous theoretical treaties (Neimanis, 2024, p. 8). On the Polish ground, important contributors to this notion have been i.a. Anna Barcz (Barcz, Gromala, Wacławik, 2022, pp. 13—14), Ewelina Jarosz (Jarosz, 2021) and Andrzej Marzec (Marzec, 2021). Even though initially researchers focused their interest mainly on seas and oceans, over time the scope of deliberations was expanded to inland waters — rivers, lakes, and underground water. Cultural representation of water, social practices connected with its use, and ecological consequences of human intervention in water environments have become the centre of attention. The blue humanities emphasise the fundamental importance of aquatic ecosystems in the face of contemporary climate and environmental crises.

Contemporary pedagogic reflection increasingly criticises on the human—nature dualism, consolidated in modern tradition. As such, the world was perceived and described i.a. by philosophers Francis Bacon, Cartesius, and Immanuel Kant, who legitimised human exploitation of the environment, and dominance of the world of science over nature. The model of education based on this view reproduces the conviction about human exceptionalness and superiority over other creatures and beings, which leads to instrumental treatment of the environment and reducing interspecies relations to the level of resources or a background of human activity.

Małgorzata Kowalik-Olubińska, in her book *Dzieciństwo — naturokultura — edukacja. W stronę posthumanistycznej pedagogii wspólnych światów* (Childhood — Natureculture — Education. Toward the Post-humanistic Pedagogy of the Common Worlds, Kowalik-Olubińska, 2025), which strongly inspired us to pursue solutions other than reproducing anthropocentrism in education, indicates the need for radical reconsideration of this perspective. The author suggests moving away from the anthropocentric model of education in favour of **relational pedagogy**, **pedagogy of the common worlds**, as she calls them, in which the human is one of the participants of the entangled network of naturecultural (Haraway, 2013) co-dependencies. One of the biggest educational challenges from this perspective becomes not only transferring knowledge **about** the environment, but also *becoming* — **with** the environment, so mainly transformation of the way we think about subjectivity and community. Education, as proposed by the Olsztyn-based researcher, facilitates building relationality understood as co-being and co-dependency within the community, which is more-than-human.

The idea of the common worlds grows out of post-humanistic reflections, mainly the thoughts of a biologist and feminism philosopher, Donna Haraway, especially from her conception of *becoming with* — other species (Kowalik-Olubińska, 2025, p. 53). From this point of view, a subject does not exist in isolation, but is formed in relation, in co-being and co-dependency with human and extra-human co-participants of the world. Such a perspective opens the possibility of education defined as a process of the common *becoming with the world*. It is not only about acquiring knowledge about the surroundings, but also about establishing in-depth relations — with other people as well as with extra-human beings: animals, plants, water, inanimate matter. Thereby, education becomes a relational practice, rooted in the experience of co-presence. The essence of the **pedagogy of the common worlds** is participating in and learning “with the world” while establishing mutual relations — neither beside it nor above it, but within. This process takes its course on the level of intra-action (Barad, 2021), that is the mutual constitution of subjects and the environment in a dynamic network of connections.

The pedagogy of the common worlds aspires to reveal the relational character of reality, multi-species agency, uncovering relations between people and extra-human beings during multi-species meetings. It emphasises the possibility of learning and becoming within interspecies relations, in which the boundaries between "I" and "the other" undergo transformations, and education becomes a process of co-creating the world together.

In this chapter, we make an attempt at conceptualising the tool for relational education — cards of river dialogue, which facilitate initiating and deepening interspecies meetings in the urban space. The cards serve a function of a tool mediating relations between people and the aquatic environment. They are not merely a didactic aid, but rather an element of a performative process — they initiate a dialogue, activate imagination, and facilitate building human relation with the river. The educational work with the cards falls under the direction of relational education (Obrycka, 2020; Chutorański, 2021), shifting the stress from transmission of knowledge to the experience of co-presence within the more-than-human community.

Inspiration, i.e. forest cards and biourney

The cards of river dialogue become a starting point to building relations both among their users, and the world of natureculture. The design of cards was inspired by tools used in the practices of forest therapies, especially the cards used during **forest bathing (*shinrin-yoku*)** → more about forest bathing on page 91. Currently, there are many forest bathing decks of this type available on the market — addressed to children as well as to adults. They vary in form and the scope of content: some include comprehensive guiding texts, other are based solely on the visual layer.

Forest bathing cards usually come as a consistent whole, combining illustration and description, which can take the form of instruction, invitation to a particular exercise, or inspiration for independent reflection. Their structure is flexible — they can be used for short sessions as well as in the course of longer, in-depth meetings with the natural environment. Adaptation of selected elements of this practice to working with the river cards allows to import its assumptions (such as no rush, multisensory experience, experience of the forest) to the aquatic environment, providing conditions for a mindful, multisensory and dialogical meeting with the more-than-human river world.

The second important source of inspiration for practising the river cards is the conception of **biourney** [Polish: *biodróż*], suggested by a poet and columnist, Michał Książek, as a form of being with nature, localised mostly in the city. Biourney is a proposition of a regular practice of conscious walking — not observing from the distance, but meeting and being with other creatures. The Polish term *biodróż* is derived from the Greek *bios* [life] and the Polish *droga*, *dróżka* [road, way]; the neologism is formed after the fashion of the Polish *podróż* [journey] from *po* [on] *drodze* — on the road, on the way. Biourney — *biodróż* — can therefore mean "life on the road / on the way". As the author writes, a biourney has its setting in time (beginning, end), setting in place, and protagonists. It has the plot, and



The photograph features a collection of diverse sets of educational and developmental cards spread out on the floor. At the centre, there are the forest cards — the illustrated set inspired by nature, next to the cards for emotional regulation, mindfulness, and workshops. Among them, you might notice also other decks on relational, therapeutic and developmental subject matter, some of them packed in canvas or jute bags.

the text. It creates (unveils) new worlds, operates with scales (zoom-in, zoom-out, magnifying glass), drives attention to things and subjects that are usually omitted and unseen. (...) The text of a biourney, therefore, consists of the biology, or more like the biography of the creatures, beings on the way, and awareness (of their fate). Their behaviours, adaptations, habits. The way they build shelters, express love and hatred. Since a biourney is also — and sometimes, mostly — about careful listening (Książek, 2023, pp. 82—87).

The author emphasises that “a biourney is based on the conviction that we are nowhere alone, that emptiness is a delusion, and stillness — a pretence. From the Greek, »bios« is also a way of living” (Petryczkiewicz) [accessed: 2 Sep. 2024].

The reference to a biourney enhances the urban and relational anchoring of the river cards. Similarly to a biourney, it is important to accompany the place, notice the seemingly insignificant life forms, and appreciate that even the post-industrial space is neither empty nor dead. Walking with the cards by the urban river, therefore, can be understood as a form of biourney — the practice of being on the way with water, with the city, and the multispecies community, which co-creates it. Biourney is different from other forms of being with nature, e.g. from *birdwatching* and its subcategory, *twitching*, sensory walks and forest bathing, mostly due to being entirely distanced from practices of anthropocentric character, which — to a various extent — these forms might assume. *Twitching* concentrates on finding and “collecting” rare bird species, while biourney assumes that every bioperson you meet, regardless of their spectacularity or rarity — deserves attention. Instead of hierarchising presence, it treats them as co-participants of the common space. Sensory walks, in turn, though valuable as mindfulness practices, are often oriented to well-being and satisfaction of the human participant. In their simplified or extreme versions, they may reduce the experience of nature to intensifying sensory impressions — focussed mainly on the participants’ bodily sensations. From such a perspective, presence of other residents of





The biourney with Michał Książek is the practice of mindful being with urban nature. Silesia, Katowice, University of Silesia campus. The photo features Dr. Karolina Starnawska of the University of Silesia, who is closely observing the non-human residents of the city.

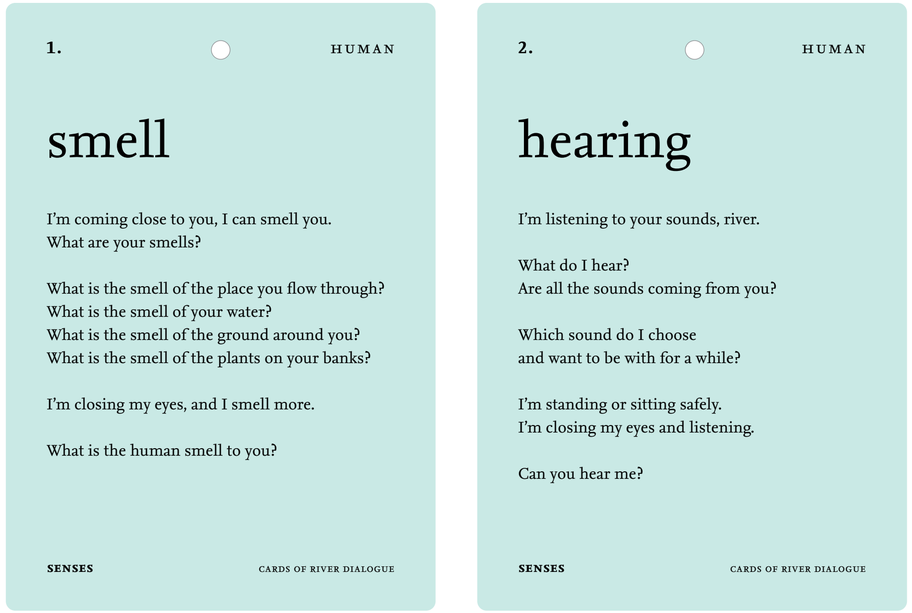
the forest or meadow, can be marginalised, even though the practices are held in the spaces where they live.

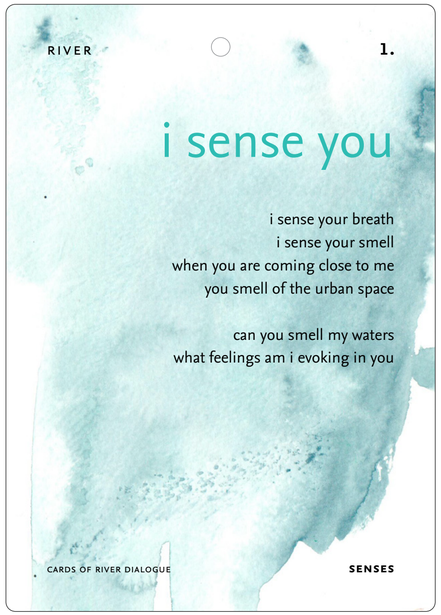
Biourney also appreciates the sensory dimension, and develops perceptive sensitivity, yet it does not stop at the human experience. Its goal, first and foremost, is to open up to the extra-human presence, recognise their agency, and initiate meetings with local biopersons. It is a practice, which shifts the stress from "feeling for yourself" to "being with others" in the multispecies community.

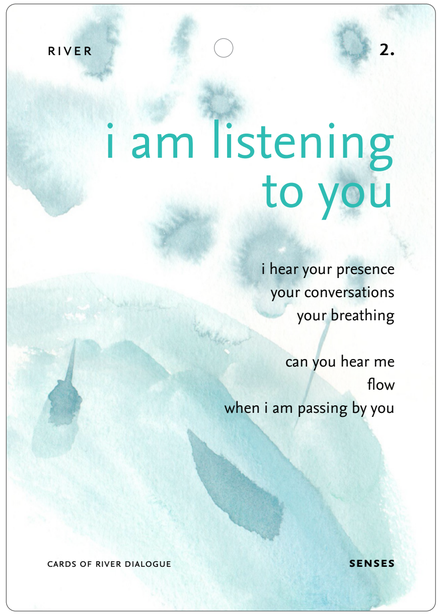
Cards of river dialogue — presentation

The goals of working with the cards of river dialogue (we call them water cards), presented in this text, are: return to local rivers and slow being with them; deepening the sensory relation with water (listening, touching, observation); development of environmental sensitivity by means of aquaristical perspective; critical reflection on human dominance over rivers and, most importantly, shifting the stress from learning about the river as an object to a relational experience — thinking *with the river*, and not only *about the river*. From this perspective, the river is no longer a passive element of the landscape nor the background for human activity, but rather a causative and living being, co-creating relations, space, and experience. Recognising its agency opens the possibility of a dialogue and learning within the more-than-human community.

The structure of the cards is described below. They are divided into two perspectives: the human (anthropocentric perspective) — invites the participant to self-reflection and mindful experiencing of the river with their senses; the river (aquacentric perspective) — gives voice to the river, provoking the participant to assume the non-anthropocentric perspective and imagine its agency and subjectivity. The aesthetics of the cards — minimalistic, in the hues of blue and with watercolour blurs — visually refers to the element of water and emphasises their contemplative character.







pp. 192, 194, 195
The cards are an original design of Anna Kopaczewska, Małgorzata Wójcik-Dudek and Magdalena Ochwat, the researchers associated with the University of Silesia and the Academy of Fine Arts and Design in Katowice. The visual conception and graphic design of the cards were made by Anna Kopaczewska. The textual layer was co-authored — together, we developed both the content of dialogues, and the conception of the double-perspective, assuming the parallel voices of the human and the river.

Therefore, the structure of the cards is based on a dialogical composition, as mentioned above, in which every thematic section is built of two perspectives: the human, and the river. This layout is consistent and repeatable — on the right, there is a statement, initiating reflection on the human side, and on the left, the response of the river, constructed as an autonomous voice of a more-than-human subject. Such an organisation of material introduces the participants to the symmetric relation, in which perception and agency are not reserved for the human only.

The fist block of cards refers to the senses. The sequence starts with the "smell" — the human comes close to the river, tries to recognise its smell, the smell of the place, through which it is flowing, the smell of the ground and plants nearby. The river responds, "smelling" the human and their urban context, asking whether they can smell the odour of its water, and what impressions it evokes. This way, the sensory relation is reversed: the river is no longer only an object of perception, but also becomes the experiencing subject.

The construction is analogical for other categories: "hearing", "touch", "sight", "taste", and "vibrations". In the area of hearing, the human carefully listens to the sounds of the river, and asks whether the river can hear their presence. The river, in turn, can hear human conversations, breathing, and sounds as they move, indicating the constant acoustic co-presence. There is special significance to the card of touch, described as impossible. In the context of the urban river — polluted and regulated — physical contact is suspended. Touch is received as a form of warning, and distance becomes a sign of environmental degradation and the loss of safe relativeness. This deficit serves a meaningful function, revealing the consequences of anthropocentric transformation.

Further, the cards present the categories of sight and taste, which problematise the matter of reflexivity, visibility, and fitness for consumption. The river can be "bitter" and "metallic", it can taste like a warning, which clearly refers to its contaminated condition.

3. HUMAN

touch

I'm coming closer to you,
but I don't know if I can touch you...

Your water is neither cool nor warm –
it is a warning.
Touch has been taken from us.

I'm standing at a safe distance.
I'm letting my hands be silent.

SENSES CARDS OF RIVER DIALOGUE

7. HUMAN

place

I'm standing on your bank.
I'm looking at it carefully.
What is your other bank like?

Why do you need bridges?
How do you feel about them?
What have they changed in your being?

CARDS OF RIVER DIALOGUE

RIVER 3.

i am not touching you

i don't feel your skin
i recognise you by the weight of the distance
by the trembling air you carry

i am not flowing between your fingers
i am not washing your feet
i don't recognise their shape
entering my waters has become a threat

you are afraid of me

CARDS OF RIVER DIALOGUE **senses**

RIVER 7.

place

look what i am like
look where i am
where i am flowing from
where i am flowing to

look carefully at the place
which i cut in half with my body

on which side do you prefer to be

CARDS OF RIVER DIALOGUE

8. HUMAN

hyperobject

You are not just a river, you are the infrastructure,
an object.

What other forms do you take?

How much of you is there in the world?
How little of you is there in the world?

CARDS OF RIVER DIALOGUE

10. HUMAN

CARDS OF RIVER DIALOGUE

RIVER 8.

CARDS OF RIVER DIALOGUE

RIVER 10.

i am a home

all my sweet-water residents
see you sense you human

they are observing you
they are avoiding you
they are keeping their distance

CARDS OF RIVER DIALOGUE **senses**

Vibrations, in turn, allow to capture urban infrastructure — trams, traffic, motors running — as elements affecting the body of the river, even without direct contact.

Another thematic blocks expand relations beyond the sensory level. There occur categories such as “place”, “hyperobject”, “bodies of water”, “home”, “sources”, “skin”, “life”, “fluidity”, “community”, “hope”, “time”, and “care”. Each of them opens a different dimension of reflection: ontological (river as the infrastructure and element of global flows), ecological (river as a home to organisms), hydrological (river as a total of runoffs, rainwater, wastewater and purified water), as well as ethical (care as the rhythm, and not a one-time gesture).

However, some cards we left partially blank. For example, in the “place” category, the human perspective remains blank, while the voice of the river has been filled in. Such an operation is not the lack of ideas on our side, but a purposeful design strategy. The participant can note down their own answer, establish a dialogue with the river on their own terms, and shape the relation individually. Thereby, the cards introduce gradability of engagement: from gentle motivation and guidance of attention, through asking questions, all the way to handing the full agency over to the recipient of the dialogue. In some cases, the described tool initiates a conversation, in other — retreats, leaving space for the participant’s own interpretation and independent co-creation of the relation. It is the open structure of the cards that reveals their performative character.

An important element of their construction is the language. Statements are formulated in the first person singular and present tense, which enhances the performative character of the experience. The questions from the river are left without a question mark, which suspends their direct interpretation and leaves space for the reader’s individual intonation. This operation introduces uncertainty between a statement and a question, and therefore opens the field of personal interpretation.

The cards of river dialogue were designed with the thought of building human relation with an urban river — the river degraded by industry, flowing though post-industrial cities, such as Katowice. They were made in connection with a particular environmental and social context of Katowice and the Rawa River. They were tested by Anna Kopaczewska, Małgorzata Wójcik-Dudek, Piotr Skubała and Magdalena Ochwat in their work with local recipients, mainly teachers, who made an attempt at rethinking their relation with the anthropocentric Rawa River — regulated, paved over, polluted, often deprived of any visible symptoms of aquatic life. The starting point, therefore, was not the idealised vision of nature, but rather the real experience of the river, functioning in the urbanised space, and subordinated to industrial urbanist logic.

At the moment, the Rawa River — the largest right-bank tributary of the Brynica River — is one of the most meaningful examples of the river radically transformed by processes of industrialisation. The river, less than 20 kilometres in length, and flowing through Ruda Śląska, Świętochłowice, Chorzów, Katowice and Mysłowice, has served the function of a receiver of industrial and municipal wastewater for decades, which caused a near-total displacement of natural water from its bed. Nonetheless, the Rawa story is not limited to the degradation narrative. From the early 21st century, there have been the revitalising and partially renaturalising operations in place, with the goal of improving water quality and reinstating elements of biological life in the river. In the area of the University of Silesia campus, the Science Green Zone is under construction — the project combines transformation of urban space with education and environmental research. Unpaving fragments of the riverfront, introduction of greenery, limitation of motor traffic, and organising leisure zones at the river, reinstate its visibility and facilitate new forms of contact with water. (Psiuk, 2006; Springer, 2018; Kowalczyk et al., 2022)

The designer of the cards assumed that mainly such river ecosystems — transformed and controlled by people, and ecologically



The strongly regulated, narrow stretch of the river, flowing in the concrete canal. The steep, reinforced walls of the riverbed are covered with graffiti, and the metal fences running above them separate the river from pavements and lawns. In the background, there are tall residential blocks and city buildings, which emphasises the urbanised character of this space.

degraded — can become partners of the relational meeting. The process of working with the cards enabled the participants to establish a relation with the river, recognise their own attitudes, emotions and imaginations towards it, and opened the space for reflection on human responsibility for the condition of the aquatic environment in the city.

Practising the cards of river dialogue

The cards can be used in various configurations: in pairs (role play), individually (as external dialogue), in group (with distribution of voices), or by reading the pages in random order. This flexibility enhances their character as a tool for relational education, facilitating a dialogue as well as a reflective monologue. The design of the cards at large is an attempt of shifting the human—river relation from the level of the user and control to the level of co-presence and co-responsibility. Here, the urban river — degraded, regulated, and paved over — is not only the object of criticism, but the partner in a dialogue, whose voice is symbolically reinstated in the space of education.

Working with the cards at the degraded river requires particular mindfulness and conscious preparations on the participants' side. The starting point is not experiencing "wild nature", but real meeting with the river, which is regulated, paved over with concrete, often polluted, and embedded in urban infrastructure. This very context is an important element of the educational process.

Preparation of the group

It is worth starting the meeting even before you get to the riverside — with a short introduction regarding its goal. It should be emphasised that it is not about evaluating the river nor obtaining knowledge fast, but the attempt to establish a relation. It is useful to invite the participants to slow down and pay attention to their breathing, pace of walking, sounds of the surroundings. Discussing safety regulations is important as well.







A group of teachers practising the cards of river dialogue at the Rawa in April 2025. The participants are standing in a small circle on the concrete riverfront, holding the cards in their hands, and reading them carefully. The space around — the regulated riverbed, concrete walls covered with graffiti, urban infrastructure — constitutes a clear background for the relational educational practice.

Entering the space

As you arrive at the river, the participants remain silent for a few minutes. They are not reading the cards yet. Initially, they are intended to simply “be”: observe, listen, register the first impressions. This moment is crucial — it allows you to shift from the task-oriented mode to the presence mode.

Only after this stage is finished, the leader deals the cards.

Working with the cards — dialogicality in practice

The cards can be practised in several ways:

→ **working in pairs (human—river)**

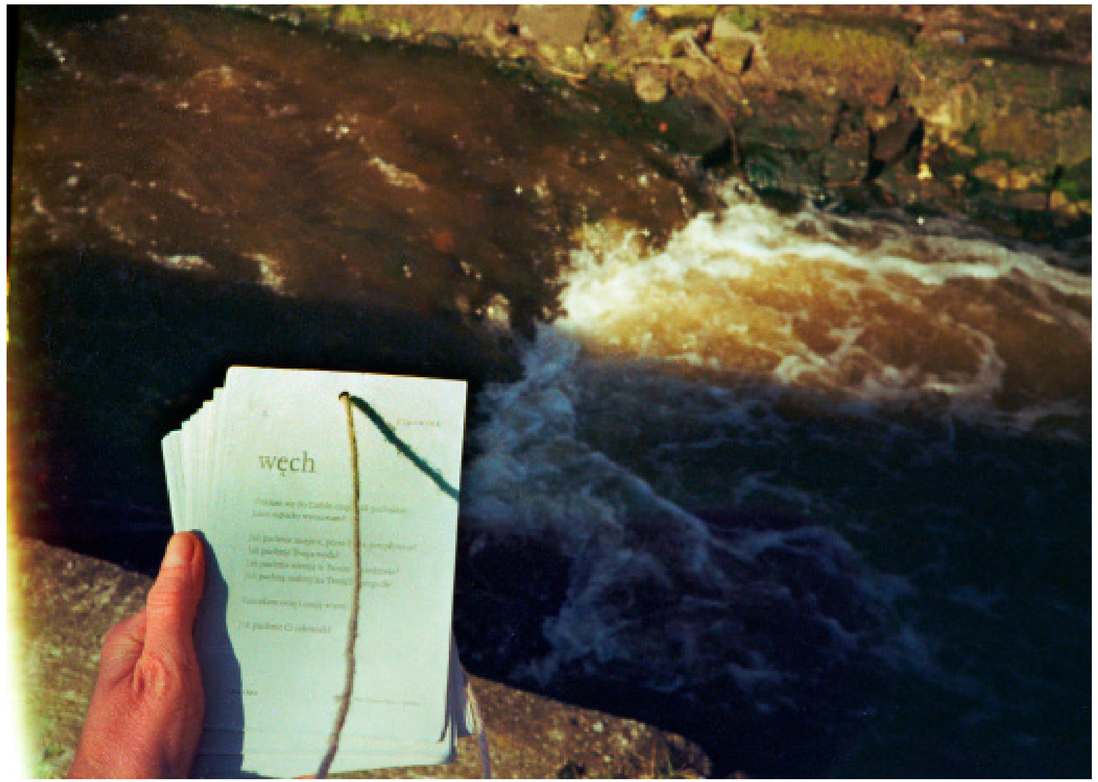
One person reads out the human perspective, the other — the river perspective. Then, there is a moment of silence. Next, the participants share their observations on what has moved them the most. Swapping roles allows them to experience both perspectives.

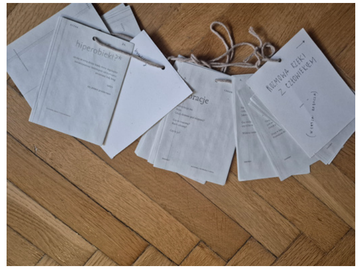
→ **individual work**

A participant draws a card and reads it in silence. In this variation, the card becomes a tool for internal dialogue.

→ **group work**

Each person receives a different card from the same block (e.g. senses). After individual deliberation, the participants make “the map of river experience” — a collective story composed of many voices.





One of the many prototypes of cards of river dialogue — improved version, with added string for combining cards in a particular order and safe work outdoors.

Stopping at degradation

In the case of a degraded river, it is important not to avoid the experienced difficulties — the smell of sewers, concrete riverfront, street noise. The cards regarding the “impossible touch” and “bitterness” can become a starting point of a conversation about responsibility and agency. Here, degradation is not an obstacle, but the condition of critical deliberations.

It is worth asking such questions as:

→ What about this river is the consequence of human decisions?
→ What traces of our presence are the most visible here?
→ Is there any other possible future of this river?

Concluding the meeting

The work should be concluded reflectively. The participants can answer such questions as:

→ What has changed in my perception of this river?
→ Can I think *with* the river, and not only *about* the river?
→ At what point did I feel the relation, and not only observation?
→ Has the river become a somebody, not a something to me?
→ Where is the border between me and the river? Is it permanent?
→ What forms of co-presence are possible in this space?
→ What would be a relation based not on control, but on co-responsibility?
→ Can I notice the more-than-human community that I am part of?
→ What form of care can I practice in my daily life?

The conclusion can assume the form of a short circle of conversation, writing the impressions down together, or a symbolic gesture (e.g. collecting litter as an act of the participants’ agency). Practising the cards at a degraded river enables transforming a post-industrial space into a place of educational experience.



A straight, regulated, but green fragment of the Rawa, between the market square and the University of Silesia campus in the strict city centre.

Post scriptum

The presented cards of river dialogue are at the prototyping stage. They have been tested on many occasions during outdoor meetings, and workshops in the formula of participatory observation. Each meeting constituted not only an educational practice, but also a research stage — allowing for verification of the cards structure, language of the dialogues, level of openness of particular categories, and their relational potential while working with various groups of recipients.

The experiences demonstrate that the tool activates processes of reflection, co-presence and responsibility, especially in the context of urban rivers — degraded, often invisible in the city residents' daily perception. The cards have turned out to be not only a didactic aid, but mostly the medium of a dialogue — the space, in which it is possible to think *with* the river, and not only *about* it.

Our hope is that once the stage of testing and perfecting the editorial form is complete, the cards will enter the wider circulation as a new educational tool, supporting the dialogue with rivers — at schools and cultural institutions, in social activities and local initiatives. We believe that they can become a stimulus to develop relational education in the post-humanistic spirit, and to strengthen care for the more-than-human community, to which urban rivers belong.

Summary

The research we have conducted clearly demonstrates that the school wall is not only an architectural structure. It is a mental, systemic, and emotional one, constructed of fears of losing control, legal liability, the weather, parents' reaction, one's own ignorance. It is also built of teachers' working conditions: overwhelming duties, stress, lack of social appreciation, relational tensions, and sense of responsibility for everything and everyone. The TALIS 2024 report goes deeper into this diagnosis. It presents teachers as an internally motivated group, attached to their mission, but also tired, undervalued, and functioning in the system inconducive of pedagogical risk-taking or experimentation. Under such circumstances, going outside the school walls is not simply a logistic decision. The change might not start with "moving school to the forest or riverside", but with shifting the stress:

→ from control to relation,
→ from transmission to experience,
→ from fear to curiosity,
→ from isolation to co-existence.

Outdoor is not the opposite to order. Neither is it a romantic escape from the system. It can, however, become a space of regaining balance — both for students, and for teachers. In the world, which increasingly detaches the human from the more-than-human community, contact with nature is not a luxury. It is the underlying condition of mental, physical, and relational health. If school is intended to prepare for life, it should not prepare solely for life within the walls.

The goal is not to destroy school, but to open its windows. The goal is not to resign from the program, but to let it breathe. Our research has shown that the majority of teachers are "in between" — between negation and full acceptance. And there lies the greatest potential of change. In this sphere of uncertain openness, where we can build bridges, common practices, support tools and models of gradual going outside the walls. Assuming that education can be a practice of freedom, then such freedom does not negate rules, but provides the opportunity of authentic becoming — in relation with others, with nature.

The future of school is not found in thicker walls, but in the courage to symbolically go beyond them. In the ability of being in the classroom, as well as outside it. In the readiness to allow students to look somewhere else than at the whiteboard sometimes. It is there — in the leaf, ant, smell of wet ground, being by the river — where the real study of the world begins.

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