



# Curriculum For Teachers And Educators

## Education for Sustainable Development, Unleashing the Potential

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### **List of Abbreviations**

**EDE -** Ecovillage Design Education

**ESD** - Education for Sustainable Development

**GE** - Gaia Education

**IO -** Intellectual Output

LCA - Life Cycle Assessment

**SDG** - Sustainable Development Goals



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#### **Executive Summary**

As the world hurtles into an unprecedented convergence of multiple crises, like climate change, pandemic, mass extinction, economic meltdown, it is imperative that young people have the relevant understanding, skills and attitudes for sustainable and regenerative futures<sup>1</sup>.

This GaiaYES curriculum is an intellectual output (IO) of an Erasmus+ partnership IO-1 - ESD Holistic Curriculum for Youth. It is accompanied by a second intellectual output, the IO-2 Guide for Educators, that delves deeper into the application of the curriculum. The purpose of the GaiaYES curriculum is to support educators to teach Education for Sustainable Development (ESD) in schools and other formal or informal settings. The document starts with a section on background and rationale. The curriculum considers four dimensions of sustainability: social, ecological, economic and worldview. Practical and holistic design approaches are also woven throughout the curriculum. An accompanying Guide for Educators goes more in depth about how to deliver the curriculum.

#### The consortium:

The Gaia Yes! curriculum has beens developed in collaboration between Gaia Education (Scotland), GaiaKool (Estonia), Tallinn University (Estonia), Gaia Netherlands and PermaMed (Spain). It was initially inspired by the Gaia Education EDE (Ecovillage Design Education) courses for adults https://www.programmes.gaiaeducation.uk/ede-global-en. This partnership was formed in response to Gaia Kool's request to adapt the EDE curriculum for pupils aged between fourteen and nineteen.

#### Structure:

The EDE is organised around a mandala, called the Sustainability Wheel.

<sup>&</sup>lt;sup>1</sup> https://www.thersa.org/reports/regenerative-futures-from-sustaining-to-thriving-together





Figure 1 - Gaia Education Sustainability Wheel

This encompasses four dimensions of human experience: Worldview & Local Wisdom, Ecological, Social and Economic aspects. The Worldview Dimension can underpin the Social, Economic & Ecological Dimensions. Each dimension is divided into five modules. Over the years the EDE curriculum has been adapted for many contexts. Although the titles, numbers and content of modules have evolved over time, the four dimensions remain constant. This curriculum describes the modules and learning outcomes in detailed sections on each dimension, also specifying relevant SDGs; aligning school subjects and examples of practical activities.

WORLDVIEW & LOCAL WISDOM MODULES	SOCIAL MODULES
Worldview & Story-telling	Communication & Social Skills
Who am I? Learning to know oneself	Leadership & Empowerment
Planetary & Personal Health	Building Community & Embracing Diversity
World View & Language	Heritage & Local Wisdom
Connection to Nature	Education & Social Transformation
ECOLOGY MODULES	ECONOMIC MODULES
Whole Systems Approach to Regenerative Design	ECONOMIC MODULES  Shifting Global Economy towards Sustainability & Regeneration
	Shifting Global Economy towards Sustainability &
Whole Systems Approach to Regenerative Design	Shifting Global Economy towards Sustainability & Regeneration
Whole Systems Approach to Regenerative Design  Affordable Clean Energy	Shifting Global Economy towards Sustainability & Regeneration  Community Banks & Currencies

Figure 2 - Summary of Dimensions & Modules of GaiaYES curriculum



This is a generic curriculum, which is in alignment with the original EDE curriculum and ensures the widest reach. Pilots will be adapted for schools in Estonia and the Netherlands, where it will be fleshed out to meet specific local requirements. The Dutch version will be online. Versions will also be used in informal education in Spain. The mission is for the curriculum, website and pilots to inspire youth leaders and teachers everywhere to use and adapt it in as many contexts as possible - in formal and informal settings, online and offline.

Use of the curriculum: This curriculum is a road map towards holistic education for sustainable development. It is not set in stone, but rather offers inspiration to apply appropriately in different settings. The dimensions both stand alone and are interconnected. The modules are not linear, but rather thematic areas, which can be integrated into existing education curricula. Teachers and youth facilitators can consider how to cover every module appropriately, for example by adding new content. Another approach is to add general activities, either new or from existing curricula, into the four dimensions. Questions that can be considered in all modules are for example: how do we receive, interpret, handle and apply information about the world and what do we do with this knowledge?

The learning outcomes are summarised in three categories:

- Head relates to concepts (the pupil has comprehended /researched)
- Heart relates to values and attitudes (the pupil has reflected)
- Hands relates to applied skills (the pupil has practised)

#### Cross-cutting themes:

To fully engage youth in the design process and create conditions for their empowerment to become change agents towards regenerative futures, we advocate:

- <u>Active Participation</u> Focus on referring to and reflecting on what pupils already know and have experienced, building up from there to the subjects that need to be taught. Learners will participate through discussion, teamwork and co-designing and activating sustainability projects.
- <u>Building on Local Wisdom</u> Traditional societies have an oral tradition to pass wisdom from generation to generation. Gaia Yes! aims to honour, respect, reclaim and build upon traditional wisdom.
- Sustainable Development Goals (SDGs)<sup>2</sup> The SDGs are a collection of 17 global goals adopted by all United Nations Member States. They are designed as a blueprint to achieve a more sustainable future for all. This curriculum responds directly to SDG target 4.7 by 2030, ensuring that all pupils acquire the knowledge and skills needed to promote sustainable development. This includes among others, education for sustainable development and sustainable lifestyles, human rights, gender equality, the promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. The graphic below indicates how specific SDGs are addressed in each dimension. Gaia Education has created SDG cards<sup>3</sup>, an educational tool that invites participants to consider how each SDG impacts on social, ecological, worldview and economic dimensions.

<sup>&</sup>lt;sup>2</sup> https://sdgs.un.org/goals

<sup>&</sup>lt;sup>3</sup> Gaia Education SDG Flashcards <a href="https://youtu.be/Une2HUBKtto">https://youtu.be/Une2HUBKtto</a>





Figure 3 - SDGs & the 4 Dimensions

- Regenerative Design and Whole Systems Thinking Holistic design focuses on the interconnection of systems and is therefore interdisciplinary. This approach weaves the dimensions and module material together, ideally through meaningful 'real' world applications. Perhaps some of the most powerful projects are those where pupils design a whole system such as a school, home or a community together, drawing from the four dimensions in mutual support so they reflect a coherent regenerative whole design. This would include ecological, social, economic and world view considerations that can be practically applied and experienced.
- Global Systems & Planetary Boundaries In 2009 the Stockholm Resilience organisation worked with 28 internationally renowned scientists to identify nine planetary boundaries that regulate the stability and resilience of planet Earth systems. Research has been conducted into how to control variables for the boundaries<sup>4</sup>. Kate Raworth's doughnut economics is a useful framework to consider the nine planetary boundaries<sup>5</sup>

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<sup>&</sup>lt;sup>4</sup> https://www.stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html https://scitechdaily.com/earths-safe-planetary-boundary-for-pollutants-including-plastics-exceeded/

<sup>&</sup>lt;sup>5</sup> https://www.kateraworth.com/doughnut/



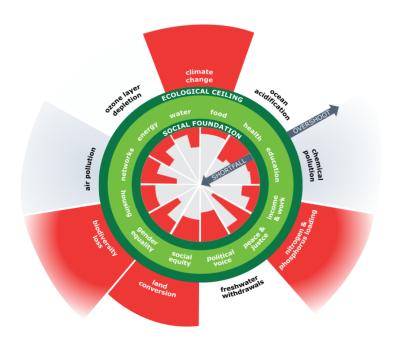


Figure 4 - Doughnut of Social & Planetary Boundaries

#### PART 1 - BACKGROUND

#### **Background & Rationale**

Today the international community of educators, educational institutions, government, civil society, youth, academia, and all spheres of teaching and learning are preparing for the next cycle of ESD to be encapsulated through the Berlin Declaration on Education for Sustainable Development<sup>6</sup>. The consortium of Gaia Yes! educators is convinced that the urgency of the challenges before us requires a radical transformation of mindsets, of our conceptions of collective well-being, and of our societies and economies – a transformation that can set us on the path of sustainable development based on more just, inclusive, caring and regenerative relationships with each other and with nature. A generally accepted definition of Education for Sustainable Development (ESD) is education which promotes knowledge, skills, values and attitudes that empower pupils to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, while respecting cultural diversity (Leicht et al., 2018).

For UNESCO, the objective of ESD is to inspire pupils to transform themselves and the society they live in. It empowers individuals to become "global citizens" who assume active roles, both locally and globally, to address the intersecting challenges of our time. Ultimately, ESD plays a key role in enabling the transition to regenerative cultures by building and renewing the capacity of people to participate [...] — with each other and with the regional ecosystems in planetary solidarity (Wahl, 2016). For more detail see **Appendix (History & Background of ESD).** 

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<sup>&</sup>lt;sup>6</sup> https://en.unesco.org/sites/default/files/esdfor2030-berlin-declaration-en.pdf



#### **Pedagogical Approaches in ESD**

There is no 'correct' pedagogy for ESD, but there is a broad consensus that it requires a shift towards active, participative, and experiential learning methods that engage the pupil and make a real difference to their behavioural changes through understanding, thinking and ability to act. There is a host of pedagogical approaches or methods to support the learning environment aiming to enrich pupils' cognitive, social and emotional and action competencies. They may include:

- **Critical reflection** including more traditional classes but also newer approaches such as reflexive accounts, learning journals, and discussion groups.
- Systemic thinking and analysis the use of real-world case studies and critical incidents, project-based learning, stimulus activities, and the use of the campus as a learning resource.
- Participatory learning with emphasis on group or peer learning, developing dialogue, experiential learning, action research/learning to act, and developing case studies with local community groups and business
- Thinking creatively for future scenarios by using role play, real-world inquiry, futures visioning, problem-based learning, and providing space for emergence.
- **Collaborative learning** including contributions from guest speakers, work-based learning, interdisciplinary/ multidisciplinary working, and collaborative learning and co-inquiry.

We believe that ESD should provide pupils of all ages with the knowledge, skills, values and attitudes to become change agents for sustainable development. The Gaia Yes! curriculum responds to Paulo Freire's invigorating critique of the "banking" model of education, which regards pupils as mere receivers of education, devoid of creative impetus (Freire, 2017). It challenges educators to equip pupils with the practical skills, analytic abilities, community competences and philosophical depth necessary to reshape the human presence in the world. ESD pedagogies should create conditions for pupils to know how to collaborate, solve complex problems, think systemically and creatively, and to be ready and willing to take action, filled with a shared sense of responsibility.

#### **ESD Methodology**

Gaia Yes! curriculum for teachers and educators draws insights from the Ecovillage Design Education (EDE) curriculum rooted in the experience of a network of eco-communities acting as research and development centres for carbon-constrained lifestyles (Gaia Education, 2012). These eco settlements are designed in such a manner that their way of life, including businesses, economy, social activities, physical structures and technologies, do not interfere with nature's inherent ability to sustain life (East, 2008). As described above it has become convention to define sustainable development in terms of three overarching themes: economic, social and ecological. These are considered to be the fundamental areas of human experience that need to be addressed in any sustainable development scenario. The Ecovillage Design curriculum recognises these fundamental areas of concern and adds one other dimension, named 'worldview,' in recognition that there are always underlying, often unspoken, and sometimes hidden patterns to culture that strongly influence and may, in fact, predetermine economic, social, and ecological relationships. Meanwhile UNESCO argues there are four dimensions to sustainable development - society, environment, culture and economy - which are intertwined, not separate (UNESCO, 2022). Parallels can be drawn between the Ecovillage Design's fourth dimension of 'worldview' and UNESCOs inclusion of culture as a component of sustainable development. They speak to an additional element beyond economic, social and ecological concerns



that participate in the interplay of sustainable development. The 'SDG Wedding Cake' diagram by the Stockholm Resilience Centre, shown below, illustrates this. The methodology will be covered in more depth in the accompanying Teacher Handbook.

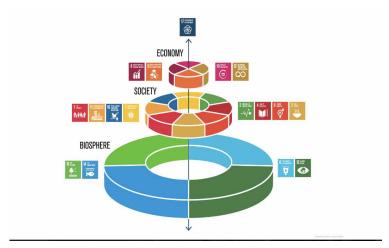


Figure 5 - Wedding Cake Diagram, Stockholm Resilience Centre

The Gaia Yes! curriculum follows the four dimensions of the EDE curriculum and the three dimensions of learning - the cognitive, socio-emotional and behavioural (Delors, 1996). It also incorporates a cross-cutting theme Building on Local Wisdom including Listening to the Land – an intersection between the ecological and worldview dimensions - rooted in the multitude of indigenous ways of being and learning which in many cases have been the basis for continuous sustainable living in their lands for thousands of years. Gaia Yes! aims to honour, respect, reclaim and build upon traditional wisdom in all dimensions.

While the mandala of four overarching dimensions representing an archetypal structural model remains constant, the suggested topics and learning objectives of the individual modules are not exhaustive and can evolve and change over time. The framework is therefore designed to be inherently flexible, to be adapted to meet the unique needs and issues that are locally relevant and appropriate to the specific circumstances of each school.

The Gaia Yes! curriculum incorporates learning objectives from the Education for Sustainable Development Goals report by (UNESCO & Bokova, 2017) categorised as cognitive learning - to know; social emotional-learning - to be and to live together; and behavioural learning - "to do and to be" as mentioned by Delors (1996). Following the ESD matrix, this curriculum puts equal emphasis on cognitive, social and emotional, and action competencies. These competencies have the purpose of activating the knowledge gained so that it can be applied and normalised in most social groups. It encourages both individual behavioural change for sustainable development and fundamental structural changes at the systemic level of economies and societies, while promoting the required political action to bring about these changes.

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<sup>&</sup>lt;sup>7</sup> Reference: Wedding Cake Diagram, Stockholm Resilience Centre Ref. https://www.google.com/url?q=https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cak e.html



The idea that nothing exists in isolation- but only as part of a system- has long been embedded in written text and oral traditions, and common sense (Orr, 2004). This curriculum adopts John Muir's (2004, p. 158) understanding that "when we try to pick out anything by itself, we find it hitched to everything else in the universe". It proposes a whole-systems learning objectives framework which can be adapted to the bio cultural uniqueness of each school.

We hope this Gaia Yes! curriculum promotes a whole-school approach to sustainable development, recognising that pupils become most meaningfully engaged in sustainable development when their learning institutions become living laboratories for participation, equality, health, connections with nature, energy efficiency, and water conservation, where learning is experiential, localised and action-oriented, and pupils are able to learn what they live and live what they learn.

#### PART 2 - GaiaYES CURRICULUM

The intention of the GaiaYES curriculum is that it inspires teachers and facilitators to adapt the modules to be locally appropriate and relevant. This section first gives an outline of the GaiaYES curriculum. Here we have summarised how the curriculum considers the head (intellect & concepts); the heart (values and attitudes) and the hands (practical skills). It then goes on to give a fuller introduction to each dimension and detailed outcomes, sample activities, relationship to SDGs and school topics of each module. Firstly world view followed by social, ecology and economy.

	WORLDVIEW & LOCAL WISDOM MODULES		
Module Title	Head	Heart	Hands
Worldview & Story-telling	Read & listen to local stories Analyse own WV assumptions Distinguish different WV (e.g. modern, traditional/indigenous)	Relate stories to own life Reflect on WV from different perspective Use intuitive & dreaming methods to connect to one's self & one's life path	Tell local stories to classmates / at local events Create a contemporary story & perform it Make videos / printed versions of stories Participate in drama based on a story
Who am I? Learning to know oneself	Comprehend theories of consciousness Recognise universal patterns visible at different scales, like the spiral Explain theory of Hero Journey, spiral dynamics (or similar)	Experience interconnection with all beings Explore life purpose & how this can change during one's lifetime	Observe & differentiate inner phenomena Solo vision quest in nature exploring inner goals Meditation & visualisation practices
Planetary & Personal Health	Understand basic human anatomy & physiology Know health supporting activities / basic first aid Describe relationship of ecosystems & planetary health Explain connection between food & healthy eating	Observe group members' health status Experience self-compassion & compassion for others; Contemplate links between ecosystems & planetary health	Observe bodily & mental health Practice health supporting activity Activity for ecosystem health
World View & Language	Analyse etymology & deep meaning of words Express words / phrases to have more power List local place names & etymologies Critique concepts of worldview & language	Write story/poem connecting language worldview & place Read stories from people (100 years or more ago) & role play them	Speak consciously with old words, sayings about local place Identify differences in spoken language among classmates & families (trace origin)
Connection to Nature	Know names of local places; animals; edible, medicinal plants, sacred sites etc.  Describe natural cycles e.g. seasons, food, animals etc.  Explain importance of diversity in ecosystems,  Understand concepts of deep ecology	Listen & observe nature in silence Develop relationship with local species, play in nature Nature poems / stories / artwork Share & compare nature observations at different times of day and seasons	Herbarium of local species Draw species & landscape elements Seasonal mapping of local area Photos of plants & animals (in aesthetic slide show) Nature project: track animals /regenerate a patch of soil

Table 1. Worldview & local Wisdom Modules

SOCIAL MODULES			
Module Title	Head	Heart	Hands
Communication & Social Skills	Know concepts on emotions, patterns, personalities, decision making Basic knowledge of psychology & interpersonal relations	Experience conflict facilitation, resolution, coexistence & collaboration in groups Practice talking from an open heart & deep listening	Experience working in & leading groups. Practice participatory decision-making & circles
Leadership & Empowerment	Understand leadership concepts & skills Comprehend Gaia Theory	Reflect on challenges & successes of leaders Successfully lead a group process Experience working with group energy Create conditions for group empowerment	Experience being leader/participant in group processes  Practice giving & receiving reflections / feedback empathetically  Practice self & group empowerment methods
Building Community & Embracing Diversity	Comprehend biodiversity of life & humankind Know about different types of Eco -communities Know phases of communities	Practice Dragon Dreaming for community projects Experience heart sharing circles Experience working with diversity in groups	Design & set up community enterprise Community volunteer Hikes & camps in nature
Heritage & Local Wisdom	Understand concepts/structure of ceremonies in different cultures Identify / list different ceremonies & Rites of passage	Ask parents / grandparents for stories about ancestors Visit local sacred sites Research sacred sites from family/ancestor traditions Participate in traditional & contemporary rituals	Map traditions & locations of ancestors Create a seasonal calendar of local ceremonies; compare with peers. Practice local ceremony e.g. honouring land
Education & Social Transformation	Know about social structures of society in different contexts Comprehend principles of active citizenship Research transition towns/ecovillage, Camphill etc	Reflect on interconnection of planet; self & community in well-being Welcome guests for local events/celebrations. Communicate with special needs people; Explore social / environmental injustice thru creative methods	Identify local community challenge Volunteer in local charity/social enterprise Attend traditional / indigenous festival Interview elders on customs.

Table 2. Social Modules

	ECOLOGY MODULES		
Module Title	Head	Heart	Hands
Whole Systems Approach to Regenerative Design	Comprehend systems theory & key concepts of ecology Understand principles & application of life cycle analysis Recognise emergent properties: self-organisation, open systems etc	Recognise personal die umwelt <sup>[1]</sup> Reflect how personal WV influences <i>knowledge</i> Engage with others to understand complex systems Express complex systems through art & storytelling Express perspectives of living & non-living beings	Create / contribute to a whole system design project e.g. school water system. Find info from observational & documented sources Evaluate info & interpret using statistical methods Apply whole systems design principles to create artefacts
Affordable Clean Energy	Comprehend energy security & energy sources etc. Know pros / cons of renewable & non-renewable energy Identify harmful impacts of energy production	Communicate need for clean energy / saving energy; Develop vision for reliable sustainable energy in school	Design, Increase & influence energy efficiency & renewable energy (personal, school, community); Build simple energy generator
Water Systems	Comprehend water security in different contexts Know different types of water sources Understand the impact on environment of water use Comprehend water technologies & levels of water usage	Communicate need for clean water saving water & reliable supply; Develop a vision for reliable, sustainable water supply in school / family	Increase & influence water efficiency in home, school, community Plan and build natural water supply & purification systems
Local Food Systems	Know food sources & production around the world Understand connections between agriculture & food production Comprehend impact of food waste & footprint, ethical food	Communicate need for healthy, sustainable, affordable food for all; Develop a vision for reliable, sustainable food production in school, family	Design, apply & influence food production efficiency in school/community Produce natural, clean, sustainable food Preserving & cooking.
Green Building & Retrofitting	Know where to source ecological materials Know life cycle & carbon footprint of buildings Understands impact of building materials on culture, health & buildings	Values local traditions & sharing habitat with neighbours (all beings) according to needs; Communicate what is needed to improve local & regional living environments Understand spatial/special needs	Practice ecosystem restoration Participate in work project using local materials e.g. build a mud house, pizza oven or similar

Table 3. Ecology Modules

	ECONOMIC MODULES		
Module Title	Head	Heart	Hands
Shifting the Global Economy towards Sustainability & Regeneration	Understands impact of current economic system on society & environment Comprehends linear mindset of prevailing economic systems (incl. GDP) Know links between wealth, poverty & welfare Articulates how to shift economy towards sustainability & regeneration	Reflects on contradictions between economic goals & sustainability Sense & expresse need to redesign economic paradigms Vision fossil free futures & 7 generations ahead	Partake in exercises that calculate GDP / ecological footprint / degradation of different production materials Analyse life cycle of common products used
Community Banks & Currencies	Analyse current/ debt based monetary systems Comprehend alternative & crypto currencies & social banking examples / impacts re. sustainability Knows about Gift economy & time banking	Feels into & expresses future with debt-based currency Group dreaming on community based sustainable money systems & gift economy	Calculate how banks issue money based on loans Time Banking experiment Mapping/visiting local sustainable financial systems Research alternative currency for school/community
Right Livelihood	Identifies differing alternative welfare measures Discusses new (& indigenous) welfare measures that consider happiness & sustainability Describes concept of zero waste Understands participatory budgeting	Describes livelihood motivations/ expectations Visualises a future with cooperation, happiness, nature connection & life / work balance Group design collaborative consumption	Lists personal welfare measures for own life Engages with local collaborative consumption & peer networks Design & conduct zero waste lifestyle projects
Revitalising Local Economies & Social Innovation	Knows & describes principles of social innovation, circular economy, value-based enterprise & regenerative business models Names organisations & networks supporting regenerative & value-based enterprise	Describes values & changes they bring in value- based entrepreneurship & sharing economy Envisions value-based entrepreneurship business models for sustainable local economies	Present circular economy styles / life cycle of products  Design a product considering cradle to cradle  principles  Visit value-based enterprises  Experiments eating only local food
Legal & Financial Issues	Understand pros/cons of legal forms Name organisations supporting regenerative projects Understand Customary Law & Ecocide Law	Visualise how Customary & Ecocide law relate to local and indigenous traditions	Group assignment setting up enterprise (cross reference with social design)

Table 4. Economy Modules

<sup>[1]</sup> Die Umwelt environmental factors, collectively that are capable of affecting the behaviour of an individuals



#### **Worldview & Local Wisdom dimension**

#### Relationship between worldview and other dimensions in this curriculum.

Worldview in its larger meaning is the complex of beliefs, understandings and stories (narratives) that form the basis of every individual's thoughts and behaviour. It can be argued that worldview largely defines how we relate to nature (ecology), how we relate to other people (social) and how we believe the circulation and sharing of goods and services should work (economy). Of course, these areas are interrelated, so one's deep experience of interrelatedness in nature can and probably will change one's worldview. The same goes for the transformative nature of deep interpersonal experiences. So, it is beneficial to become aware of our own particular worldview and then decide whether it works for us fully or if we should try to widen our perspective.

Worldview consists of the beliefs and stories we tell ourselves about the world – how it is created, its structure, which laws govern it, what our role is in it and the meaning of events in our individual lives and the world as whole. It may also be called a paradigm, or a lens through which we see the world. It is important to understand that there can be several, more or less contradictory, stories running at the same time, and that maybe the question 'which story is right and which is wrong?' is not the most fruitful to be asked.

When a person starts to see one's worldview as one of many possible stories, then one becomes more open to the stories of other people and cultures. We may say that an expansion of the mind occurs. For our current age, this is of crucial importance, because the transformations needed to overcome current ecological and social crises will most probably spring forth from new connections made between different worldviews. An increasing awareness of the workings of one's own mind needs to be cultivated, and the difference between outer and inner reality explored. Therefore one of the main goals of this dimension is to create learning environments for pupils to become more self-reflective by identifying their own worldview, including its values, roots and hidden assumptions, and comparing it to other worldviews. The learning here would ideally result in understanding scientific, spiritual, indigenous and other approaches to the world, so that the pupil's worldview becomes ever more encompassing, holistic and interdependent.

#### Worldview Module 1 - Worldview & Story-telling

**Why?** Worldview (belief system) is the often unconscious foundation of a person's motivation and behaviour.

**How?** Worldviews are mostly communicated and perpetuated through stories. Thus learning about one's own worldview and that of others is most effective through the reading, writing, listening and telling of stories.

**What?** Think of your worldview as a collection of stories. Do you know and can you tell these stories to others?



Stories are probably as old as language, stretching back to the dawn of the human species. Orally told stories have been humanity's main and most powerful communication tool throughout our existence, from the time of hunter-gatherers (more than 95% of human species' existence), and later in villages and towns until modern times, when radio, TV and of course the internet, have gradually taken over. But the stories themselves haven't disappeared. The biggest change is in who is telling them and the process of people becoming increasingly passive receivers, rather than active sharers. This curriculum aims at reviving the ancient practice of storytelling, through noticing, collecting, reading, listening to and, very importantly - telling stories. The stories convey the history of people, places, teachings, values, cosmology and more. They do this in an interesting and gentle form, stimulating the receiver's own fantasy and imagination.

SDG 3: Good Health and Well-being;

Subjects: Psychology/humanities, Languages

Learning outcomes - Worldview & Story-telling		
Head	Heart	Hands
<ul> <li>Read &amp; listen to local stories</li> <li>Analyse own WV, assumptions, cultural stories</li> <li>Compare &amp; distinguish different WV (modern, indigneous, spiritual etc.)</li> <li>Describe holons, holarchy &amp; systems</li> <li>Describe relations between WV &amp; climate change</li> <li>Explain phenomenon of stories/storytelling</li> <li>Analyse news &amp; identify stories</li> </ul>	<ul> <li>Relate stories to own life</li> <li>Sense emotionally features of different WV &amp; impact of inner worlds on outer world</li> <li>Reflect on WV from different perspectives (using 'seeing with new eyes' type of exercises)</li> <li>Use intuitive &amp; 'dreaming' methods to connect to oneself and one's life path</li> <li>Express one's own worldview in different creative ways writing, art, story etc.</li> </ul>	<ul> <li>Read or listen to local stories</li> <li>Co-create &amp; perform new story-lines that reflect the future they want to live in</li> <li>Make videos / printed versions of stories</li> <li>Participate in drama based on a story</li> <li>Share celebrations of WV with other pupils</li> </ul>

Table 5. Learning outcomes - Worldview & Story-telling

#### **Example Activity:**

<u>Groups of pupils choose, read, share, compare and discuss creation myths</u> of different cultures. Each group will create dramatised versions of these creation stories and present them during a special 'creation day' event. Finally they will reflect on the experiences and understandings that these creation stories and their enactment have induced in them.

#### Worldview Module 2 - Who am I - learning to know oneself

**Why?** To better understand oneself and observe one's mind, emotions and body, because then one is more free to make choices.

How? Learning about consciousness, various meditation and mindfulness practices.



**What?** Ask with an open mind the question 'Who am I?' and be open and bold when the answers might challenge your beliefs.

'Who am I?' is one of the core questions a human being can ask, and maybe the most important one. This includes understanding the difference between one's roles in life and the core of one's being, also becoming more aware of the inner world and noticing different phenomena in it – emotions, thoughts, attention, awareness, inspiration, intuition etc. It also relates to one's purpose and mission in life. It is of growing importance in our times to include regular opportunities within the daily and weekly curricula for pupils to learn more about themselves.

SDG 3: Good Health and Well-being;

Subjects: Psychology/humanities

Learning Outcomes - Who am I - learning to know oneself		
Head	Heart	Hands
of consciousness	<ul> <li>Experience interconnection with all beings</li> <li>Explore life purpose &amp; how it can change during a lifetime</li> <li>Complete &amp; reflect on Hero Journey or similar to explore deep meaning /mission in one's own life</li> </ul>	<ul><li>phenomena</li><li>Solo / vision quest in nature exploring inner goals</li><li>Meditation &amp; visualisation</li></ul>

Table 6. Learning Outcomes - Who am I - learning to know oneself

**Example Activity:** Pupils read about the Hero's Journey (the monomyth) & try to identify the stages of this journey in various novels, movies and other stories. Then they find similar journeys from their own lives and write or tell about their own experiences as a story based on Hero's Journey. Afterwards, they reflect & discuss the various thresholds and critical steps during these journeys (the call, helpers, adversaries, transformation, homecoming etc).

#### Worldview Module 3 - Planetary & Personal Health

**Why?** Personal physical & mental health is a prerequisite for fulfilling one's potential, living a meaningful life & being beneficial to the world.

**How?** Learning the principles of both physical and mental health, their interdependencies, and practising healthy behaviours.

**What?** By paying real and compassionate attention to your health, you can start changing your behaviour and emotional-mental processes towards optimum health.

The World Health Organisation (WHO) describes health as complete physical, mental and social well-being (WHO, 1948). This also reminds us of the classical understanding of 'mens sana in corpore



sano'- a healthy mind in a healthy body' or health being the harmony between mind, body and spirit. All these concepts refer to personal health – the health of our bodies and our minds. Our personal health is of great importance as it is the prerequisite for actualizing one's potential and living a meaningful and fulfilling life. This is the reason why this curriculum aims at pupils' understanding of the foundations (principles) of health, their observation of the state of these and the inclusion of regular activities supporting their well-being. At the same time, it is important to understand the interdependencies between personal and wider level health, ranging from the ecosystem where one lives or where the food comes from, through bioregional up to planetary health. It is nearly impossible to be fully healthy in a heavily polluted ecosystem. Many remedies, compensatory substances and activities are needed for one to stay healthy in a 'sick' environment. As there are universal similarities between the functioning of human beings and the ecosystem, this curriculum aims at interlinking these, observing both personal and planetary health and acting towards health on all scales.

SDG 3: Good Health and Well-being;

**SDG 5:** Gender Equality; **SDG 10:** Reduced Inequality;

SDG 11: Sustainable Cities and Communities;

SDG 14: Life Below Water;

**SDG 15:** Life on Land;

**SDG 16:** Peace, Justice and Strong Institutions

Subjects: Biology, Ecology, Physiology, Health

Learning Outcomes - Planetary & Personal Health		
Head	Heart	Hands
<ul> <li>Describe basics human anatomy &amp; physiology</li> <li>Know health supporting activities / basic first aid</li> <li>Describe relationship of ecosystems &amp; planetary health</li> <li>Describe a traditional healing methodology</li> <li>Explain connection between food &amp; healthy eating habits</li> </ul>	<ul> <li>Creative activities to meet needs</li> <li>Observe group members' health status</li> <li>Experience self-compassion &amp; compassion for others</li> <li>Contemplate links between ecosystems &amp; planetary health</li> </ul>	<ul> <li>Observe bodily &amp; mental health</li> <li>Practice health-supporting activity</li> <li>Practice healing techniques / make herbal teas</li> <li>Complete an activity for ecosystem health</li> </ul>

Table 7. Learning Outcomes - Planetary & Personal Health

#### **Example Activity:**

<u>Class health month or period (two to three months)</u>. The concept of health as a holistic phenomenon is introduced by the teacher or expert. Pupils write an essay on how they understand health generally and especially in their own lives. They define some personal health-related goals for the period. They discuss and share their understanding and goals to the extent they want to. After a couple of discussions some health-related goals and activities are identified and written somewhere visible. Pupils try to follow these goals during the period, observe, help and encourage each other. At the end



of the period, pupils look at and discuss the achievements and obstacles, identify the learnings and decide whether and how to continue.

#### Worldview Module 4 - Worldview & Language

**Why?** Language, especially our mother tongue, is an essential part - to some extent even a source - of our worldview. It is a unique expression of our world view, as well as a communication tool. Thus it is important to really know and reflect on the language we think and speak in.

**How?** Learn the richness and deeper layers of language through reading (especially stories), writing, speaking or singing. The best outcome is when one learns to love the language.

**What?** Keep digging for meanings of words, phrases, and etymology or try different forms of expressing language.

'We live in language' says Chilean biologist and philosopher Alberto Maturana. Like him, several scientists and philosophers have shown the connection between language and worldview (NB. this theory is disputed, as are most scientific hypotheses). Furthermore, there seems to be an additional interrelated complex of language-worldview-place. In the case of people living in one particular area for a thousand or more years, their language has become deeply intertwined with the uniqueness of their place and includes both hints and instructions on how to live in this particular place (Jerome). This is expressed through phrases, sayings, stories etc. Even languages with lots of speakers and large areas tend to transform into local dialects adapted to unique small areas. So, we can speak, figuratively or directly, of some interaction between language, people and place. This is the rationale for paying special attention to language in this curriculum, as pupils observe differences in their and their families' spoken language, and see it in the context of healthy diversity. Then, by digging deeper through stories and everyday phrases and more, they connect their mother tongue both to the land/place they are living in and the worldview of their people.

#### SDG 3: Good Health and Well-being

Subjects: Psychology/humanities, Languages, Biology, Geography

Learning Outcomes - Worldview & Language		
Head	Heart	Hands
<ul> <li>Analyse etymology &amp; deep meaning of words</li> <li>Express words / phrases to have more power</li> <li>List local place names &amp; etymologies (or guess them)</li> <li>Critique concepts of worldview &amp; language</li> </ul>	<ul> <li>Write story/poem connecting language WV &amp; place</li> <li>Read/listen to stories from people (more than 100 years ago) &amp; role play them to others</li> </ul>	<ul> <li>Speak consciously with old words, sayings about local place</li> <li>Identify differences in spoken language among classmates &amp; families (trace o</li> <li>rigin)</li> </ul>

Table 8. Learning Outcomes - Worldview & Language



#### **Example Activity:**

<u>Pupils think about the etymology of phrases and words</u> they know. For example, what is the meaning of 'rolling stone' or why is there such a phrase as 'every cloud has a silver lining'? Pupils think of more examples where ordinary words and phrases derive from natural phenomena or some old activities, such as 'beat around the bush'. They discuss amongst each other whether there are some special words and phrases their parents or grandparents use and try to find out where they come from. Pupils prepare a short presentation or play about the original meaning of common phrases.

#### Worldview Module 5 - Connection with Nature (Learning from Place)

The aim of this module is for the pupil to really get to know the plants, animals, landscape features such as streams, ditches, hills, forests, parks, fields, pastures, and gardens, smells, winds, light and shade of his or her home area. It is related to rootedness, but the main focus here is on nature – learning the names of plants and animals, and observing them and their habitats. Through careful observation pupils will learn both natural history and the overall pattern of nature unique to their locality. It may be difficult at first, but after initial concentrated observation the 'Book of Nature' starts to open itself and speak more and more to the curious pupil and there will be many pleasant surprises such as meeting animals, birds, insects, plants and other creatures in one's home area. Again, if a person knows one's own area well, he/she will value other places in the world.

Why? In order to participate equally in ecosystems, we need to know its members. By knowing their needs, their interrelationships and connections, we can learn to love them, to truly care for them and, through this, to acquire the skills that will enable us to act in a way that restores ecosystems. Getting to deeply know a specific, usually small, natural or semi-natural area teaches one to observe and notice landscape features, plants, animals and their habitats in all kinds of natural settings.

**How?** By learning to notice and observe life forms around us, we get to know their needs and interconnectedness better. Building deep connections to a specific area needs both careful observation and active identification of individual species and landscape features.

What? Find an observation spot and sit there regularly. Record observations in a diary and actively identify plant, fungal and animal species in the area. Draw maps and sketches into your workbook. Notice natural abundance and recognize its intrinsic value locally, regionally and globally. Understand how our well-being is dependent on the richness of life around us. Consider how nature & knowledge of place informs Worldview both traditionally and contemporarily.

SDG 3: Good Health and Well-being;

**SDG 5:** Gender Equality;

**SDG 10:** Reduced Inequality;

SDG 11: Sustainable Cities and Communities;

SDG 14: Life Below Water:

**SDG 15:** Life on Land; SDG 16: Peace and Justice Strong Institutions; SDG 17: Partnerships to achieve the Goal

Subjects: History, Mathematics, Geography, Biology, Art



Learning Outcomes - Connection with Nature		
Head	Heart	Hands
<ul> <li>Name local species, edible &amp; medicinal plants etc.</li> <li>Describe natural cycles</li> <li>e.g. seasons, food water, animals</li> <li>Explain importance of diversity in ecosystems</li> <li>Understand concepts of regular &amp; deep ecology</li> <li>Describe local area to others</li> </ul>	<ul> <li>Listen &amp; observe nature in silence</li> <li>Develop relationship with local species</li> <li>Nature poems / stories / artworks</li> <li>Share nature observations at different times of day and seasons</li> <li>Reflect on how knowledge of place informs our world view</li> </ul>	<ul> <li>Herbarium of local species</li> <li>Draw species &amp; landscape elements</li> <li>Seasonal mapping of local area</li> <li>Photos of plants &amp; animals (in aesthetic slide show)</li> <li>Nature Project track animals / regenerate patch of soil</li> </ul>

Table 9. Learning Outcomes - Connection with Nature

#### **Example Activity:**

<u>Pupils define an area near their home</u>, create individual diaries for observing this area for one calendar year. They should identify plants growing in the area, make a herbarium of as many local plants as possible, record the animal (incl birds, amphibians, fish, insects and other invertebrates) species they observe during the year, try to draw some of them, write about the observed behaviours, changes in nature, comings and goings of seasonal species, etc. Pupils share discoveries and experiences with each other during the observation year and at the end of the period prepare a beautiful presentation (computer, drawings of whatever form) that will be presented during a festive event.



#### **Social Dimension**

The aim of the social dimension is to support the pupil in a learning process to become a higher version of themselves. Social relations are the bases of human interaction. All human beings want and need to interact with each other, and there are endless variations of relationships between us. The process of interaction within humankind is similar to the interaction between the neurons in our brain. Billions of pieces of energy and information are emerging every second and all these pieces influence each other and are in constant change. We can not avoid our nature - we are in a relationship with each other and with the surrounding world every second of our life.

Ancient Greek philosophers taught: 'Know yourself!' This is one of the most important tasks we have in our life. If we know ourselves, we can lead ourselves. We are able to use the time we have in a meaningful way. We are able to develop ourselves towards our highest self. We are able to create a better world. Therefore, one of the most important social relations is relation to ourselves. How to have a good relationship with ourselves? How to overcome the obstacles that arise from our different characters? How to develop our best features? How to become the best version of ourselves? This is something that we can learn during our life.

A second important task in our life is having good and constructive relations with other people. We are social beings and we form one whole - humankind. One of the biggest challenges of humankind throughout history has been relations between human beings. Improper relations have been the main purpose of wars, poverty and other disasters. The main question is how to create good relationships between different people. How to communicate with each other in a caring way? How to reflect one's needs? How to divide the existing resources in a fair way? There are millions of challenges we need to overcome if we want to have peaceful and fruitful relations between human beings. This is not something that we can do without practice. We have to learn how to communicate and collaborate with each other to reach a better future.

A third important task in our life is good relations with the surrounding world. We, as a humankind, are just one little drop in the ocean of life. It is vital to be aware of the whole and not only take care of oneself but of the whole ocean. This task is thoroughly explained under other dimensions of this curriculum.

In addition to the tasks named above, the social dimension is responsible for creating a supportive atmosphere for the learning process. Learning can happen if a secure and inspiring environment has been created. It is very important that the whole learning process and atmosphere at school are created in a way that the pupil can feel free to open him/herself, ask 'stupid' questions, be imperfect, express his/her feelings, even if they are negative, ect. Therefore it is the task of future schools, educators and teachers to create a physical and spiritual environment that supports the personal growth of the whole school family, including pupils, parents and families.

#### Social Module 1 - Communication & Social Skills

This module enables the development of skills related to coexistence and collaboration in a group. The skills that are learned during the module give the pupil the ability to know and lead him/herself and cooperate inside the group. The methodology of the social module builds on cognitive learning in the head section; socio-emotional learning in the heart section (both socio-communicative and personal)



and behavioural learning in the hands section. During the process of the head, heart and hands methodology the pupil will gain an understanding of him/herself as a person through being aware of his/her characteristics, strengths, weaknesses, emotions, reactions etc. The pupil will acquire an understanding of psychology (different human types and personalities, motivation, self-regulation, emotions, interpersonal relations, etc). He/she will study how to accept differences and honour people and different forms of expression.

The pupil will interact with a group through practising and reflecting on a variety of facilitation skills. He/she will experience how a person's behaviour can impact group processes and how to work together to find the best solutions for everybody. He/she will experience the process of chaos and order in group processes, understand the necessity to find common solutions and obtain decision making skills.

**Why?** Communication skills are the basis of collaboration for humankind. Good communication skills support the success of every action implemented by groups of people. Future education must prioritise training in such vital skills, to support the next generation to find solutions to the common global crisis.

**How?** The pupil increases their understanding of human psychology and group dynamics. He/she joins group work in different contexts and roles: group leader, participant, organiser etc. He/she experiences different phases of group processes: chaos, conflict, collaboration, order. He/she learns to accept the feelings and practices forgiving. The pupil practices using the group work tools for overcoming obstacles and reaching goals.

**What?** This module is a preparation for life. As the success of humankind is dependent on fruitful and caring communication, there is a need to learn this valuable skill. This module helps pupils to practice and role play in preparation for future life situations.

SDG 10: Reduced Inequalities;

SDG 4: Quality Education;

SDG 3: Good Health & Wellbeing;

SDG16: Peace, Justice and Strong Institutions

Subjects: Psychology/humanities, Social studies, Languages, Arts, Biology

Learning Outcomes: Communication & Social Skills		
Head	Heart	Hands
<ul> <li>Comprehend how emotions, concepts and patterns can influence a person</li> <li>Basic knowledge of psychology (human types, personalities, motivation, self-regulation, emotions, interpersonal relations etc)</li> <li>Conflict-solving, group working &amp; decision making methods</li> </ul>	<ul> <li>Experience conflict, resolution &amp; failure as well in a group work</li> <li>Group work with different groups (e.g. close friends, classmates etc.)</li> <li>Experienced talking from an open heart</li> <li>Practice deep listening</li> <li>Value forgiving</li> </ul>	<ul> <li>Group work longer process or project (2-4 months) both as team member &amp; group leader</li> <li>Group decision-making processes (e.g. democracy, sociocracy, consensus)</li> <li>Talking stick circles as participant &amp; leader/holder</li> </ul>



• Awareness of his/her emotions & overcoming the related obstacles

- Decision-making circle (planning, deciding, feedback, reflection, evaluation)
- Dragon dreaming
- 2-4 conflict solving/2-4 group working & 2-4 decision-making methods

Table 10. Learning Outcomes: Communication & Social Skills

#### **Example Activity:**

<u>Holding Circles is a conscious act of being present.</u> Each person in a group will practise the role of talking stick circle holder. A group chooses a topic on which there are different opinions. One of the group members becomes a circle holder. He/she is responsible for creating the space (both physically and consciously), introducing the topic, presenting and holding the circle rules, giving and taking time to the person speaking and drawing conclusions. This is a valuable experience which enables each pupil to practice deep listening, empathy, communication, expressing the feelings, talking from the heart, etc.

#### Social Module 2 - Leadership and Empowerment

The purpose of this module is to teach how to practice self-empowerment and take leadership roles. It introduces creative power, shared responsibility and how to create conditions for self and group empowerment. Taking on leadership means taking on much needed work. Once we experience the challenge of leading a group ourselves, we become thankful for the leadership of others. In a group everybody is invited to take on a leadership role in his/her natural field of expertise. It is important to possess the skills of shared leadership. It is a great art to share power in a way that nobody will dominate and the best decisions can arise.

Empowerment is an essential part of leadership that "shows the way to the flowing force". Empowerment enables us to raise, to keep us in clarity and kindness and avoids falling to selfishness and conflicts. Empowerment includes: sharing our gifts of beauty and excellence, being clear about the intentions that we have, being in service, seeing the other as a teacher, being able to see the larger picture, trying to find the truth in all points of view, knowing that change is continuous, following the events of the natural flow of life, bringing awareness to all situations by accepting rather than judging. It is important to be able to keep a higher perspective during the variety of life situations and find a way to lead different processes of our life. Mastering the techniques to create conditions for empowerment for pupils and young people to gain the needed skills.

**Why?** All of us have moments in our lives when we have to take responsibility and carry the role of a leader. It is essential to be prepared for these moments and to be able to use the tools of leadership and empowerment.

**How?** Experiencing the role of a leader and a group member in different situations. Practising reflecting in a group process. Practising self empowerment tools. Analysing immature and mature behaviour in circles.



**What?** Theoretical learning of group processes and leadership skills. Practical exercises of group work. Role games. Creation of a group work, organising and event.

SDG 10 Reduced Inequalities,

SDG 4: Quality Education;

**SDG16:** Peace, Justice and Strong Institutions.

Subjects: Psychology/humanities; Social studies; Languages; Arts; Entrepreneurship; Biology

Learning Outcomes - Leadership & Empowerment		
Head	Heart	Hands
<ul> <li>Understand Leadership concepts &amp; skills</li> <li>Know tasks of a leader &amp; of group member</li> <li>Comprehend Gaia theory</li> </ul>	Reflect on challenges & successes of a leader  • Reflect on group energy  • Experience emotions in group processes & ways to handle them  • Success in leading group process  • The meaning of "mature behaviour"	<ul> <li>Experience being leader /participant during group process</li> <li>Experience giving &amp; taking reflection/ feedback</li> <li>2-4 group empowerment techniques</li> <li>2-4 self empowerment techniques</li> </ul>

Table 11. Learning Outcomes - Leadership & Empowerment

#### **Example Activity:**

#### Group work.

A group has to organise an event (concert, hike, party etc). The pupils have a mentor or coach(teacher) who is present during the whole process, but is not actively taking part. The mentor is in the role of "god" if the group reaches the point when advice from outside is needed. The mentor gives the group the "script" of the process. The "script" includes the main steps of the process, e.g. joint dreaming, planning circle, division of roles, making timetable, joint agreements, noticing deviations, conflict solving, implementing the activities, making conclusions, celebration. At the end of the process a discussion will be held to map the journey and learn.

#### Social Module 3 - Building Community & Embracing Diversity

The purpose of this module is to enable pupils to learn how to embrace diversity, develop qualities of empathy and reconciliation and act as a true community member. In a community, every being has its unique place and task. Like in Nature, every part of a living organism is interconnected and communicating with all the other parts. Throughout history, we have used our ethnic, religious, and cultural identities to separate ourselves from others. Today we should appreciate our differences as treasures of experience and wisdom. Everyone potentially holds a part of the greater truth. Friendship, caring, mutual support: these are the qualities of human relationships that bind a community together. In an atmosphere of trust, communal processes flow with ease, laughter and lots of fun. But trust



needs to be cultivated. Trust grows from deep heart-to-heart communication. If we allow ourselves to be seen by others authentically, with our weaknesses and strengths, if we speak our minds and our hearts, trust naturally arises. A sense of group well-being is created.

**Why?** Being a community member is a skill. This skill includes such virtues as acceptance, respect, initiative, support etc. These virtues could be developed and there is a need to develop them to avoid potential.

**How?** Experiencing group processes, joint creation, power of circles during different initiatives, sharing and analysing our observations of what is going on in the group, sharing of personal histories, dream sharing and story-telling.

**What?** Practical exercises of group work. building a community, starting an enterprise or a creative project. Doing volunteer work.

SDG 5 Gender Equality;

**SDG 10:** Reduced inequality;

SDG 17: Partnerships for the Goals

**Subjects:** Humanities, Entrepreneurship, Biology, Psychology, History.

Learning Outcomes - Building Community & Embracing Diversity		
Head	Heart	Hands
<ul> <li>Value of biodiversity of life &amp; humankind</li> <li>Different (eco) communities</li> <li>Dragon dreaming (or similar) steps for community project design</li> </ul>	<ul> <li>Different phases of a community (pseudo community, chaos, emptiness, real community)</li> <li>Heart circles (open heart, forgiving, listening)</li> <li>Diversity in groups &amp; facing it.</li> </ul>	<ul> <li>Initiated a small community project e.g. work group, enterprise, creative project with vision, goals, created atmosphere, common rules etc</li> <li>Participated in a community initiative (working group, enterprise, volunteer work etc) started by another person</li> <li>Joined a hike or a camp in wild nature</li> </ul>

Table 12. Learning Outcomes - Building Community & Embracing Diversity

#### **Example Activity:**

<u>Talking stick Heart circle</u>. Group chooses a topic which gives an opportunity to share personal histories and practice storytelling, eg "an event of my life that has changed me". Each pupil shares the story of his/her life and practises deep listening of others' stories. Sharing, openness, respect, acceptance, courage of expressing feelings are practised.

#### Social Module 4 - Heritage & Local Wisdom

(note this module can be linked to world view & indigenous culture and ecology)



We all come from a place – where we were born, spent our childhood, where we have family members, where our ancestors lived, where we developed special relation to some spots in nature. In a way it can be said that the world consists of billions or trillions of places, not of anonymous land masses, and it's important for a human being to develop a deeper relationship with at least one place. If a person has a relationship with one place, he/she will probably value the place more than other places and other persons' relationships with them. So, through a place the whole world becomes more alive and valuable and vice versa – the whole world is somehow reflected in one place. Ceremonies have been and still are (although not named as such) important events marking special times, places and situations. For example when a pupil finishes studies, graduation ceremony takes place. But there are also ceremonies marking the beginning of school-year, Christmas and other holidays, informal ceremonies amongst pupils etc. Ceremonies have been part of human experience since times immemorial, because there seems to be an in-built human need for special, out-of-ordinary, sacred times and activities that strengthen connections between the members of the group and with the natural world and mark important passages in the lives of human beings. In many cultures people believe(d) that the world can continue only through people conducting the right ceremonies at the right times, therefore doing that is a sacred duty of the people. The aim here is that pupils understand both through experience and knowledge the essence of ceremonies, learn to observe and participate in them and design their own ceremonies when needed.

This module enables pupils to utilise art for personal and group growth, create inspiring environments and organise community celebrations. Art is not only for artists: it's a way of adding beauty, grace, and festivity to everything we do. Practising Art is a means for people to explore universal sources of creativity - the source of Life itself. Creating collective art can have a great influence on group dynamics. Co Creation is a powerful tool that supports personal growth of each individual as well as harmony of the group. Concerts, dancing and music should be an essential part of life at every school. Celebrations are important social glue in any community. They are a group expression of art and creativity. In traditional cultures, rites of passage were celebrated at the major transitions. Celebrating seasonal and traditional events, and rites of passage are collective art forms. It is very important to celebrate the development of young people and to hold the rite of becoming a young man or woman who has the right to join adults' circle. Learning from ancient traditions and redesigning our own, we reinvent our own rites of celebration.

**Why?** Connection to one specific place opens a person to value rootedness and land itself. Art, ritual & creative projects are a form of personal and social transformation and growth that is an essential part of human life.

**What?** Get to know one area where you live as thoroughly as possible. Experience & practise the magic of art, rituals, rite of passage, ceremony and story-telling.

**How?** Connection to a place develops through learning its physical features, plants, animals and especially – stories related to this place. Practising creative projects, performance, concerts etc.

**What?** Experiencing the magic of art and rituals, singing and dancing, storytelling. Creating beautiful and stimulating environments in which inspiration, intuition and creativity are enhanced, as an expression of Group Art. Lead an Improvisational theatre session and/or performance. Learning & singing traditional songs, contemporary songs, Canons, songs of the heart etc. accompanied by music



SDG 3 Good Health & Wellbeing;

SDG 13 Climate Action;

**SDG 17** Partnerships for the Goals

Subjects: Fine arts/humanities; Culture studies; Languages.

Learning Outcomes - Heritage & Local Wisdom		
Head	Heart	Hands
<ul> <li>Research where where ancestors from &amp; their traditions</li> <li>Local healing traditions e.g. sauna</li> <li>Traditions for visiting a sacred place (forest etc)</li> <li>Identify local edible &amp; medicinal plants</li> <li>Identify / list different ceremonies &amp; rites of passage</li> </ul>	<ul> <li>Ask parents / grandparents stories about ancestors &amp; cultural/family traditions</li> <li>Visit local sacred sites</li> <li>Share personal history</li> <li>Organise &amp; participate in a group celebration</li> <li>Learn &amp; sing tribal, native contemporary songs</li> <li>Participate in traditional &amp; contemporary rituals &amp; rites of passage &amp; reflect on personal / group growth</li> </ul>	<ul> <li>Map where ancestors from, their traditions etc.</li> <li>Map local ceremonies in seasonal calendar</li> <li>Participating in creative project session, ritual or performance (idea, planning, implementation, presentation, evaluation)</li> <li>Making meal from local plants with</li> <li>Design and practice local ceremony e.g. marking seasons / honouring the land</li> </ul>

Table 13. Learning Outcomes - Heritage & Local Wisdom

#### **Example Activities:**

Honouring Ancestors - Pupils draw a family constellation, preferably organised as concentric circles starting from oneself in the centre, mother and father in the next circle, grandparents in the next and great-grandparents in the outer circle. Pupils should try to identify as many full names of ancestors as possible with their birth and death dates and places. They should interview their parents and grandparents to find out more about their family and also use Geni and other ancestry platforms. If they find an ancestor about whom they didn't know anything or much and who lived in the same area, it could be considered to visit the street where they lived, have a look at the house, visit their tomb in the cemetery, bring some flowers, light a candle, whatever seems appropriate. These activities create and strengthen connections to one's immediate family tree that results in stronger identity for the individual.

<u>Organising an Event</u> - Organising an event of "Free stage". This is a concert, where every group member can participate and present his/her talent (singing, dancing, poetry, handicraft etc) This creates an opportunity to get to know each other from new perspectives, express open hearted sharing and gratitude.

#### Social Module 5 - Education & Social Transformation

#### Respecting our Communities

This module enables young people to gain respect towards communities through history (those who lived before) and space (neighbours) and supports the development of leadership and civic courage. Pupils will gain courage, experience and skills for leading group processes, holding presentations,



initiating new projects etc Large bodies of knowledge are lost when cultures and traditions are forgotten. We can help revive and preserve this precious knowledge by listening to the stories of elders, researching local myth and folklore and archaeological sources, and honouring local language and celebrations. It is the task of schools to act as carriers of old traditions. Schools have to give young people a sense of respect towards our ancestors and cultural heritage.

Knowledge of Place At the same time we need to gain knowledge about our local life places with an emphasis on social and cultural implications. Acting as an inhabitant of a local area and taking responsibility for local challenges is an important step towards becoming a mature citizen of Earth. A young human being needs an experience that he/she is not only taking gifts from the surrounding people and nature, but is also responsible for taking care for the family, wider community and Earth. An understanding of giving and taking, carrying responsibility is a very important step in the development of a young human being.

Contributing to our Communities There are many challenging areas in all societies due to the fast planetary & societal changes. Also, there have always been persons and groups with special needs for whom the community takes more or less care, including elderly, poor, people with chronic and severe diseases etc. One indicator of the society's overall health is indeed how well those in need and with less privilege can be provided with basic needs and opportunity for dignified and meaningful life. One's contribution to the wider community usually comes from inner motivation and the aim here is to offer pupils experiences and activities to find and connect to this inner motivation. This can be done through direct experience of care-taking and assisting people with special needs, learning about various socially oriented organisations and movements, and understanding the underlying philosophy and strategies of these organisations. Very important is direct contact with people in the immediate community (i.e. in the school area) and finding out how they live, learning about their needs and dreams, and finding ways for establishing creative connections with them.

**Why?** For a healthy and thriving society we need to pay attention to those in more need and offer direct help or create social systems where the needs are better taken care of already by design. It is essential that a pupil sees him/herself as the citizen of Earth and carries the responsibility for the global society. We have to honour our ancestors, from whom we have inherited our land and culture and also our family and neighbours with whom we are taking care of this heritage.

**How?** Through direct and immersive experiences learn about different situations and groups in society, reflect and through dreaming and designing try to create societal models that work better. Doing volunteer work in a neighbourhood or in a charity project. Presenting a development project or a solution for a challenge in a community, involvement in local politics, participation on protest meetings, writing articles in local media,

**What?** Get some direct experience working with vulnerable groups and try to think together of creating better designs of their circumstances. Practising activism in community work, collecting cultural heritage.

**SDG 3** Good Health & Wellbeing **SDG 17** Partnerships for the Goals

Subjects: Humanities & Social Sciences, psychology, entrepreneurship, languages.



Learning Outcomes - Education & Social Transformation		
Head	Heart	Hands
<ul> <li>Understand social and environmental injustice theories and social structures</li> <li>Knows the opportunities for active citizenship</li> <li>Indiginous cultures and traditions</li> <li>Theory of first aid</li> <li>Research transition towns/ecovillage, Camphill etc</li> </ul>	<ul> <li>Reflect how he/she carries responsibility for planetary wellbeing</li> <li>Realises that he/she carries responsibility for the wellbeing of self and community/group</li> <li>Hospitality during welcoming guests to a local event /celebration</li> <li>Communicate with special needs people</li> <li>Explore social / environmental injustice thru creative methods</li> </ul>	<ul> <li>Identify local community challenges</li> <li>Volunteer in charity project/social enterprise addressing a local challenge in</li> <li>Attend national/indiginous festival or celebration of an old tradition (folk dance or song festival etc)</li> <li>Interview an elder/older person for discovering information about old customs/events</li> <li>Communicate with neighbours &amp; do practical activity with them</li> </ul>

**Table 14. Learning Outcomes** - Education & Social Transformation

#### **Example Activity:**

#### **Group Community Volunteering**

Pupils identify underprivileged groups or groups with special needs in their school area. They also identify organisations and groups working to alleviate the situation- food banks, activity providers for people with special needs etc. Pupils discuss with these organisations whether they can do something beneficial during a limited time period and reaching a common understanding will offer some community service in these areas. Group has a discussion circle where one of the projects will be chosen. The group makes a plan for offering help & everyone carries a responsibility in the project. During and after the actual work it's very important to reflect on the experiences and find out what are the learnings and if any impulses for further activities will arise. At the end a concluding circle will be held.



#### **Ecological Dimension**

Ecology is the science of relationships. Within and around us, there is a rich network of networks of relationships that, as a self-organising system, have been able to function in the Earth's material cycle and survive for billions of years. Ecology describes how life on Earth survives through the interaction of its structural elements.

The term ecology comes from the Greek words oikos "house, home" and the logo "teaching, word". Thus, in its original sense, ecology is a teaching about the structure and functioning of the household. No living system can function as an isolated entity. All living organisms are part of ecosystems. The structures they create are also part of ecosystems.

Throughout evolution, life has sought increasing order, structure, complexity, diversity, and connectivity. All human creation, both infrastructure and all creative activity, are also part of ecosystems. Human ability to consume energy and material resources that are not available to other species has created the delusion that we are independent of the ecosystem. One possible way to refute this is the concept of ecosystem benefits, which, through a people-centred view, deconstructs our connections with different parts of the ecosystem, describing nature as the provider of the services, goods and benefits we need to keep us alive.

The most clearly perceived supply services are the benefits that a person receives from the ecosystem as tangible items, such as food or water, wood and other materials. In a slightly more complex way, but much more important for maintaining our holistic life, the ecosystem provides support services - benefits such as metabolism, soil formation, photosynthesis, habitats and regulatory services - benefits such as climate, water, air and soil quality, pollination, etc. In addition, there are also cultural services - nature offers us aesthetic and spiritual enjoyment, relaxation, sources of new knowledge and inspiration, hugging trees has proven to be beneficial to our health.

Thus, people have a duty to control their actions, not only in the extraction of natural resources, but much more broadly, for the whole system, because the complexity of ecosystem benefits and its quality as a whole determines our quality of life and well-being.

Subjects: Physics, Ecology, Chemistry, Economy, History, Mathematics, Geography, Art, Psychology

#### Ecology Module 1 - Whole Systems Approach to Regenerative Design

**Why?** The ecosystems that contain us and are contained in us are complex. Therefore, understanding these ecosystems requires an understanding of the complex systems approach and characteristics of each part of the ecosystems. Knowing that we are able to hold and restore ecosystems alive.

**How?** The most effective way to understand complex systems is to construct your knowledge based on the logic of the system structure, to discover the connections between different parts of the system and processes.

**What?** Get to know yourself as part of an ecosystem that you are creating with other living and non-living beings.



SDG 6 Clean Water & Sanitation;SDG 13 Climate Action;SDG 14 Life Below Water;

SDG 15 Life on Land

Subjects: Physics, Ecology, Chemistry, Economy, History, Mathematics, Geography, Biology

#### **Learning Outcomes** Whole Systems Approach to Regenerative Design Head Heart Hand • Find information from • Explain basics of systems • Recognise personal Die Umwelt • Recall & reflect how personal instrumental, observational & approach & regenerative design Explain key concepts of ecology worldview & ethical values documented sources • Comprehend importance & influence knowledge • Evaluated reliability of limitations of scientific methods. • Engage others to understand information worldview & ethics complexity of ecosystemsPortray • Stored & archived info in • Understand principles & to others the complexity of different media Used statistical methods to application of Life Cycle systems through dance, story-telling, composing art et analyse & interpret information **Analysis** • Comprehend spatio-temporal • Critiques different philosophical • Applied whole system design characteristics on application of approaches in the context of principles creating artefacte design principles resilience Used & combined • Recognize emergent properties, • Value others understandings and traditional/contemporary working methods non -linearity, non-predictability, knowledge and build up evolutionary dynamics, empowered collaboration Created/contributed to whole self-organisation, adaptivity, • Express the perspectives of other system design school-energy, networking & openness of living & non-living beings water etc Reflect on spatio-temporal complex systems • Recognise manipulation and influence of their actions demagogy, greenwashing, false use of arguments and facts

Table 15. Learning Outcomes - Whole Systems Approach to Regenerative Design

#### **Example Activities:**

<u>Yarn Game:</u> An introductory game that shows how everything is connected and how to find ways to act together, taking into account everyone's needs. The game leader holds an invisible ball of yarn and explains the course of the game to all participants. The participants in the game are sitting in a circle. The first person says his/her name and something he/she likes to do, that relaxes him/her or makes him/her happy. The thread could be thrown over the circle, not to the next sitting person. The other player catches the invisible ball of yarn, says his/her name and what he/she likes to do, and throws the ball of yarn to the next one. The ball is not thrown several times to one player. The throwing of the ball of yarn will continue until all participants have said their names and activities. Then the first player is



restarted, the names are repeated with the second player and an action is devised in which it is possible to act together so that the things that they like to do are both involved. For example, if one likes to read and the other works in the garden, they can read gardening books. Then move on to the third player, repeat his name and find out how to add activities that interest him to the previous ones, and so on. until all players have gone through again. This is how an ecosystem works, where it seeks to find a way where the needs and interests of all can be met, rather than competing with each other.

<u>Do you know who lives next to you?</u> Young people are divided into groups of 2-3 members. Each group finds an area of one square meter around the school and tries to spot as many different species as possible who are living on this square. Record which species were identified, which could be identified by the identifiers and which species were not identified. It is then compared and discussed why there are more species in one place than in another. A map of the surroundings of your school building will be compiled, indicating the species-rich areas and abiotic factors, relief, soil, light, exposure to wind, etc. which could affect species richness.

<u>How to keep biodiversity?</u> In the longer term, a landscaping plan will be set up around the school, different mowing practices will be applied in different areas and monitored how this will affect the species richness of the area. It is predicted in advance which landscaping practices will affect biodiversity in what way. The results are then checked and compared.

#### Ecology Module 2 - Affordable & Clean Energy

**Why?** We are part of a global energy cycle that we share with all other living beings on earth, so we need to be able to obtain energy in a way that does not harm others' right to harvest energy.

**How?** By learning about possibilities & limitations of different energy sources, we find site-specific solutions to meet our energy needs.

What? Get to know your energy needs and how to meet them without harming the others.

**SDG 7:** Affordable Clean Energy;

SDG 9: Industry, Innovation and Infrastructure;

**SDG 11:** Sustainable Cities and Communities;

SDG 12: Responsible Consumption and Production;

**SDG 16:** Peace & Justice Strong Institutions:

**SDG 17:** Partnerships to achieve the Goal

Subjects: Physics, Ecology, Chemistry, Economy, History, Mathematics, Geography, Biology

Learning Outcomes - Affordable & Clean Energy		
Head	Heart	Hand
Recall demands and what sort of energies are available in	Communicate need for clean energy & energy saving	Applied and evaluated measures in order to increase



- different parts of the world (energy security) and understand its connection with the history of human development
- Understand differences between different energy sources (renewable and non-renewable) their respective advantages and disadvantages including environmental impacts
- Identify harmful impacts of unsustainable energy production
- Understand energy consumptions personal, community, national level energy consumption and recognise possibilities for decreasing energy use
- Understand hidden energy of different products and services

- Assess need for clean, affordable, reliable, sustainable energy for all people and regions
- Cooperate with others to transfer, adapt & develop energy technologies to different context
- Develop vision for reliable, sustainable energy production, supply & usage in school, family, community
- Create a design (... suggest technology transfers in collaboration betwee/n countries)

- energy efficiency in their personal and community sphere.
- Planned & evaluated measures to increase renewable energy in their home, community, school
- Influenced school /public policies related to energy production, supply, usage
- Know how to act & help others during outages of central energy systems
- Know how to read & apply electric schemes
- Built/ restored simple energy generators/ electric tools

Table 16. Learning Outcomes - Affordable & Clean Energy

#### **Example Activity:**

Young people are divided into groups of up to 6 members, whose task is to design a house that consumes as little energy as possible. It is up to the pupils to figure out the shape and size of the house they would design and the outbuildings. Using a variety of information sources, pupils check the carbon footprint of different building materials using Life-Cycle Analysis. If needed, the corrections in plans and replacements in materials are made. Depending on the climate, the building rooms are designed with windows that can catch the most natural light and harvest energy. Depending on the latitude and local conditions, the lighting and heating of the house will be considered, from which sources will these needs be met in order to minimise energy consumption. As outcome the plans for the house are prepared.

#### Ecology Module 3 - Water Systems

**Why?** The global water cycle is the bloodstream of ecosystems that allows nutrients to reach all its members, so we need to understand the fundamentals of how the water cycle works to know how to use water sustainably so that it is distributed to all members of the ecosystems.

**How?** By learning about the limitations of water sources, we learn to find site-specific solutions to meet our water needs.

What? Get to know your water needs and how to meet them without harming the others.



SDG 6 Clean Water and Sanitation;

SDG 14: Life Below Water:

**SDG 9:** Industry, Innovation and Infrastructure;

SDG 11: Sustainable Cities and Communities;

SDG 12: Responsible Consumption and Production;

**SDG 16:** Peace and Justice Strong Institutions;

SDG 17: Partnerships to achieve the Goal

Subjects: Physics, Ecology, Chemistry, Economy, History, Mathematics, Geography, Biology

Learning Outcomes - Water Systems		
Head	Heart	Hand
<ul> <li>Recall demands &amp; sources of water in different parts of the world (water security) &amp; understand connection with human development</li> <li>Understand differences between water sources (great water cycle)</li> <li>Understand connections between changes in great water cycle, biodiversity, climate, soils and human development</li> <li>Understand environmental impacts of water usages</li> <li>Identify harmful impacts of unsustainable water usages</li> <li>Understand water consumption personal, community, national level</li> <li>Recognise possibilities for decreasing water consumption</li> <li>Understand hidden water of different products and services</li> </ul>	<ul> <li>Communicate need for clean water &amp; saving water</li> <li>Assess need for affordable, reliable, sustainable, clean water supply system for all people and regions</li> <li>Cooperate with others to transfer, adapt &amp; develop water cleaning, purifying &amp; supplying technologies to different contexts</li> <li>Develop vision of and create design for a reliable, sustainable water supply &amp; usage in their school, family, community</li> <li>Suggest technology transfers in collaboration between countries)</li> </ul>	<ul> <li>Apply &amp; evaluate measures to increase water efficiency in the personal &amp; community sphere.</li> <li>Plan and evaluate measures to increase sustainable water usages in their home, community, school</li> <li>Influence school/public policies on sustainable water supply &amp; usage</li> <li>Know how to act and trained to help others in the situation of outages of central water systems</li> <li>Know how to build nature based solutions for supplying, cleaning and purifying water</li> </ul>

Table 17. Learning Outcomes - Water Systems

# **Example Activity**

If possible, work continues in the same groups as in the previous module. Using the natural conditions around the school, pupils should think about how to collect, store and purify natural water. Consideration is given to the sources from which water could be obtained with the lowest possible energy consumption thinking about landscape, filtration capability of soils, plants etc. The young people should also think about how water is used in the building, for what it is used for and how to do it as efficiently as possible. The design of the toilet and the purification and impregnation of grey water are also considered. At the end of the project, a plan should be completed on how to obtain water for



the household, use it as efficiently as possible and return it to nature. Ref: Findhorn EcoKit Project - Hidden water

# Ecology Module 4 - Local Food Systems

**Why?** Through food we are connected to the great cycle of matter, through which we are in most direct contact with the rest of the ecosystem. Therefore, we need to know how to procure food in a way that creates ecological richness.

**How?** By learning how to create food systems that are resilient and generating diversity in ecosystems, what are the local possibilities and limitations.

**What?** What are your local food sources, what are their options for providing varied and healthy food, and how to participate in the wider food network.

SDG 14: Life Below Water;

SDG 15: Life on Land;

SDG 9: Industry, Innovation and Infrastructure;

SDG 11: Sustainable Cities and Communities;

**SDG 12:** Responsible Consumption and Production;

SDG 16: Peace and Justice Strong Institutions;

SDG 17: Partnerships to achieve the Goal

Subjects: Physics, Ecology, Chemistry, Economy, History, Mathematics, Geography, Biology

Learning Outcomes - Local Food Systems			
Head	Heart	Hand	
<ul> <li>Recall demands &amp; sources of food in different parts of world (food security)</li> <li>Understand connections between agriculture, food production, climate, biodiversity, soil, nutrient cycles &amp; human development</li> <li>Identify harmful impacts of unsustainable food production</li> <li>Understand food production, life cycle, impact on health &amp; culture (traditional/local food)</li> <li>Know food footprint; link between food &amp; equality &amp; ethical food</li> <li>Know edible wild plants, mushrooms, animals</li> <li>Practice survival &amp; cooking skills</li> </ul>	<ul> <li>Assess &amp; communicate need for affordable, reliable, sustainable, clean food systems everywhere</li> <li>Develop vision for reliable, sustainable food production &amp; supply for school, family community</li> <li>Create permaculture design</li> <li>Cooperate with others to transfer, adapt &amp; develop food production in different contexts</li> <li>Suggest technology transfers in collaboration between countries</li> </ul>	<ul> <li>Evaluate, plan &amp; apply, measures to increase food production, food sustainability &amp; food efficiency in personal, community sphere</li> <li>Influence school/public policies related to sustainable food production, supply and consume</li> <li>Know how to act to help others during food systems outages</li> <li>Knows how to build nature based solutions for producing clean and sustainable food</li> <li>Practised skills for food production, cooking &amp; preserving</li> </ul>	



 Know quantities of food waste personal, community, national level & possibilities for decreasing

Table 18. Learning Outcomes - Local Food Systems

## **Example Activity:**

#### Vegetable garden & food forest.

Young people will continue to work in the same groups as in the previous two modules. The pupils' task is to design a food forest and a vegetable garden suitable to the conditions around the school. Pupils think about which food plants could be grown around the school building and what are the most suitable conditions for the growth of different plants. Which plants should be located near the house and which can grow further away. Which plants are suitable for growing together? The aim is to create a prototype garden that best meets the needs of food production while taking into account the needs of previous biota in the same area, increasing the biodiversity of the area.

Young people organise trips to the forest with a parent or other adult who knows the plants, with the aim of getting to know the different edible plants. A list of edible plants found during the trip would be created, with descriptions of the species, drawings and explanations of how they are used.

### **Ecology Module 5 - Green Building & Retrofitting**

This module will encourage the pupil to know and value local culture, materials and traditional skills for green building whilst considering the unique biodiversity in different contexts and how this has impacted on human development. They will recognize sustainable and regenerative opportunities of local landscape, water cycle, soil accumulation, food security, energy harvesting, culture and traditions in retrofitting and green building.

**Why?** Like other living beings, humans have the right to reshape the environment according to their needs, but we must not diminish the rights of other beings to the environment necessary for their lives.

**How?** Learn how to design holistic and sustainable living environments that meet our needs without compromising the quality of life of other beings.

**What?** What are the local environmentally friendly building materials and traditional and also contemporary building techniques that can be used to build infrastructures to meet our needs, fitting into the local ecosystems and helping them to keep or restore their richness.

SDG 9: Industry, Innovation and Infrastructure;

**SDG 11:** Sustainable Cities and Communities:

**SDG 12:** Responsible Consumption and Production;

SDG 16: Peace and Justice Strong Institutions;

SDG 17: Partnerships to achieve Goals

Subjects: Physics, Ecology, Chemistry, Economy, History, Mathematics, Geography, Biology



Learning Outcomes - Green Building & Retrofitting		
Head	Heart	Hands
<ul> <li>Recall material sources for buildings &amp; connection with human development</li> <li>Know life cycle, carbon footprint &amp; energy efficiency of buildings</li> <li>Comprehend connection between buildings, health, culture, traditions, landscapes, biodiversity, climate</li> <li>Recognize local flora,fauna, fungi how they connect with us &amp; habitat needs</li> <li>Know local building codes &amp; stages of building a house- planning, financing, approvals, specifications etc.</li> </ul>	<ul> <li>Value local traditions, stories and their sharing</li> <li>Value sharing habitat with other creatures</li> <li>Recognize neighbour needs &amp; willing to share</li> <li>Communicate what is needed to improve local &amp; regional living environments.</li> <li>Notice and describe his / her spatial needs</li> </ul>	<ul> <li>Know local materials &amp; local handicraft skills</li> <li>Practised restoring local ecosystems</li> <li>Practical building skills</li> <li>Participated in work projects</li> <li>Created plan of house &amp; surroundings according to their needs</li> </ul>

Table 19. Learning Outcomes - Green Building & Retrofitting

### **Example Activity:**

### Comprehensive household planning.

By integrating the designs created in the previous modules, a prototype household is created considering the conditions of the school/youth group surroundings. Taking into account the information gathered in the previous modules about the biodiversity of the area and taking into account abiotic factors, the most suitable location for the house and outbuildings planned in the second module will be found. Pupils also examine the traditional buildings of the area, their architecture, and the local customs practices regarding the buildings and making changes in the plans so the house fits into the community in the best way. The model also integrates water supply and a greywater treatment system. The vegetable garden and food area, planned in the previous module, will be fitted into the surroundings of the building. At the same time, it is monitored that such activities could increase the biodiversity in the immediate vicinity of the building, and the activities planned to support it will also be integrated into the plan. By the end of the module, a prototype of a household will be completed with the conditions of the environment and wildlife in the immediate vicinity of the school building. Prototype could be completed as a model, as well as drawings or computer simulation.



# **Economic Dimension**

In Gaia Education the main question of the economic dimension is: how to design an economy that is integrated into the aims of respecting planetary boundaries and social inclusion in the society? A course/classes of introduction to economy are prerequisite to the Gaia Education economic dimension classes. Pupils need first a basic understanding of market economy (in comparison to other possible economies): background and underlying principles of the market economy; the dynamics of a market (demand and supply); ways and examples of state interference to the market; principles and practice of the global market economy. Gaia Education economic dimension classes can build on top of that. The learning outcomes are defined considering the age, interest and learning environment of the target group 10-12 grade pupils. The "head" learning outcomes describe the main topics covered in each module. The "heart" learning outcomes aim to be an embodiment of the learning including the learning activities that combine sensing into one's feelings and intuition around the topic and visualising a possible reality. Imagination and sharing with others are also used as methods in "heart" learning outcomes. The "hands" learning outcomes express the actual activities that pupils go through in the classes or as individual/group tasks outside the classroom.

### Economic Module 1 - Shifting the Global Economy Towards Sustainability & Regeneration

The first module of economic dimension presents some of the current paradigms in market economy as well as the prevalent welfare indicators used in the society. The module highlights some of the shortcomings of the economic model where marginalisation of environment, communities and social inclusion is part of the picture. Prerequisites for human welfare are looked at closer and connections between wealth, equality and welfare are debated. The linear model of production is explained and possible outcomes of this model are discussed. Practical exercises of calculating GDP, one's ecological footprint, LCA (Life Cycle Analyses) and degradation time of materials give pupils experience of tools that can be used for mapping as-is situations. Visualisations of the possible future and sharing are used to create an embodied experience for the pupils and turn focus to the possibilities of a sustainable future.

Why? The current economic paradigm is unsustainable and contributing to converging crises.

**How?** Review alternative economic models that consider social, ecological, economic and cultural impacts

What? Visualise sustainable regenerative futures and pathways to meet them

**SDG 1:** End poverty in all forms everywhere;

**SDG 2:** Zero hunger;

SDG 8: Decent work and economic growth

**Subjects:** Mathematics, chemistry, science, history.



Learning Outcomes - Shifting the Global Economy towards Sustainability & Regeneration		
Head	Heart	Hands
<ul> <li>Reasons that the economic system is designed by people &amp; can be redesigned if we chose to</li> <li>Describes main economic outcomes that measure GDP &amp; how calculated</li> <li>Analysed how 'externalities' &amp; hidden subsidies cause unsustainable burden to the environment</li> <li>Describes the linear mindset in the prevalent economic system</li> <li>Analyses the causal connections between wealth, poverty &amp; welfare in societies</li> <li>Discusses opportunities to shift the economy towards sustainability</li> </ul>	<ul> <li>Senses &amp; expresses the contradiction between economic goals &amp; Sustainability</li> <li>Senses &amp; expresses need to re-design the paradigms in economy</li> <li>Visualises &amp; shares a vision of a life without fossil fuels</li> <li>Visualises &amp; shares a vision of life-style of seven generations to come</li> </ul>	<ul> <li>Calculates GDP in an exercise</li> <li>Calculates personal eco-footprint</li> <li>Analyses life-cycle of chosen product (LCA)</li> <li>Differentiates a degrading time of various materials used in production</li> </ul>

Table 19. Learning Outcomes - Shifting the Global Economy towards Sustainability & Regeneration

### **Example Activities:**

# Tracing the Supply chain

Trace the supply chain of clothes and food around the world. Where do the products we consume come from?

#### Fishing Game

The world's fisheries are struggling due to overfishing, destructive fishing practice & environmental degradation. This activity helps to learn about the limits of growth and a cooperative economy. It is a powerful simulation exercise that reveals how management policies and the "Tragedy of the Commons" affect the sustainability of the world's fisheries. Create groups of four players each. Give each player a score sheet. Each person in the group fishes for swordfish in the same ocean. Give an envelope filled with fish (40 cut-out fish) to the banker ("Nature") in each player group. The banker places 20 fish in the center of the table. Twenty fish is the carrying capacity of this ocean for swordfish. There are up to 10 rounds of play, each person can fish a certain number of swordfish per turn in the following ways:

- Harpoon fishing: take a fish.
- Long-line fishing: take two fish.
- Free-for-all long-line fishing: take three fish.

After each round when all players have taken their fish, the banker will count the number of swordfish and add 25% to the pot, up to a maximum of 20 fish (round up).

Example: if there are 12 fish left, 3 fish (25% of 12) are added to the pot, bringing the total to 15. (In real life, swordfish produce far less than 25% new offspring each year – they are like humans in that they have few offspring over the course of their lives.) The added fish represent the number of baby



swordfish produced by the swordfish remaining after everyone has caught their fish. The goal is to have as many fish as possible after playing all 10 rounds.

## **Economic Module 2 - Community Banks and Currencies**

The second module of economic dimension introduces the monetary system with it's built in debt creation. A discussion is held in the classroom about various implications in future if the monetary system goes on unchanged. Alternatives are presented that have thriving communities and sustainability in their core: ethical/social banking, local currencies, gift economy, time banking, sustainable investment and saving, etc. As practical exercises pupils are guided to map the alternative monetary projects in their region, conduct an experiment of time banking in the class, designing a potential new currency and more.

Why? Banking systems and currencies are based on debt & unsustainable

How? Review alternative, ethical systems

What? Conduct alternative monetary experiments in class

SDG 9: Industry, innovation and infrastructure;

**SDG 12:** Responsible consumption and production;

SDG 17: Partnerships for the goals

Subjects: Mathematics, society studies.

Learning Outcomes - Community Banks & Currencies		
Head	Heart	Hands
<ul> <li>Describe main features of debt-based monetary system</li> <li>Recognize role &amp; outcomes of interest in current monetary systems</li> <li>Bring examples of alternative currencies</li> <li>Explains the effect of an alternative currency to the local region</li> <li>Bring examples of &amp; discuss crypto currencies aimed to sustainability</li> <li>Describe social banking and examples at local and regional levels</li> <li>Explain concept of gift economy &amp; principles of time banking</li> </ul>	<ul> <li>Feels into &amp; expresses what a future could be like with continuing debt based economy</li> <li>Imagines &amp; shares how living in a gift economy could be</li> <li>Participates in group dreaming &amp; designing a concept for a community based monetary system</li> </ul>	<ul> <li>issue new money based on loans</li> <li>Conducts time banking experiment with pupils</li> <li>Investigates &amp; maps local projects / enterprises of microcredit, crowdfunding, sustainability investments, saving funds &amp; other alternative financial measures</li> </ul>

**Table 20. Learning Outcomes** - Community Banks & Currencies



### **Example Activity**

### Charity Market / Swap Meet

Young people often have material things that they can easily give up. A belt, jewellry, musical instrument, books, snacks, clothing etc. are nice items for a charity market/swap meet. Ask students to organise their own swap meet with course participants and invited guests as visitors. The idea is not to make donations. No, the format of this fair allows anyone to choose objects based on need, desire or simply because it catches their attention. Taking something to the market does not give an obligation to take something back. And when someone takes something from the market, they don't have to bring something into the market. If there are several people interested in the same item then they arrange themselves who will take it and decide here independently. Ask the youth if they are all happy with what they got at the market. How it felt to part with stuff. Whether any money was made for charities. And whether it is worth doing this more often, possibly in other places in the city/village. Or maybe on the weekends at school. How else could this be set up within the community and what problems would this solve for residents?

#### **Economic Module 3 - Right Livelihood**

The third module of economic dimension asks the question: what makes people happy? A discussion around the motivations for constantly rising livelihood leads to contemplation of pupils' personal welfare measures for a happy life. Examples of alternative welfare measures used in countries are studied (eg. Happy Planet Index, Gross National Happiness and more). Alternative lifestyles like 4-days work week, zero-waste, off-grid, slow movement and others are researched and some experiments can be tried during the course. Consumption based worldview is questioned, pupils are asked to contemplate their consumption patterns and find ways to bring collaborative consumption more to their lifestyles.

Why? Livelihoods & consumption habits do not consider ethics and wellbeing

What? Review GNH & other alternative welfare measures

How? Contemplate on consumption & what makes us happy

SDGI 8: Decent work and economic growth;

SDG 12: Responsible consumption and production

Subjects: Human studies.

Learning Outcomes - Right Livelihood			
Head	Heart	Hands	
<ul> <li>Identifies &amp; explains alternative welfare measures used around the world</li> <li>Debates new welfare measures for community, regional &amp; global level that support happiness &amp; sustainability</li> <li>Describes examples &amp; outcomes of 4</li> </ul>	<ul> <li>Describes motivations behind livelihood expectations</li> <li>Visualises &amp; describes a world where cooperation, friendship, joy &amp; living with nature are the main underlying values</li> <li>Develops a personal vision for the balance of</li> </ul>	<ul> <li>Creates a list of personal welfare measures for own life</li> <li>Identifies collaborate consumption &amp; peer-to-peer networks in home region</li> <li>Calculates an ecological footprint of his / her diet</li> <li>Conducts an experiment of</li> </ul>	



day working week experiments /
cases in different countries

- Names collaborative consumption projects
- Explains principles of 'slow movement'
- Describes concepts of zero waste and off-grid lifestyles
- Understands principles of participatory budgeting

 personal/professional life
 Participates in group design process for a collaborative consumption project zero waste lifestyle for a period of time and reports to class / group

Table 21. Learning Outcomes - Right Livelihood

## **Example Activity**

#### Social Enterprise Business Plan

Create a plan for a local social enterprise. Present needs assessment, research into other businesses doing the same in the area, etc. also consider environmental and social impacts.

#### Economic Module 4 - Revitalising Local Economies and Social Innovation

Why? Entrepreneurship does not usually consider community and societal values

What? Review and critique CSR, circular economy etc.

How? Practice cradle to cradle pupil projects

The fourth module of economic dimension introduces the concept of social innovation and bringing positive change into communities and society through value-based entrepreneurship. The term value-based enterprise is used as a general term for enterprises with sustainability values in their core, including social enterprises, examples of enterprises following CSR (Corporate Social Responsibility), eco-enterprises, blue economy enterprises, and others. Circular economy cycles are presented and discussed with pupils based on specific products. Cradle to Cradle design is introduced as a circular economy tool and practised by pupils. The origins and trends of a sharing economy are described, including specifying the concept and opportunities of a platform economy. Alignment with Subjects: Human Studies Science

SDG 8: Decent work and economic growth;SDG 9: Industry, innovation and infrastructure;SDG 12: Responsible consumption and production

Learning Outcomes - Revitalising Local Economies & Social Innovation		
Head	Heart	Hands
<ul> <li>Describes social innovation principles &amp; examples</li> </ul>	Describes attitudes, values & skills of value based entrepreneur	Present examples of circular economy in life-cycle of



- Explains cycles of circular economy
- Names examples of value based enterprises at local, national & global levels
- Describe business model for value-based enterprise
- Explains the principles of a blue economy
- Describes concept, origin and of sharing economy
- Names organisations & networks supporting regenerative projects & value-based enterprises
- Describes concept, origin and of sharing economy
- Names organisations & networks supporting regenerative projects & value-based ente

- Feels into & expresses changes value-based enterprises & sharing economy bring to lifestyles & understanding of economy
- Envisions in a group business model for value based enterprise
- Envisions in group work economic of sustainable local economy
- specific product
- Designs product using Cradle to Cradle principles
- Visit value based enterprise
- Conducts an experiment to eat only local food for a period of time & reports to group / class

Table 22. Learning Outcomes - Revitalising Local Economies & Social Innovation

### **Example of Activity**

<u>Review Social Enterprise Business</u> plan and consider community & societal value, CSR and cradle to cradle concepts.

### Economic Module 5 - Legal & Financial Issues

**Why?** Many social enterprises and eco-initiatives challenged due to lack of understanding on legal / financial issues and how they can be applied in allegiance with value led enterprises

What? Consider customary & ecocide law relating to regenerative projects;

**How?** Team-building; setting up pupil enterprise, marketing basics

The fifth module of the economic dimension concentrates on the specific legal and financial opportunities to design and initiate a sustainable and regenerative project/enterprise. In many countries there are pupil enterprise programs already in place on the national level, which could be very useful for implementing Module 5 topics with pupils. The pupil enterprise programmes include setting up a temporary enterprise, creating a team, designing a product/service, going through the marketing and sales activities and finishing the enterprise with a final report (and presentation). These programmes could be combined with Gaia Education's focus on sustainability.

Alignment with Subjects: Economics, Human Studies Science

**SDG 8:** Decent work and economic growth;

**SDG 9:** Industry, innovation and infrastructure;

**SDG 12:** Responsible consumption and production

**SDG 16:** Peace, justice and strong institutions



# **SDG 17:** Partnerships for the goals

Learning Outcomes: Legal and Financial Issues		
Head	Heart	Hands
<ul> <li>Describes pros/cons of legal forms for regenerative projects</li> <li>Name organisations supporting regenerative projects</li> <li>Understand Customary Law &amp; Ecocide Law</li> </ul>	<ul> <li>Visualize how customary &amp; Ecocide law relate to local and indigenous traditions</li> </ul>	<ul> <li>Complete group assignment for setting up enterprise (either pupil enterprise programme or group process)</li> </ul>

**Table 23. Learning Outcomes** - Legal and Financial Issues

# **Example of Activity**

# Legal requirements for setting up a business:

Research the legal requirements and options for creating a new business in your region. What are the local labour, tax, regulations and other pertinent legal matters? Consider how this relates to a social enterprise business plan.



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## **APPENDIX**

#### **HISTORY & BACKGROUND OF ESD**

According to the UNESCO (2014) Education for Sustainable Development:

- Allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future.
- Means including key sustainable development issues, including climate change, disaster risk reduction, biodiversity, poverty reduction and sustainable consumption, into teaching and learning.
- Requires participatory teaching and learning methods that motivate and empower pupils to change their behaviour and take action for sustainable development.
- Promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way.
- Requires far-reaching changes in the way education is often practised today.

In this context, the Gaia Yes! (Youth Education for Sustainability) curriculum aims to serve educators, in particular teachers and head teachers, to ensure a whole-school approach to the transformation of education that ESD requires. It positions young people as change agents for sustainable development, by creating opportunities and providing tools for them to engage in ESD as co-creators of individual and societal transformation.

#### ESD – the Evolution of a Concept

The contemporary notion of sustainable development emerged in the 1970s and the first global description was enshrined in the Brundtland definition of 1987 as 'the development which meets the needs of current generations without compromising the ability of future generations to meet their own needs' (WCED, 1987).

The concept of ESD grew to be closely intertwined with key international debates and accords defining sustainable development while addressing the need for education to attend to the dramatic interrelated challenges the world is facing, in particular, the climate crisis, mass loss of biodiversity, extreme inequality, violent conflict and other environmental, social and economic crises that endanger life on our planet (Leicht, Heiss and Byun, 2018). For instance, Chapter 36 of the outcome document of the United Nations Conference on Environment and Development - Agenda 21- argued for the critical role of education, training and public awareness in achieving sustainable development (UNCED, 1992).

The initial conceptualisation of sustainable development by the Brundtland Commission was generally understood as a compromise addressing competing interests between environment versus development. Its focus on intra and intergenerational equity has divided the world of sustainability theorists and practitioners into a controversial anthropocentric and biocentric debate (Imram, Khorshed, and Beaumont, 2014).

Anthropocentrism can be broadly defined as a philosophic discipline within environmental ethics adopting a human-centred belief system that sees nature as a means to human ends and well-being (Kopnina et al., 2018).

The concept of anthropocentrism has been challenged by biocentrist interpretations stressing the intrinsic value of all living beings (Breuer, Janetschek and Malerba, 2019) and arguing that human



development lacks meaning without healthy ecosystems. This debate provides the conceptual background informing the many storylines defining ESD at present.

The Gaia Yes! curriculum adopts a biocentric perspective placing ESD as a powerful enabler of progressive change supporting the integration of the three dimensions of sustainable development of environment, society and economy, ensuring that development trajectories are life-enhancing and not exclusively orientated towards 'economic growth to fulfil human needs' (particularly those living 'privileged' lives) to the detriment of the planetary web of life.

International recognition of ESD as the key enabler for sustainable development has grown over time including during the process of setting the universal Sustainable Development Goals (SDGs) as a global framework to redirect humanity towards a sustainable pathway (UN, 2015).

The breadth and depth of the SDGs are unprecedented (UNSSC, 2016). Addressing issues related to poverty, hunger, health, education, gender, water, energy, work, industry, inequality, cities, consumption, climate, ocean life, ecosystems, peace and partnership. Like every form of an international agreement, the 17 SDGs and 169 targets are the result of an uneasy compromise. They nevertheless represent a moment in history, described as a once in a generation opportunity for transformational change in an interconnected world impacted by a convergence of multiple crises (Nilsson and Stevance, 2016; East, 2018).

Within the spectrum of the Global Goals, Education (SDG 4) is both a goal in its own right and a means by which other aspects of sustainable development can be achieved (Giangrande et al., 2019). SDG 4 aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. Achieving the Global Goals requires a profound transformation in the way we live, think and act, and the role of ESD is arguably at the heart of the 2030 Agenda for Sustainable Development. But we must ask, what sort of education?

# Key highlights in the history and evolution of ESD in formal education

1989 - Education, public awareness and training were recognised as crucial means of implementation of sustainable development and were identified in Agenda 21, the action plan of the United Nations Conference on Environment and Development (UNCED) both within the specific Chapter 36 and as crucial elements of implementation throughout the entire document.

1992 - UNESCO was requested by the United Nations Secretary-General to act as the lead agency for Chapter 36 and in the pursuing years developed the conceptual framework of strengthening and reorienting existing education, public awareness and training systems rather than adding sustainability education as another discipline or discrete subject.

1992 - The first Post-Rio, UNESCO/UNEP/ICC global conference on sustainable development in the context of education and communication - titled 'The World Congress for Education and Communication on Environment and Development (ECO-ED)' was held in Toronto, Canada.

2002- At the World Conference on Sustainable Development in Johannesburg, South Africa, marking the 10th anniversary of UNCED, nations agreed that more ESD progress was needed. The concept of



creating a UN Decade of Education for Sustainable Development (UNDESD) was discussed and endorsed by many nations.

2002 The UN Decade (2005-2014) was declared through a resolution by the UN General Assembly (57/254). It was during the UNDESD that formal education systems, who had to report on their nation's progress, began to take more notice of ESD as part of their responsibility.

2012 - As the Decade was ending, nations called for a continuation of the work begun during the UNDESD and requested UNESCO to develop a continuing strategy.

2014 - At the World Conference on Education for Sustainable Development in Aichi-Nagoya, Japan, ministers of education adopted a declaration containing 360 commitments and calling for urgent action to mainstream ESD and include ESD in the post-2015 development agenda. At this meeting UNESCO launched the Global Action Programme on ESD (GAP) highlighting 5 priority areas for action. The GAP has proven useful in maintaining the momentum of ESD that has now emerged as a crucial implementation element in the Sustainable Development Goals.

2015 - At the World Education Forum, in Incheon, Korea, Ministers of education adopted a global education strategy to implement SDG 4, entitled Education 2030. This would be their contribution to the 2030 Agenda and the 17 SDGs. By merging the concepts of Education for All and ESD, as was initially envisioned in Agenda 21, (both initiatives emerged simultaneously in different forums in the late 1980s) the new overarching vision of ESD is thoroughly identified in the 2030 Agenda as of crucial importance.

2015 - At the World Education Forum, ministers approved the yearly publication of the Global Education Monitoring Report (GEMR) which requires nations to make yearly reports on their SDG 4 progress.

2016 - The 2030 Agenda for Sustainable Development was put into effect. Today, ESD is at the core of these 17 SDGs for a sustainable future for our planet and for all. With this international recognition and the adoption of the Global Education 2030 Agenda including its reporting mechanisms through the Sustainable Development Goal indicators and the GEMR, ESD is poised to gather the attention of both formal and non-formal educators.

In November 2019, the 40th session of UNESCO General Conference adopted a new global framework on ESD called 'Education for Sustainable Development: Towards achieving the SDGs' or 'ESD for 2030'.