



Nature Intelligence

Nature Intelligence for Youth Workers

A youth worker training
course curriculum

Helena Kosková and
Honza Látal



This publication is part of the Erasmus+ Strategic Partnership “Nature Intelligence in Youth Work”, which is funded under the Erasmus+ Programme, project number 2020-2-NL02-KA205-003082.

The project partners include: Anatta Foundation (Netherlands), IVN Environmental Education (Netherlands), Kamaleonte ASD APS (Italy), Zavod Ambitia (Slovenia) and Čia Čekija – Natural Spirit (Czech Republic)

Details of the full theoretical framework, youth work curriculum and other documents are available from the project website: www.natureintelligence.eu

Project coordination: Dr. Thomas Albers and Prof. Agnes van den Berg, Anatta Foundation, the Netherlands.

Authors: Helena Kosková and Honza Látal

Graphic design: Darjan Bunta

Proofreading: Inès Aguas

Suggested full report citation: Kosková, H. & Látal, J. (2022). Nature Intelligence for Youth Workers. A youth worker training course curriculum. Aalten: Anatta Foundation.

Copyright © 2022 the project partners. The content, or parts of it, can be used free of charge for non-commercial purposes only, appropriately accrediting the authors.

The European Commission's support in the production of this publication does not constitute an endorsement of its contents, which solely reflect the views of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Table of Content

1. Context and background

1. 1. Intro
1. 2. NQ in the context of this curriculum
1. 3. Non-formal learning and NQ
1. 4. Principles and guidelines

2. Training course

2. 1. Overall aim, objectives
2. 2. Methodology and flow
2. 3. Settings and practicalities
2. 4. Sessions
2. 5. Evaluation

3. Afterword

3. 1. Variations, recommendations, practicalities
3. 2. Final notes

4. Addendum - NQ theory

4. 1. The concept of Nature Intelligence in brief
4. 2. Principles and guidelines for delivering NQ programmes

1. Context and background

1. 1. Intro

This curriculum describes an example of a course to train youth workers and educators who want to promote Nature Intelligence in their practice. It is supported by the Nature Intelligence Theoretical Framework¹ which offers a deeper insight into the Nature Intelligence (NQ) concept and by the design manual for Nature Intelligence youth work programmes² that shows example of practices and possible approaches for NQ implementation. The curriculum focuses on developing the professional competences of those who already have experience in non-formal education and in facilitating experiential learning. The emphasis here is on including NQ themes and approaches in education activities.

1. 2. NQ in the context of this curriculum

One of the main characteristics of Nature Intelligence is that it emerges when more elements come together. The four NQ dimensions are: cognition, emotion, spirit, action (see figure 1.1). NQ can be described as a unique compound, always flavoured by specific amounts of its parts, external conditions and inner environments. In the training course described here, the NQ essence is presented in the beginning, then there is space for participants to explore it more deeply according to their own needs and find their ways around the material. Understanding the wide range of forms NQ can have and knowing the variety of styles it can be expressed in opens a path to preparing creative learning situations to nurture participants' Nature Intelligence.



Figure 1.1: The NQ flower model

You can find a brief description of the NQ concept in chapter 4.

- 1 Van den Berg, A.E. & Albers T. (2022). *Nature Intelligence in Youth Work: Conceptual model, measurement scale and critical success factors*. Aalten: Anatta Foundation. (accessible free of charge from www.natureintelligence.eu/publications)
- 2 Van den Berg, A.E., Paci, A., Kosková, H., Murn, K., Salmeri F. & Albers T. (2022). *Nature as a Teacher in Youth Work. Manual for promoting Nature Intelligence in non-formal education programmes to connect young people with nature*. Aalten: Anatta Foundation. (accessible free of charge from www.natureintelligence.eu/publications)

1. 3. Non-formal learning and NQ

When considering the character of Nature intelligence, non-formal education naturally appears to be the adequate approach for its development. Preparing learning events with Nature Intelligence as the main theme will most probably also include some experiential methods. To ensure that all of the NQ facets are covered and to make the experiential learning effective, both of these complex areas have to be addressed fully. The final shape of the activity will, of course, depend on the needs of participants and their learning styles, the character of the group and the available resources, but at least a little bit from every NQ dimension and every experiential learning phase should be present. There can be a lot of one and just a bit of the others, but complexity is the key. The advantages of this pattern are flexibility and its fractal nature (each part includes the other parts in every size, shape, format). Such an approach can be used for a short 2-hour workshop, for a one-day event and for a long-term training course.

1. 4. Principles and guidelines

The instruments bridging NQ and experiential learning are principles observed in nature: *wholeness*, *diversity*, *forces*, *cycles*. These principles applied to designing activities make them authentic and relevant to the NQ theme. The NQ principles and connected guidelines are described in the youth programme design manual and in brief in chapter 4 of this curriculum.

Here, we want to highlight general suggestion to approach the design and implementation of learning situations from the perspective of Nature as a teacher, Nature as a facilitator. In other words: we are inspired by what we observe and experience in nature and use it for designing and implementing our activities. Here we already feel the call for individual use of the principles in every stage and every level of youth work and training. The nature-inspired attitude specified by the principles and guidelines can be applied in team composition, choice of dates and places, participants selection, daily schedule, selection of methods and techniques, facilitation style, presentation forms, fee division, food, decoration and anywhere else where it may be relevant.

2. Training course

2.1. Overall aim, objectives

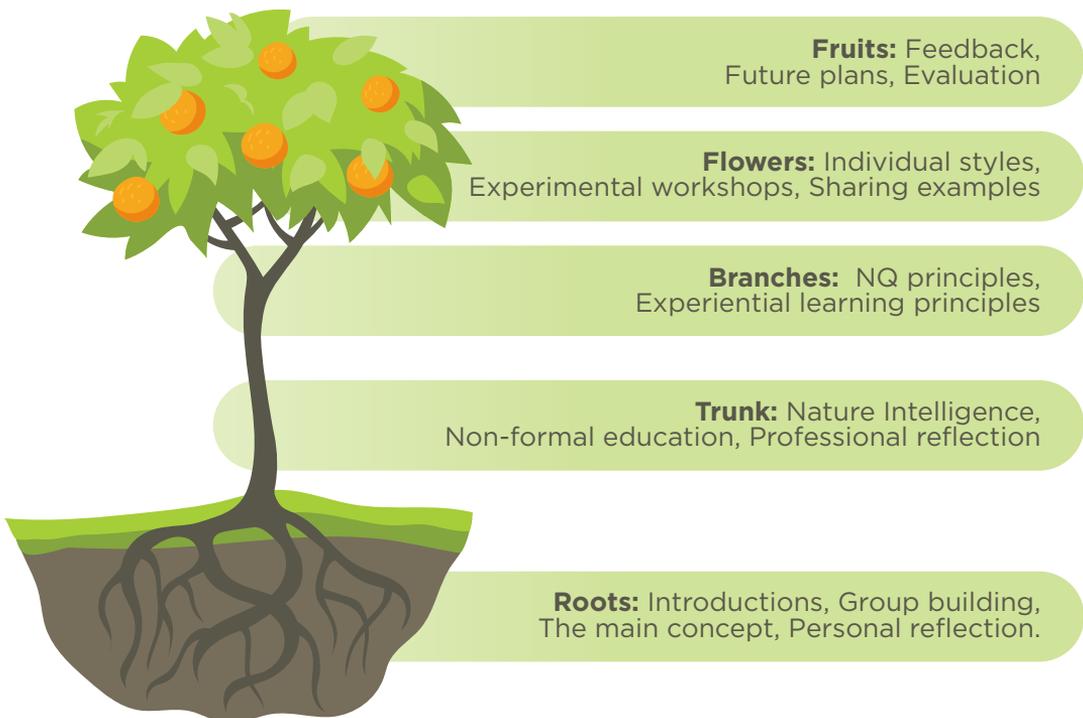
The main aim of the training course described in this manual is *to develop the competence to design learning events and education programmes focused on Nature Intelligence*. The target group of this example course is youth workers and teachers experienced in preparing and delivering non-formal education events who feel called to promote Nature Intelligence within their circles.

Objectives of this course:

- To understand the overall concept and main elements of Nature Intelligence.
- To reflect about one's personal connection to NQ and define ways of promoting it.
- To learn how to implement NQ principles into youth work and education practice.
- To create (design) NQ related programmes for youth.

2.2. Methodology and flow

This example training course curriculum is composed by following the metaphor of a tree. It consists of 5 main parts, which represent different aspects of a tree: roots, trunk, branches, flowers and fruits. These aspects can be seen during the 5 days of the course (each day is one aspect), but also throughout the themes and sessions where some activities relate to one or more aspects, but are not necessarily held on that specific day. Here is a brief description of the methodology and its parts:



The sessions of the course are ordered in a classical style starting from the introductions and basics, followed by exploring the main themes more deeply, experimenting with implementation in a workshop setting and closing with feedback, future planning and evaluation.

The tree metaphor helps the participants to follow the learning process and understand the inter-connection of thematic areas. It also reminds participants and trainers about the wholeness of a group learning experience and invites creativity, inspired by different characteristics of the tree parts (some strong and solid, some beautiful and aromatic, etc..)

2. 3. Settings and practicalities

One of the most important aspects influencing residential courses is the venue – the environment and its characteristics. It's ideal, of course, if a NQ focused course happens in a place where different forms of nature are present and natural spaces are available. To go out into the wilderness and learn from it is the best thing we can provide. Another added benefit may come from the approach of the place itself. It's great if nature-based and sustainability principles are applied by the venue and staff and can be observed.

However, if a venue in nature is not available, nothing is lost. Nature is everywhere, we are nature and everything can be used for learning. Maybe there is a spider in the corner of the room, there are flowers in the corridor, we still breathe air, drink water, eat food and can see the Sun and the sky. When working with NQ, it's more about showing the relationships and connections, rather than depending on the places we call nature.

To be coherent with the NQ principles and to spread the message through various channels, we also recommend using carefully chosen materials and props and have an additional value, or level. Fallen leaves, feathers or stones from a local river create an authentic impression and help ground your programme into the place and time. You can even collect some herbs, berries, fruits or mushrooms to spice up the food.

And as a bonus - you may want to connect your course with some astronomical event, because it fits the theme or the character of your group. Our pilot course started one day after New Moon, things were young, fragile and growing. Maybe yours will be held during Solstice, Easter or some meteor shower.

2. 4. Sessions

Day 1 - Roots

Aim of the day: To set up common ground and to taste the main elements of the course: place, group, trainers, theme, methodology, personal role and position.

1. Group building, programme intro.

Choose a piece of flat ground, ideally a central spot outside, close to the venue. Let everybody find a stick (of approx. their height) and place it on the ground, so that all the sticks connect in the centre. People then turn outwards, away from the circle and walk in their own direction. They observe and explore the area and collect samples. Together as a group they cover the whole space. When coming back, everybody places their findings next to their stick. A collective map of the surroundings is cre-

ated. Participants can share their most interesting findings. Looking together at the map, explain the idea of wholeness: importance of all pieces / voices in the group / diverse qualities.

Follow with speed dating - let people meet in different pairs for a short period of time to exchange and discover about their connections and specialities and also dive more into the topic of the course. Example of topics for pair conversations: your passion, a place in nature where you love to be, a moment when you felt the strength of some natural force, which animal you feel as at the moment and why, a thing about the natural world that you've learned recently, what is your involvement in youth work, how do you involve nature in your programmes, etc. Finish in a circle, one by one, where other people mention things they remember about the focus person.

Offer a group challenge, ideally in nature, where physical, emotional, cognitive and sensory levels are involved (crossing a river together while holding hands, building a fire for the evening, rope exercises with handicaps, etc.)

Gather around a tree and let people explore it for a while with all senses. Group shares several impressions, thoughts and discoveries about it. Then, based on the tree they just explored and the metaphor, introduce the programme of the course: main flow and days related to parts of the tree and topics you plan to address during the course.

2. NQ concept intro, 4 dimensions part I

After getting to know the place, the people, the team and the programme concept and flow, it's time to dive into the main theme - Nature Intelligence. We will take an experiential journey through five activities. Four of these present and explain the four NQ dimensions and its competencies (see figure 1.1). The fifth activity connects all dimensions and addresses NQ as a whole.

Preparation: Find four places (or directions, corners..) suitable for the activities connected with four dimensions and a fifth one for the conclusion.

1. Cognition

First identify together the 4 cardinal directions: N, S, E, W. Then follow with an explanation or short lesson about: 3 stones, 3 plants, 3 animals. Depending on the group it can be new ones, unique to the place, interesting ones, similar to something else, etc. In this part, knowledge is important: names, facts, characteristics.

2. Emotion

Send people around to find their "home", or something like a den, corner: a spot they like and feel connected to. During the explanation emphasise feelings and intuition rather than mental, rational choice when looking for the place.

3. Spirit

Everyone receives a piece of natural twine (cca 30 cm of jute, hemp). Participants make 1 to 3 knots on it. Each knot represents a wish, vision, maybe a prayer. These can be personal, for the group, about the course or wider. People can add additional decorations and then hang it somewhere on a tree where the wind spreads the prayers.

4. Action

Participants create a post on their social media connected with nature and/or environmental issues.

5. Conclusion

Individual exercise - connecting the previous. People choose a natural element (one of the four main elements, or any other like a tree, stone, river, plant, animal) and find a place. They prepare a short activity with or for this element in that place. It can be a more symbolic performance (create an object for water, support a tree) or a practical action (collect some rubbish from the stream, eat some healthy plants). When giving instructions, focus on the variety of approaches used in this single activity: "I know therefore I choose..", "I feel therefore it's going to be here..", "I have a certain set of skills therefore my action is...".

3. Personal reflection and sharing

Offer a space for writing notes about the day:

- How am I landing in this place, with the group, the topic?
- What were today's interesting moments, discoveries, feelings for me?
- What attracts my attention? What do I want to focus more on and to explore further in the coming days?

Meet in a circle and let people express the essence of their personal reflections - in words, might be accompanied by gesture, drawing, showing an object... Focus on supporting connections in the group and a culture of authentic self-expression and attentive listening. During the sharing you may also map the current themes and feelings of your participants and adjust the programme for the coming days accordingly.

Day 2 - Trunk

Aim of the day: To become familiar with the NQ concept and understand how it fits into non-formal education.

1. Four dimensions part II - deeper understanding

Divide the group into 12 groups, each group represents one NQ competency. (As can be seen in figure 1.1, there are 4 dimensions, each with 3 NQ competencies). Groups receive a handout with a brief description of the NQ competencies. They read the description of their competency, discuss and clarify their understanding and prepare 5 examples of how this competency can be represented and expressed in a person's daily life, based on their personal experience and examples. (Each example on one separate small paper, each dimension has its own colour. As a result we have 4 x 3 x 5 examples.)

In the next step, the NQ-competency groups join the other two groups of their dimension (4 groups are created, they have the same colour). They present their papers, read them, discuss and possibly adjust, change, or add if needed. Then they imagine and describe a person who represents and implements the examples in personal and professional life. They describe the person in as much detail as possible - name, gender, country, daily rhythm, occupation, family, eating and other habits, etc. Each member of the group connects with this imaginary person and creates an outer sign / symbol for themselves.

The next step is to create new groups of four, where each NQ-dimension is represented by one person - four imaginary people meet and form a mixed group. Simulation: each group will prepare a max. 5-minute speech for a conference about "New trends in education" to persuade the audience about the importance of developing Nature Intelligence among young people. They still represent their role and focus on explaining what NQ is, why it is important and how to implement it. Then start

the conference, listen to the inputs / presentations. At the end facilitate a summary and reflection. You can, of course, adapt the reflection questions to your context and groups, but here are some suggested questions:

1. How was it to discuss various themes and perspectives with the others? What was triggering you?
2. What touched you the most in what you discussed and why?
3. How was it for you to promote NQ? What aspect did you really care about?

2. NFL & experiential learning in NQ context

Prepare a short dynamic experiential exercise with a potentially broad learning outcome (physical group challenge, conflict or crisis simulation, tricky competition, etc. - choose according to the number of people and local environment).

Then facilitate a classical debriefing with clear steps: emotions, repeat and describe what happened, analyse, compare to some examples, collect outcomes and possible implementation. Now, reflect about the whole process and present Kolb's experiential learning cycle based on what just happened. Allow people to compare it to other cycles in nature (seasons, moon phases, one day, water cycle, human life, planets) - see what fits better. Repeat the characteristics of each phase.

Present the Mumford-Honey Learning styles based on the Kolb's cycle. You can let people place themselves (or each other) in one of the four styles. Mention the Mumford-Honey Learning styles questionnaire, you can distribute it for optional filling it in. If there is capacity and time, you can mention the VARK learning types to make it even more multidimensional. In the conclusion, focus on the message that different people learn in different ways in different situations, so we need to provide as much variety as possible to cover the NQ themes.

Now offer an activity that shows the diversity of possible approaches and outcomes in non-formal education. Choose one of the following or prepare both in parallel and let people choose.

Activity 1.: Dance of 4 elements: Prepare a dancefloor with 4 parts - quarters. Each quarter has a central object dedicated to one element (rock, bowl of water, candle/fire, feather/incense..). Choose a groovy track or play drums and let people dance in four groups, each around their element. After a while, the groups rotate. Each group dances through each element. Gather impressions and outcomes briefly at the end if it feels relevant and useful.

Activity 2.: Create a labyrinth together with the group. Place a mirror in the centre of the labyrinth. Choose an intention for walking the labyrinth (connected with the theme of the day) and let people walk it. Possible intentions/questions for the labyrinth: "Where do I go?", "What is my direction?", "What is my style?", "What is my message?". In the centre people look into the mirror, then return.

Closing: collect and share examples of activities which focus on a specific NQ dimension, more than one dimension and all dimensions. Additional, if possible: cook dinner together on a fire, exchange about collecting wood, making a fire, wild edible plants, gardening, outdoor cooking and other. Stay around to share stories, sing and star gaze.

Day 3 - Branches

Aim of the day: To understand NQ principles and connect them to experiential learning.

1. NQ principles & how to implement them

After a short exercise to open the senses, send people for a solo time in nature. Emphasize openness to communicate with nature, focus on various elements, shapes, colours and motions, pay attention to signs, symbols and metaphors as they appear. The intention is to find “what are your gifts you share with the world”. Additional instruction: Be curious about what attracts your attention and any meanings and associations that arise.

Then, gather the group in a circle to allow participants to share about their experience / journey. In the second sharing round, ask what nature can teach us about facilitation, where do we see inspiration.

Let people brainstorm in small groups about what helped/disturbed them in feeling in connection with nature during the course - including the programme sessions, meals, free time. They can create a joint drawing in silence, share and discuss. Then create new groups with mixed representatives from the original ones. Based on the previous brainstorming, let them compose some principles for creating educational activities that support a connection with nature and foster Nature Intelligence.

Explain the idea of seeing nature as a teacher/facilitator. Invite participants to, as educators, being inspired by natural patterns and learn from natural forces when developing their own facilitation style. Introduce the principles identified and described in chapter 4 - wholeness, cycles, diversity and forces, together with the connected guidelines.

Allow time for individual professional reflection on “How do I already use these principles? What is new, how does it resonate with me? What I would like to focus on, develop?”.

2. Preparing training activities in small groups

Allow people to form small teams, dyads or triads, ideally according to the target group they usually work with. These teams will work on activities to deliver to other participants. Let them follow this structure:

1. Agree on your target group (ideally, the same you work with back home)
2. Discuss your target group’s needs in the field of Nature Intelligence as you see them from your experience.
3. Set the aim, identify what would you like to support regarding your clients NQ and choose one possible step towards this - your objective for the activity.
4. Design the activity to respond to this objective. Use non-formal learning methods and include NQ principles wherever possible (method, team decisions, working rhythm...)

Day 4 - Flowers

Aim of the day: To prepare and deliver an NQ activity in a small team.

1. Groups deliver training activities (4-5 rounds, parallel groups if needed)

The delivering team starts by introducing the target group and participants step into their role (school class of teenagers, young people between 20 and 30 from drug addiction aftercare programme, members of freetime club for young nature lovers, ...). The facilitating team then delivers the activity from start to finish as if they were working with their target group.

At the end of the activity, participants step out of their role and feedback follows.

You can introduce feedback as a gift for the whole group's learning. First, the facilitating team has an opportunity to share how it was for them, what they appreciated themselves and what they would adjust for next time. Then the participants (including the trainers) share appreciations, elements to be adjusted and also possible variations. If it was not part of the delivered activity, it is also useful to check outcomes for participants and if the objective was met.

Day 5 - Fruits

Aim of the day: To collect and sort learning outcomes, to prepare for future activities.

1. Summary & feedback

Create a gallery/exhibition with the week's materials - posters, drawings, notes, handouts, crafts, ... Use both indoor and outdoor spaces for this. Create areas where people can recollect what happened and collect their learning outcomes, inspirations and remaining questions in different ways: a space for digesting under the "programme tree" from day 1, to writing down personal learning achievements, compiling a list of messages Nature-teacher gave us human-teachers, creating their personal NQ profile with pen & the NQ self-test (see www.natureintelligence.eu), a space for discussion or clarifying things with others, performing a personal action/ritual, drawing an emotional map of the course, and similar.

2. Dreaming, planning

After going through all the outcomes and harvesting learning achievements, let's offer space for dreaming and future planning. People are invited to create a group treasury of activities. They start in pairs, taking turns to express what they see as a superpower, unique skill or talent in the other person. With this input, participants then have some individual time to compose an ideal vision form themselves. After that, the group comes together and everyone presents what they bring (briefly, one sentence). This activity can be done in conjunction with placing stones at the centre of the circle, adding a piece of wood to the fire, using a twine to create a sense of connection, or something else to physically represent the treasury.

3. Evaluation, Closing

Gather around the map of the area which you created on the first day and remember the feelings, thoughts, hopes you had back then. Walk around, to take in and remember all the directions/facets/dimensions/points of view. Take the materials you brought originally and give them back to nature. When returning these materials back to nature, dedicate this ritual to your future actions - this is the first step. Everything you learnt is given back to the world. You can express it in the way you return the materials back to nature (installation, special place, certain directions). It is also a gesture of gratitude for the place, to the group and to yourself.

Here you can present a written evaluation form (online or paper) to collect a more structured evaluation.

To close the course, gather in a circle where people share what they are taking home from the course, things they would like to keep, remember, develop, use. It can be introduced as a harvest presentation. You can use fruits as symbols and finish by giving them to each other - with appreciation - which fruits of the others did you see?

2. 5. Evaluation

When looking back at what happened and reflecting about how successful our programme was, we can again follow some natural guidelines and use NQ principles. Different aspects can be reflected and evaluated using different methods and channels. Wholeness, patterns, diversity, cycles, forces, elements - they all can be great tools and mirrors for evaluation. Try to create a complete image which will cover more aspects and discover potential blind spots.

We can recommend using the tree metaphor as outlined in paragraph 2.2 to evaluate the quality and success of the training course. If we use this tree metaphor, the evaluation can be seen as checking the fruit - what influenced its shape, quantity, size and taste. We can also look at all parts of the tree and see how they are - were the roots strong and deep enough, did the branches reach out in all directions, etc. - as all contributed to bearing the fruit of your training course.

You can use other similar approaches that may fit to your course: The flow of the course is something rather fluid - compare it to a river. The objectives are quite solid and structured - maybe as a skeleton, or crystal formation. The group of participants, their energy and character, can be seen as an organism, an ecosystem, an orchestra or a galaxy. How is the river? Is the skeleton strong? What kind of galaxy did the group form? You can also look at repeat patterns, check if cycles were complete and circles closed. All this can be reflected on with the evaluation methods with participants and with the internal team.

The fruit carries a seed that wishes to start growing somewhere, transforming into a new tree. We can learn from the harvest. After the evaluation, we gather the outcomes, sort them and decide what to do next and agree on a meaningful plan. Now that we know more about the field, the farmers and the trees, we can start a new season.

3. Afterword

3. 1. Variations, recommendations, practicalities

One of the natural principles implemented to preparing and delivering NQ learning events is a certain efficiency, which can be expressed using local resources, using only what is needed, making use of what is available and what appears along the way. Such an approach brings a level of sustainable simplicity that makes things easy, natural and enjoyable. But it also requires openness and sensitivity and the flexibility to combine prepared plans with actual situations, processes and conditions. A solo time in nature may have worked for the group in your previous training, but you feel that it won't be the best activity for this new group in your current course, plan something else - prepare a labyrinth instead, also because you spotted plenty of nice long sticks in the backyard and you heard people talking about labyrinths at lunch.

Maybe you love that particular simulation exercise with masks, but it somehow doesn't seem to find its place in the programme, so you leave it aside this time. It's a balancing act, almost like a dance you co-create with other actors, in a particular place and time.

3. 2. Final notes

This curriculum presents the flow for a training course focused on Natural Intelligence piloted in the Netherlands in April 2022. What we present here as a suggested curriculum is defined by our own aim and understanding of NQ, our thematic preferences and training styles. Each training course is different, as is the context, the group and time of year. For other contexts, teams, groups, seasons and venues, the flow and methodology will certainly be very different, but if the event is focused on NQ as outlined in this manual, it should result in a similar outcome: participants develop their own NQ at a personal level and are able to implement it in their professional settings.

After any NQ activity, participants should grow organically in more ways, flourish harmoniously, know more about nature and the universe, feel a deeper connection to and love for nature, understand the transcendent aspect of life, and also actively do something for the world's benefit. By addressing NQ themes, we are actually developing the competence to live happily, meaningfully and sustainably in today's world.

4. Addendum – NQ theory³

4.1 The concept of Nature Intelligence

Nature Intelligence (NQ), is a multidimensional concept comprising human qualities to connect with nature in a cognitive, emotional and spiritual manner, and to actively use these qualities to support both one's mental and social health and well-being as well as the well-being of nature and the planet.

Put simply, NQ can be seen as an elaboration of the human relationship with nature, capturing the rich and manifold aspects of this relation. It is closely related to the concept of naturalistic intelligence as described by Gardner in his theory of multiple intelligences. However, compared to naturalistic intelligence, NQ is less focused on cognitive skills and abilities, and more on emotional and spiritual competencies for connecting with nature in an experiential manner.

NQ can be graphically represented as a flower with four petals, each petal representing a key dimension: cognition, emotion, spirit and action. These four dimensions can be described as follows:

Cognition

The cognitive dimension of NQ taps into the 'classic' competencies that are the focus of environmental education: environmental knowledge, attitudes and behaviours. NQ emphasizes the intuitive and experiential side of these competencies, which include:

- **Literacy:** knowledge and an intuitive understanding of the dimensions, elements, patterns and processes of nature
- **Curiosity:** interest in nature and an awareness of the intrinsic value of nature
- **Outdoor skills:** having practical knowledge and basic skills for staying outdoors and living in nature

Emotion

The emotion dimension of NQ evolves around the feeling of connectedness to nature. It reflects a sense of kinship and an affective individual experience of connection with nature, both psychologically and physically, through a direct embodied experience and an open-mind approach to both the positive and the negative side of nature. The competencies within this dimension are:

- **Connectedness:** the ability to connect to nature, to care for other living beings, to live in harmony and balance with nature, and to identify oneself as part of nature
- **Embodiment:** a direct connection with nature through physical contact, which also implies resilience to withstand more adverse conditions in nature, such as bad weather or dirt.
- **Open-mindedness:** having an open mind, enjoying all aspects of nature, even the things that might be scary or disgusting

3 The text from in this chapter is taken directly from the youth workers manual and should be accredited as such: Van den Berg, A.E., Paci, A., Kosková, H., Murn, K., Salmeri F. & Albers T. (2022). Nature as a Teacher in Youth Work. *Manual for promoting Nature Intelligence in non-formal education programmes to connect young people with nature*. Aalten: Anatta Foundation.

Spirit

The spiritual dimension refers to a feeling of transcendence and interconnectedness, based on the realization that the natural world that surrounds us is alive and intelligent, just as humans are. The competencies within this dimension are:

- **Transcendence:** a 'flow experience' (also known as 'magical moments' or 'peak experiences') during which one feels lifted beyond the hustle and bustle of daily life and connected to something bigger
- **Mindfulness:** having a mindful sensory experience of nature
- **Authenticity:** the capacity to be true to oneself, to be an authentic person guided by one's own inner principles, as a precondition for, and outcome of, spiritual experiences with nature

Action

The action dimension refers to the ability to use emotional, cognitive and spiritual competencies for regulating one's own health and the planet's health, as well as socializing with peers. This dimension is somewhat an 'automatic' result when the cognition, emotion and spiritual dimensions of NQ are realized. The competencies within this dimension are:

- **Health:** recognising and using the relaxing and empowering capacities of nature for self-regulation and mental health
- **Engagement:** being motivated and capable of engaging in actions that make the planet greener and more sustainable
- **Socialization:** choosing nature as a place to spend time with friends and using a shared interest for nature to strengthen connections with peers

NQ as an emergent property

The idea behind NQ is that when a person has acquired skills or competencies in all four domains, NQ arises automatically as an 'emergent property'. An emergent property can be defined as "a property of a system that is not possessed by any of the individual parts of the system and that arises through the interaction between the parts". As an example, water possesses properties that are quite different from its dimensions - oxygen and hydrogen. More poetically, NQ can be compared to a rainbow that starts shining under specific conditions, if one is in the right place at the right time.

As we ourselves are part of nature, all of us humans possess the basic qualities for being nature intelligent. This means that everybody is nature intelligent, and that it is not possible to not be nature intelligent. That said, there are different levels of nature intelligence, and our project aims to nurture NQ to higher levels.

4. 2. Principles and guidelines for delivering NQ programmes

The principles and guidelines in this chapter provide some direction and inspiration while allowing flexibility in shaping content, technique, and other aspects of programme delivery. The principles are shown in figure 4.1 and described below. In applying the principles and guidelines, find your own authentic way of facilitating a group process and take a moment to reflect on the following:

- What can nature teach you about facilitation?
- How can you enhance your facilitation style, when reading the principles and guidelines?
- What other principles/guidelines do you see in nature and inspire your work?

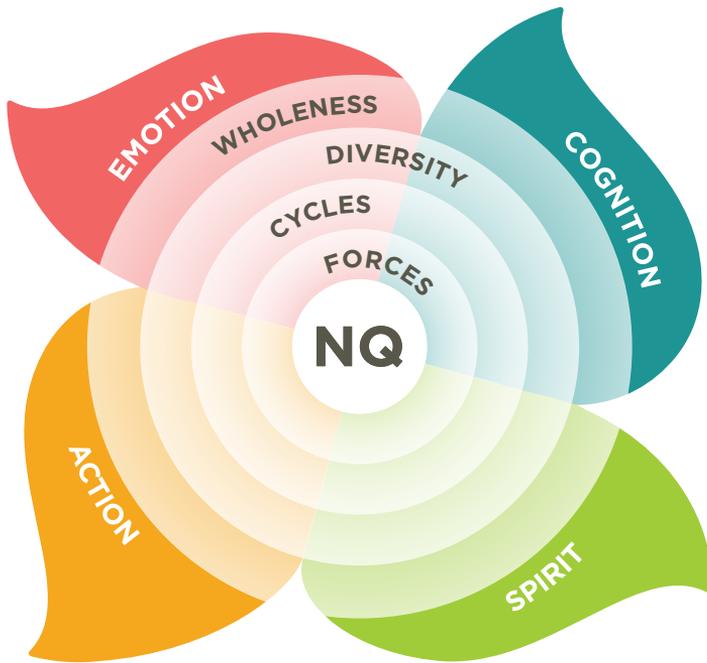


Figure 4.1: Design principles for NQ youth programmes

Wholeness

The principle of wholeness refers to nature's quality of being a whole single entity that cannot be broken up or divided into its parts. 200 years ago, Goethe, the German poet and scientist, recognized the importance of 'authentic wholeness' in nature and used it as a foundation and inspiration for his approach to science. Nowadays, the principle of wholeness is a key principle in holistic education, a philosophy of education based on the premise that each person finds identity, meaning, and purpose in life through connections to the community, to the natural world, and to spiritual values such as compassion and peace⁵. The principle of wholeness has also gained ground in modern nature protection practices, which see nature as an interconnected organism in which every element and part has a specific role and function that supports the system as a whole. Of course we are part of this whole too, so this principle is also about acknowledging that humans are nature and belong to a wider Whole.

Guidelines for using the principle of wholeness

- **Connect:** Explore and offer moments and activities for yourself and the young people to self-connect (body exercise, meditation, drinking tea, diving into cold water,...), connect with others (eye contact, touch, sharing, moment of attention,...) and with nature/the universe (solo moment in nature, ritual, gardening, gazing the stars,...).
- **Include all elements:** Support wholeness, balance and harmony by activating all complementary elements in individuals, the group and nature. Focus (at least in the long term) on all four dimensions of NQ (cognition, emotion, spirit, action). Cover the four basic elements of nature (earth, water, fire, air); take a holistic approach (by integrating body, mind, soul, spirit), walk in all directions (east, south, west, north).

- **Be coherent and authentic:** Being a trustworthy and inspiring guide for young people implies total coherence between what we think/believe in, say and do. Pay attention to all aspects of the programme including practicalities: e.g. keep a clean environment, provide healthy food, think of reducing waste, use natural materials for activities, show respect for the place, the venue and other beings.
- **Acknowledge basic developmental needs:** There are 5 basic developmental needs which must be met at a physical and symbolic level for a young person to grow into a 'whole' adult and for a group to grow together into a functioning community. These are: place (work towards creating an appropriate physical space for learning as well as an inclusive atmosphere for everybody to feel valued for whom they are and have a place/voice in the group), nurturance (provide a suitable amount and quality of food as well as "tasty" and nourishing inputs, information, activities), support (be mentally, emotionally, spiritually and physically supportive), safety (set safety rules and aid ready for outdoor activities and crafting, as well as shared and accepted principles of being together respectfully in the group) and limits (provide clear limits and follow them - what is acceptable, time limits, right to say stop,...).

Diversity

Nature teaches us that instead of drawing from limited and finite resources, there is another way of operating a system, one that is not based on scarcity but on abundance and generosity. As ecosystems evolve in nature, they become more diverse. This diversity creates more (instead of less) resources in a system. This is because diverse plants and species need different nutrients to thrive, and they each generate abundant resources they can share. They soon realize they can get what they need by creating cooperative relationships. Instead of drawing all their resources from the soil, they start exchanging resources with other species or plants. Following this 'cradle-to-cradle' principle, there is no 'waste' in nature - everything has a purpose and is part of an interconnected cyclical system. This shift from competitive to cooperative relationships creates the conditions for a system based on diversity, complementarity, resilience and abundance.

Guidelines for using the principle of diversity

- **Be aware of different entry points:** Recognize that participants not only have diverse intelligence profiles, which characterize the way they learn and get into action, they also have different NQ profiles and therefore approach, appreciate and feel connected to nature in different ways. Participants indeed enter an activity or exercise with different interests, experiences, social and cultural background. Acknowledge this diversity and provide proper levels of challenge and engagement that resonate with your participants' entry points.
- **Listen to the wisdom of the whole circle:** Use circle communication and community building practices during your courses. Native tribes all over the world used circles, as each voice carries a piece of wisdom and, together, create a collective wisdom which transcends any individual voice. Circles are inclusive non-hierarchical forms, which makes participants feel valued and comfortable about sharing their ideas in an authentic way without being judged.
- **Engage all senses:** Make sure to include sight, touch, smell, taste, hearing, intuition in exercises and activities. This will respond to participants' different learning styles and support embodied experiences. Invite all senses for mindful moments in nature to strengthen the connection.
- **Celebrate complementarity:** Use the Chinese principle of 'Yin and Yang' that describes how seemingly opposite or contrary forces (e.g. male and female, young and old) may actually be complementary, interconnected, and interdependent. Value people for their unique gifts and create settings where everybody can contribute. Apply this principle through working both individually and in groups, offering dynamic and slow activities, providing introspective and expressive tasks, physical and mental challenges, emotional and pragmatic moments.

Cycles

Nature's cycles are self-sustaining and self-regulating. Cyclical systems such as the lunar, carbon and water cycles, the passing of the seasons, and the seasonality of food are essential for the planet to remain healthy. Natural systems go through periods of decline and decay, as well as restoration and regeneration. Humans also have circadian rhythms and are driven by an internal 'clock' that controls our patterns of sleeping and eating. These are chemical reactions that maintain life in every cell and are collectively known as the body's metabolism. Outside of our bodies, we are also directly affected by the wider natural cycles triggered by daylight and night. Being aware of nature's cycles allows for deeper a connection to ourselves and our place in the world. Winter, for example, is usually nature's time for restoration, reflection and preparing for another cycle of growth. Young people growing up in today's society can become disconnected from nature's cycles, no longer eating seasonally or working in an environment dependant on the seasons.

Guidelines for using the principle of cycles

- **Respect different phases of cycles:** Keep in mind that every group goes through different stages which are very similar to the way individuals go through their lives: birth, childhood (forming), adolescence (norming), adulthood (performing), old age and passing away (reflecting, transferring). Respond adequately to the different challenges each of those stages present. For example, tolerate ambiguity in the beginning, be open to different feelings and try not to be in a hurry to teach a lot during norming, work hard to go for real things during performing, and slow down for reflecting at the end. It is important to start with a structured plan, yet also very important to pay attention to the flow and adapt the program to the learning needs of the group. Think of a programme that's not tight in terms of schedule and that respects the natural rhythms - of the body (enough time for rest and informal moments), of different seasons, of weather.
- **Understand crisis as a natural phase:** Keep an open mind in relation to crisis, a part of life that can be transformative and foster hope and the opportunity for a new vision of life. Embrace individual or group moments of crisis with empathy, as these serve the purpose of finding emotional, physical and relational equilibrium. You might have heard of the Hero's Journey, a cycle or pattern that can be found in many stories, fairy tales and myths all over the world. In these stories of transformation and personal growth, the Hero or Heroine steps into an unknown world, meets the dragon, encounters moments of crisis, passes through a symbolic death, and once they overcome all this, they return, transformed, with new treasures. Not only outer ones, but mainly inner ones - wisdom, skills, vision. Modern versions of such stories are told in movies like The Hunger Games. Share this understanding and support both individuals and groups to contain the crises and use its learning potential.
- **Allow regeneration:** Provide a balance between being and doing. Ensure sufficient free time during programmes and in between activities. Just as plants need adequate spaces to breathe and take light in, similarly young people need spaces and moments when you are less directive and more of a gentle presence. Leave space for regeneration by allowing time for digestion, reflection and integration. Also, with regards to the environment, take care not to overexploit natural resources in the same way - we want to behave sustainably towards participants and ourselves.
- **Use patterns:** Repetitive, or 'fractal', patterns in nature awaken in us a sense of beauty, harmony and order. Our brains are actually hardwired to have a calming response to fractal patterns in nature, like snowflakes, flowers, shells, leaves, and ocean waves. Bring this element into your activities, using symbols and metaphors. Use repetitions, zoom in and out (from a branch of a tree to the whole tree). Have a little ritual to start the day. Use the same elements to open and close the course. Let people walk a spiral to its centre and back while crystallizing their

intention for the course. Switch between details – what do you see in the grass? – and a bigger picture – what would you see if you were looking at our planet from the stars? Allow for smaller cycles within the bigger ones – for example a short time for reflection within every activity, and more time once a day, or week, depending on the length of the course. Just as we rest every day during night, every month during new moon, every year during winter, and when we become old. In every NQ domain there is a piece – or a fractal - of the whole NQ – all its four dimensions. So you can never run an activity that nurtures only one of the four dimensions. One dimension may be dominant, but it always influences the whole.

Forces

The magnificence of nature is expressed in its beauty and grandeur, and also in its vital forces and powers, as they affect human experience in a profound and existential way. These forces can be strong and existential (e.g. the eruption of a volcano, or a stormy wind), but also more subtle, (e.g. seeing a sunrise or feeling a cool breeze on your cheeks). While experiences with the subtle forces of nature are generally pleasant, encounters with the strong forces of nature may activate our sympathetic nervous system and prompt fears and other challenging emotions. On the other hand, they can also become life-changing experiences that strengthen the connection with nature and build resilience and change one's perspective on life. The vital forces in nature are also represented by a plant that breaks through the soil to grow or sprouts between rocks or asphalt. Life force can also be seen when a chrysalis turns into a butterfly or a snake changes its skin. Witnessing these events in nature is indeed a source of inspiration to build resilience, inner strength and a willingness to change. Evaluations of adventurous outdoor programmes for youth-at-risk that make use of the forces of nature have revealed many positive outcomes, including an increase in psychological energy, greater self-confidence and a sense of awe and wonder.

Guidelines for using the principle of forces

- **Connect to nature's powers:** Be open and curious, observe and listen to the forces in nature, in the group, within yourself and use this power to support your activities. When stuck, go to the river and take in the flow. Climb a hill to get an overview of the landscape and the situation. Introduce small rituals to synchronize with natural and cosmic events such as Summer and Winter Solstice and Spring and Autumnal Equinox. Notice the influence that weather, the moon phase or the shape of landscape has on the group's mood. Notice tension in the group, or your own fear – what is behind it? How can it be calmed down? What calls for attention and how to best respond?
- **Be creative:** Nature itself is literally a creative process, in constant flow, perpetually iterating and unfolding in ways that solve complex problems and support life. This is why, when it comes to creativity, nature can inspire you. When designing your programs try to use materials or resources that are available in the environment you are in. Allow yourself and participants to explore - individually, group and environment. Being open to experiencing new things is directly associated with one's level of creative thinking and output. In nature, everything is in balance and flow, similarly you can provide experiences that bring participants into flow, by involving them in challenges that are manageable and suitable for their competences. When in flow, participants experience a deep sense of enjoyment that is dependent on their internal system and leads to increasing complexity and growth in consciousness. Build on that enjoyment, and allow space for playfulness, just like in nature the wind plays with leaves. Playfulness is about creating new perspectives, ideas and goals and exploring new solutions. Being playful is an important part of experiencing creativity.
- **Support transformation:** The process of change and transformation is something that we constantly witness in nature. It is about letting go of something that is no longer serving us in order

to make space for the new (behaviour, feeling, habit, thought, knowledge, etc). Every transformation requires effort and can involve contrasting feelings such as the hope of being able to change unwanted patterns or the fear of one's own limits and of the unknown. You can support these moments of transition by building a physical and emotionally safe learning environment that is based on trust, authenticity and compassion. Through reflection and reflective practices, you can generate opportunities for participants to explore and experiment with new enlarged frames of reference and behaviour. With your questions, related to what is happening in the here and now, you are holding the space for individuals to connect their body and mind, so as for them to become more aware of whom they are, how they feel, what they think and how they relate to others and the context they are in. Let your questions be driven by a genuine interest in what is being said, with a curious and non-judgmental attitude. Be present and reflective yourself, promote dialogue and feedback. Remember to slow down and not to expect the "right answer", but simply the answer that emerges in that moment. Be patient and allow moments of silence and "not knowing", as insights happen suddenly out of the associative chain of thoughts.

- **Allow space for magic to happen:** Nature is full of surprises and things we 'could have never imagined'. After planning and preparing everything, taking in account all aspects, integrating and using all principles, connecting... let it all go a bit and allow space for magic to happen. There is this little aspect, the miracle of nature, synchronicity, which we cannot prepare for, that appears in the right constellation and lifts the moment/course to a higher, 'heavenly' level. Allow yourself not to control everything and be surprised and touched by what was created beyond your facilitation.