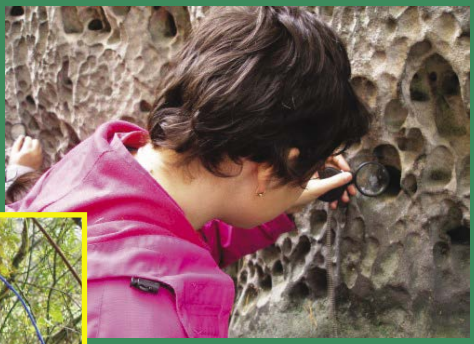

REAL WORLD LEARNING IN OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS

Jan Činčera (Ed.)

MASARYK UNIVERSITY PRESS

Real World Learning in Outdoor Environmental Education Programs

The Practice from the Perspective of Educational Research

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ABSTRACT

This book analyzes the theoretical frameworks shaping the practice of outdoor environmental education programs. For the analyses, we applied the Real World Learning Model that defines the quality criteria for this kind of practice. We also further examined the Model from the perspectives of relevant theory and research, as well as from the perspectives of program leaders, accompanying teachers, and participating students. Specifically, we selected five programs, all three to five days long, offered by Czech outdoor environmental education centers for students in the 3rd to 7th grades and focused on shaping students' environmental values and behavior. Each program was observed by two independent observers. To obtain qualitative data, we interviewed 17 program leaders from the observed programs and 17 school teachers who accompanied their students during one of the programs. We also organized eight focus groups for 68 students who participated in the programs. Additionally, we collected 336 questionnaires from the program participants and interviewed 22 experts on outdoor environmental education who were not connected with the analyzed programs.

The first chapter introduces the main methodological approach used throughout the book, outlining the strengths and the weaknesses of the Real World Learning Model, and it describes the natural setting and overall design of each of the selected outdoor environmental education programs. The second chapter then examines in more detail the external factors influencing the quality of these programs, such as weather, the novelty of the place, and the participants' characteristics. The main issues discussed include the length of the programs, the programs' connectedness to school curricula, and the ambivalent impact of weather conditions on student experience.

The third chapter opens the question of the distribution of power among all the stakeholders: outdoor environmental education program designers, leaders, accompanying teachers, and participating students. The chapter compares the assumptions and implications of different models of power distribution. We argue that while sharing power with students is a possible and, in some respects, beneficial strategy, it also leads to specific issues and it is not directly connected with student satisfaction with these programs.

The fourth chapter focuses on the common but ambiguous practice of framing the learning experience. It summarizes the main points of framing theory and the theory's implications for environmental communication and education. On the example of the observed programs, the chapter discusses the various strategies applied for defining and interconnecting particular surface frames and deep frames. Based on our findings, we argue that such elaborated frames are important for certain types of outdoor environmental education programs, and we point out the issues connected with inappropriate framing.

The fifth chapter deals with values communication in outdoor environmental education programs. Mainly, it considers values formation versus indoctrination in the programs under our investigation. It shows that, regardless of the leaders' beliefs, these programs are rooted in the values of universalism and cannot be implemented as value-free. Drawing on our findings, we highlight what factors support values promotion in these programs and discuss the implications for practice.

The sixth and seventh chapters focus on the process of learning that emerges in the programs. We have found that this process is shaped partly by the leaders' beliefs regarding what experiential learning means. Particularly, we describe three distinctive leaders' theories of experiential learning and provide examples of how they are reflected in the examined programs. We then discuss the problems connected with conceptual learning in these programs. Based on conceptual learning theory and our findings, we identify the difficulties in challenging students' misconceptions in residential programs and highlight the importance of properly linking the programs with school curricula.

The eighth chapter summarizes the relevant literature and our findings related to the participating students' and the accompanying teachers' perceptions of the analyzed programs. We have found that teachers', students', and program leaders' expectations regarding these kinds of programs somewhat differ. Overall, both the teachers and the students highly appreciate the programs and consider them to be an important part of the school curricula.

The concluding chapter summarizes the implications of the preceding chapters (the design of the program frames, the distribution of power in the programs, etc.) and discusses the relationships among all the threads that are interwoven in the book.

CONTENTS

1 INTRODUCTION: OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS – BRIDGING THEORY AND PRACTICE

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Chapter Abstract

Outdoor programs are a traditional form of environmental education. In this chapter, we open the main question of this book: How should these programs be designed to fulfill their potential? The chapter outlines the methodological approach applied, describes the Real World Learning Model developed to promote the quality of these programs, and introduces the programs we analyzed to find the answers.

1.1 OUTDOOR ENVIRONMENTAL EDUCATION IN THE CONTEMPORARY WORLD

> It was a great adventure, and I will never forget it. (a 10-year-old student, after participating in the Earthkeepers Program)

A few years ago, I visited a forest school on Harakka Island in Helsinki, Finland (see Figure 1). The natural beauty of this place astonished me. Big white birds were circling and protecting their nests. A small group of leaders was running a program for a class of primary school children. I could see a mixture of feelings in the children's faces. Excitement. Interest. Fear. Some were enthusiastic about the opportunity to see and touch the amazing nature all around. Others were frightened by the hissing birds and were looking for a hide-out behind the adults.

When the day was over, the group boarded a boat and went back to Helsinki. What did they take home with them from this experience?

Figure 1 *The Outdoor Environmental Education Program on Harakka Island. Photo: Jan Činčera.*

How does it help them to be better prepared for the challenges an uncertain future will bring? Could the program be reshaped to emphasize or eliminate some of its outputs?

As we tried to tackle these questions, an additional layer of issues came up. Designing good outdoor environmental education programs calls for finding solutions to certain dilemmas which have a strong impact on how the programs work. For example, who shapes, or should shape, these programs – the children or the adults? What does it mean to teach experientially? Is it possible to plan what students will experience in the program? How are values to be dealt with in these programs? Is it okay to promote a particular set of values or should the programs be value-free? Without giving away the following chapters, let us say here that our main finding was that these questions do not offer easy answers. At the same time, these questions are the most important ones we must ask.

Let us look at this book as a kind of bridge between theory and practice. We hope it will be practical and useful for those who design, lead, and organize outdoor environmental education programs. We hope these people can find here theoretical insights into their daily practice that will help them critically assess their work. Yet we hope this book will also be interesting for students and scholars. Not all the theoretical frameworks with which we started our research survived the contact with practitioners' experience.

We strongly believe that theory and practice cannot thrive separately. Let us start the journey aiming to bring them together.

1.2 LEARNING IN THE REAL WORLD: HOW WE STARTED OUR JOURNEY

In 2012, seven European outdoor centers from six countries established a network focused on outdoor education for sustainability. The network grew and soon consisted of more than twenty organizations, connecting practitioners with scholars from fourteen countries, including Croatia, the Czech Republic, Germany, Hungary, Italy, Latvia, the Netherlands, Nigeria, Poland, Slovenia, Spain, Sweden, Turkey, and the United

Kingdom (Real World Learning, 2020). The members spent several years discussing various aspects of outdoor environmental education.

The main purpose of the questions that were discussed in this network was very closely related to the purpose of this book. What does quality mean for these programs? How can we know that a program is good? Are there any distinctive categories of quality, any essential features of a good outdoor environmental education program?

To answer these questions, the network agreed on certain initial assumptions. A good program should promote behavioral change ("behavioral change is a key goal"), develop student competence, connect students with a place, and focus on science (Real World Learning Network, 2020). To outline these quality criteria in more detail, a good program should:

- focus on the scientific concepts of life (understanding);
- promote transferability between local and immediate events on the one side, and the broader context and consequences on the other side (transferability);
- promote self-transcendent values (values);
- apply experiential methods to help students connect with outdoor settings (experience);
- empower students to shape a sustainable future (empowerment); and
- be connected by a story that ties all of the elements of the program together (frames). (Real World Learning Network, 2020)

However highly inspiring the Real World Learning Model may be, it also raises further questions. For example, on the one hand, the Model recommends allowing students "to take ownership of their learning". On the other hand, the Model supports designing carefully prepared programs promoting particular values, communicating well-crafted messages, and covering pre-determined scientific concepts (Činčera, 2015). Do these recommendations align? As Winks (2015) argued, the Model uses a "blended approach" going beyond theoretical contradictions, and its usefulness lies in the way it inspires practice. However, we sensed that what the Model gave us was not the end but just another step on the journey towards a better understanding of how to improve outdoor environmental education programs.

1.3 LEARNING THROUGH RESEARCH: HOW OUR JOURNEY CONTINUED

In this book, we summarize the results of our attempt to identify sound practices for outdoor environmental education programs. We decided to take the next step following from the Real World Learning Model and analyze the quality criteria it suggested.

Not everything on our journey was predictable. We quickly realized that we must step outside our comfortable role as university scholars and look at the programs from multiple perspectives (see Figure 2).

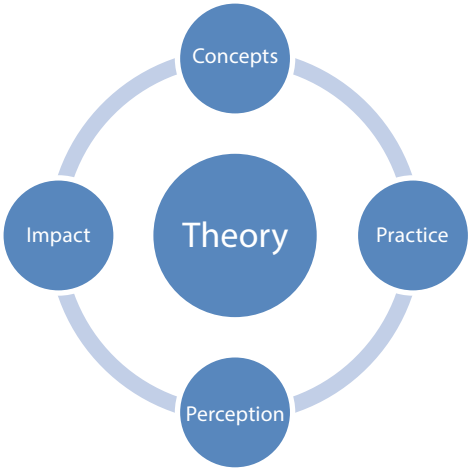

Figure 2 *The Interplay of the Perspectives Employed.*

Theory brings only one possible perspective to the subject of our research, i.e., the quality criteria of a program. In addition to the theories described in scientific journals, there are the theories held by practitioners. The practitioners' personal concepts of "how to do something", or more specifically, "how to apply a particular principle in practice", are more important for the practice itself than the most frequently cited studies in scholarly journals with the highest impact factor.

However, program leaders' personal concepts of "how to do something" may not always correspond with "what they actually do" in their program. Observations of program leaders' practice provided an important perspective for our research. Furthermore, "what they actually do" is not always interpreted in the same way by those who participate in the programs. It is critical to understand how the experience in the program is perceived and interpreted by the participating students and the accompanying teachers.

Moreover, program leaders' personal theories are driven by the theories' expected impact. For example, we may assume that when students are given more autonomy in an outdoor environmental education program, they will be more satisfied and may develop more competences than if the program was completely in the hands of the program leaders. This assumption may or may not work. First, following the logic of our analyses, the program leaders may or may not grasp the intended meaning of autonomy or they may interpret the theory differently. Second, the program leaders may believe they give the students plenty of autonomy, while in fact the opposite is true simply because the leaders are not fully aware of what such autonomy might look like. Third, even if the students have numerous opportunities to shape the program by themselves, they may not be satisfied because they may not be able to use that autonomy effectively. Finally, even the theory itself may not be suitable for these kinds of programs.

In our research, we started with the Real World Learning Model quality criteria and investigated them from the following perspectives: What theoretical support do they have? What do practitioners (outdoor program leaders) think about the criteria? How do they apply them in their practice? How is this practice experienced by the participating students and the accompanying teachers (perception)?

In the process, we realized two important things. First, we found many other factors at play. For example, the Model defined the role of students. However, what about the role of the accompanying teachers? As a result, we tried to identify other salient factors for what makes an outdoor environmental education program good.

Second, we realized that some of the crucial decisions about these programs are interconnected. Simply put, some of them are a kind of crossroad; by applying one, we imply the other(s). Therefore, we also

focused on the ways in which the various quality criteria interact with one another in outdoor environmental education programs.

To do this, we needed data. While everyone in our research team had experience in the field and had spent considerable time reviewing the existing literature, we needed to look at some concrete programs more closely and examine them from all the aforementioned perspectives. We selected five programs for students in the 3rd to 7th grades provided by five different outdoor environmental education centers in the Czech Republic. To ensure that the group of programs was similar, we searched only for three-to-five-day programs intentionally focused on shaping the environmental values and behavior of their participants.

The relationship between researchers and practitioners is not always easy. Some practitioners may not feel comfortable when their practice is observed and analyzed. Others may worry about the impact of the research on their reputation. We were very happy to find partners interested in cooperating with us. To protect our partners, we decided to anonymize all the information about the centers and programs involved. We have changed all of our respondents' names. Instead of the programs' real names, we use a different color for each program. We hope you will love the Yellow, Green, Orange, Blue, and White Programs as much as we do (for their overview, see Table 1).

Program	Environment	Aims	Duration (Days)
Blue	Mountains	Sense of Place	3
Green	Floodplain Forest	• Ecological Principles • Environmental Values	5
Orange	Sandstone Rocks	• Ecological Principles • Environmental Values and Behavior	3
Yellow	Rural	• Outdoor Skills • Affinity with Nature	5
White	Karst Area	• Outdoor Skills • Affinity with Nature	5

Table 1 *An Overview of the Analyzed Programs.*

1.4 ABOUT THE COLORS: WHAT PROGRAMS GUIDED OUR RESEARCH

1.4.1 The Yellow Program

When I first visited the center offering the Yellow Program, I enjoyed a nice three-hour trip through the forests of the gently undulating countryside in Central Bohemia. I was welcomed by the bleating of goats on the small farm associated with the center. The center is one of the oldest in the Czech Republic. The organization itself consists of eight branches and employs more than twenty leaders.

In the Yellow Program, students develop their outdoor skills. They learn the names of edible plants, practice archery, and experience finding their way with a map and a compass, making a fire, and sleeping outdoors. The program leaders hope the program will decrease students' fear of nature and increase their motivation to spend time outdoors.

The five-day residential program is framed by the Native American concept of woodcraft. While this may sound strange for Central Europe, stories about the Wild West and Native Americans were highly popular in Czech culture in the 20th century, and some aspects of this popularity have remained to this day.

In the program, the leaders divide the students into four groups. Each group identifies as a Native American tribe. Their task is to collect "eagle feathers" (in fact, they are goose feathers) for achieving different tasks.

During the first couple of days, students learn to make a fire with a striker, find their bearings with a map and a compass, build a shelter, and collect and cook edible plants. The high point of the program is a two-day hike. Each group splits into smaller teams that hike several kilometers from the center to a location the students had chosen by themselves. After they meet the other teams, they cook their food on a fire and, weather permitting, sleep in the open air.

In the remainder of the program, the students play an adventure night-time game and a treasure-hunting game, and they track "a deer".

1.4.2 The Green Program

The Green Program is offered by an outdoor environmental education center located close to a floodplain forest. The center itself is quite interesting. It is housed in a much-admired, environmentally friendly building with a strong emphasis on energy and water conservation. The area around this building is a kind of open-air museum combining natural elements with art. I spent several beautiful evenings rambling around the area. Had I been lucky, I could have watched beavers in a small pond nearby … but I did find evidence of them living a short distance from the center.

The center is one of the largest in the Czech Republic. It has about twenty staff members, five of whom work as program leaders.

The five-day residential Green Program is introduced by a story of a volcanic eruption in a faraway country. Every morning, the leaders read the next part of the story, the students sing a song about sailors sailing to the sea ... and the day's program activities begin.

In the course of the program, students learn the story of gradual succession, of life slowly returning to the place where it had been eradicated by the volcanic eruption. The story loosely links all the program activities. The students learn to identify plants, observe earthworms, and look for various life forms in nature. In the mid-point of the program, they go on a day hike to the floodplain forest. The leaders show the students what beaver tracks look like and teach them how the forest is adapted to the regular floods. In the remaining days, the students learn to cook food, they raft on a small pond, and the new knowledge they have gained is reinforced by a concluding game.

The participating students and the accompanying teachers stay at the center for five days, but the program activities always end in the afternoon, and the leaders leave the center. Therefore, during the evenings the accompanying teachers organize their own student activities which are not connected with the program.

1.4.3 The Orange Program

The Orange Program is the longest-running program in our research sample. It was designed in the 1980s and 1990s in the United States and then spread all over the world. In the Czech Republic, it has been offered since 2012.

The program develops students' environmental understanding, attitudes, values, and behavior. As far as we know from repeated evaluations from different countries, the program is successful in bringing about changes that last at least a year after participation (Manoli et al., 2014; Cincera & Johnson, 2013; Johnson & Cincera, 2015).

Before the program begins, the whole class of students gets a letter from a mysterious person, E.M., who invites them to a training center to become Earthkeepers. When the students arrive at the center, E.M. is out, but E.M.'s lab is open. Here the students are welcomed to the center and learn that they can earn four keys to become Earthkeepers: one for gaining knowledge, one for experiencing the activities, one for their behavior (yourself), and the last one for sharing with others (Van Matre & Johnson, 1988).

In this two-and-a-half-day program, students go through a carefully crafted series of experiential activities that are focused on either developing a conceptual understanding of energy flow, material cycles, change, and interconnectedness, or on environmental attitudes (feelings). The students experience solitude in nature (the "Magic Spot" activity), different types of sensory perception of nature ("Earth Walks"), and various other activities.

Twice during the program, the students are invited to a small ceremony during which they get two of the keys. However, when the program is over, they learn that to earn the other two keys, they must change something in their behavior and share what they have learned with someone else in the following weeks and months back at school and at home. After they have done this, their teachers organize a final ceremony, and the students become Earthkeepers (Van Matre & Johnson, 1988).

In the Czech Republic, the program is offered in a beautiful setting, a summer camp close to a sandstone nature preserve. The environmental education center situated in the camp provides a plain but comfortable facility.

1.4.4 The Blue Program

The Blue Program is held in what undoubtedly is one of the most amazing natural areas in the Czech Republic. The center is situated in the heart of high mountains known for their rugged and romantic environment. If you are lucky, there may be sunshine. However, if you are even luckier, you will experience the mountains in their more usual, cloudy mood, on foggy and rainy days. The area is famous for its deep peat moors, waterfalls, and stories, usually sad and dark stories about the hard life in this area in the past (see Figure 3).

The center is a simple historic house in a small village in the mountains. Schools choose to send their students to the Blue Program because they want to show them the mountainous area; the program tries to meet this expectation.

Figure 3 *The Romantic Setting of the Blue Program. Photo: Jan Činčera.*

Originally, the program began at school. The students learned a story about a mystery tree that had lost its roots. Would the students help the tree to find them? Then later at the center, the students experienced a set of thematic field trips presenting stories of place and sensory activities in nature ("Earth Walks"). They learned that "having our roots somewhere" means knowing the stories of that place and having experienced something good there. At the end of the program, to finish their task, the students prepared a follow-up community-based project at their school that focused on learning and sharing something about their community with others.

When we evaluated this version of the program six years ago, we found it had a positive effect on the students' place-attachment (Cincera, Johnson, & Kovacikova, 2015). However, the center was never large, and when the grant project supporting the program was over, only one of the original three leaders remained. As a result, the program changed and only the two-and-a-half-day part in the outdoor center was kept.

In many respects, the Blue Program seems to be in transition from a more elaborate to a less elaborate design. However limited, the program still provides students with many experiences and allows them to enjoy the beautiful natural area.

1.4.5 The White Program

The White Program is organized by a small center in a karst landscape. The center's facility is a renovated villa of a former entrepreneur and inventor. The dramatic story of his life during the turbulent events of the mid-20th century plays a significant role in the center's sense of place. Nowadays, the center is a leader among environmental education centers in the application of eco-technologies. Its sophisticated technological solutions for heating and water consumption are presented in all the programs the center offers.

The center is situated in a long valley created by a small underground water flow. Students explore and investigate the area's rich, diverse ecosystems, and they can enjoy caving or roping down the steep rocks.

At this center, the White Program is a new and experimental program for primary-school students. The other programs usually

work with older students. In the five-day White Program, the leaders tell the students about an old diary kept by a (fictitious) youth club that used to play in this area fifty years ago. Every day, the leaders introduce the program activities by using stories from the diary. The students learn a set of outdoor skills to feel more comfortable in nature. At first, they practice building a tent, cooking food, and planning a trip. In small groups, they, by themselves, plan a day trip, including the food they need to take with them. After returning, they cook their dinner, and then go to sleep in tents. On the last evening, they decipher a secret message that leads them to a small cave where they learn from a recorded interview with a local person how children used to spend their free time outdoors in the past. However, it remains a secret whether the youth club actually existed or not.

1.5 THE DATA BEHIND THIS BOOK

The Yellow, Green, Orange, Blue, and White Programs were the main sources of our research. Two of us observed each of the programs and recorded the program leaders' practice: how they facilitated students' experience, what values they promoted, or how they shared power with their students. To get data for the other perspectives, we used a wide range of methods:

- To analyze the theory behind the leaders' personal concepts, we researched relevant literature and organized four focus groups with educational experts. Altogether, 22 experts participated in the focus groups.
- To analyze the leaders' personal concepts of a good outdoor environmental education program, we interviewed 17 program leaders, program designers, and center directors.
- To get data regarding the accompanying teachers' perceptions of the programs, we interviewed 17 teachers. To get data regarding the participating students' perceptions, we organized eight focus groups with 68 students in total. Also, we collected 336 questionnaires from the students participating in the programs.

For the analyses, we used a mixture of qualitative and quantitative methods. All the interviews were recorded, transcribed, and coded. Initially, we focused on the criteria defined by the Real World Learning Model. However, we soon realized we must be more open and flexible. Some of what emerged in the process surprised us. In other cases, we had to adjust our original assumptions.

For analyzing statistical data, we again applied a mixture of methods, including confirmatory factor analyses, multiple regression analyses, or simple non-parametric methods, like the Mann Whitney U-Test. For more details about the methodology used, see Appendix 1.

Chapter 7, which focuses on conceptual learning, is based on a different methodological approach and on data we collected in 2003–2008 as part of analyzing three sequential outdoor environmental education programs (including a version of the Orange Program) in the United States. In this study, 20 students who had participated in all three programs were repeatedly interviewed within a five-year period to identify their conceptual models of matter and energy (for more details, see Chapter 7). In the analyses, we focused on how the students' concepts evolved in time and how their participation in the programs influenced the process of conceptual change. While this chapter differs from the others in this book, we believe that it provides an important supplementary perspective on outdoor environmental education.

In addition to Chapter 7, we occasionally included examples from other than the observed set of programs throughout the book. The reason was to introduce the chapter topics in a more enjoyable way than with a literature review. Thus, the chapters usually open with short anecdotes connected with the particular chapter's authors.

Apart from these exceptions, all the data for this book were collected in 2018–2019 in the research study conducted in the Czech Republic that was described above.

Altogether, we found more questions than answers.

We invite you to start this journey with us.

2 PEOPLE, PLACE, AND THE PROGRAM: EXTERNAL FACTORS THAT INFLUENCE THE EFFECTIVENESS OF OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS

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Chapter Abstract

Drawing on the existing scholarship and the authors' professional experience, this chapter discusses the external factors that influence outdoor environmental education programs: students, teachers and leaders, and nature. It examines some of the issues that have emerged in our research, such as the unpreparedness of student groups to learn in outdoor settings, the market-based framing of the relationship between schools and outdoor centers, and the ambiguous effects of pushing students beyond their comfort zones in the outdoors. The chapter concludes by highlighting some of the key decisions related to program design, namely the program's length and the program's linking with school curricula.

2.1 INTRODUCTION

Let us go back to Jan's experience with the outdoor program on Harakka Island. What the students participating in a day of observing the birds and sea life learned was likely influenced by several mutually interconnected factors. Later in this book, we will focus on certain selected factors in detail. But in this chapter, we will briefly summarize some of the other factors that also play a role.

As in the following chapters, we will combine findings from the relevant literature, our research study, and our program observations. We do not want to judge the programs analyzed and label some of their strategies as good or bad. Rather, we see some of the program-related decisions as crossroads leading to further implications.

Moreover, not everything that happens in these programs is based on the intentional decisions of the people involved. Whatever inner qualities the program on Harakka Island had, the program was co-constructed by other, external drivers. Let us start with them now.

2.2 STUDENTS LEARN, STUDENTS SHAPE

What surprised Jan most on Harakka Island was how much the students were unprepared for the outdoor experience. When some of them approached closer to the nests and the birds hissed their warning, the students reacted with a mixture of shock and hysteria. Despite the beauty of the island, the lack of the students' preparedness for the outdoor program turned their experience there into fear. Similarly, students' fears or phobias related to nature have been reported by other authors (Rickinson et al., 2004).

The level of students' previous experience and their preparedness for participating in an outdoor environmental education program seems to be important. Participants with previous experience from these programs may feel more comfortable and, as a result, learn more (Kruse & Card, 2004; Ardoin et al., 2015).

The unpreparedness of the students for the outdoor environmental education program was often mentioned by the program leaders and environmental education experts we interviewed. Three types of unpreparedness emerged in these interviews.

According to the program leaders, students often arrive not adequately dressed for outdoor conditions. The leaders of the Blue Program which is situated in a cold and wet mountainous area mentioned that their students quite usually come with clothes suitable for spending a week in a city (see Figure 4). Inadequate boots, not enough spare clothes to change into, together with no Wi-Fi signal in the facility, are the main sources of students' discomfort. While, as Winks (2018) suggests, some level of discomfort may become an opportunity to challenge students' attitudes, it also means a practical constraint in terms of student satisfaction, safety, and teachers' attitudes toward the program.

Figure 4 *Natural Conditions in the Area of the Blue Program in May. Photo: Jan Činčera.*

The second area of concern is students' unpreparedness to learn outdoors. As the program leaders noted, students come to the outdoor environmental education center with the expectation of having a summer camp with a lot of free time and fun games. As Vendy, an experienced leader in the Orange Program, comments:

> I would say that the program supposes that children come to the eco-center prepared to protect nature. (…) However, this is not the ambition the students have. They are rather like, OK, we will go for some kind of trip, something will happen, and then they are surprised what the program is like. (Vendy, leader, Orange Program)

In the programs we observed, we noticed various methods being used to make students' expectations more realistic, or to "hook" the students from the very beginning of the programs. For example, the Orange Program intentionally builds up a feeling of adventure and mystery, which may in some way correspond with students' "summer camp" expectations, while this strategy is intentionally employed to frame their experience towards the program aims. However, the students' expectations, likely based on their lack of experience with learning outdoors, are still at play and have certain consequences regarding sharing power in the program.

The third and the most frequently mentioned issue was the students' unpreparedness to cooperate. All the outdoor environmental education programs we observed assume a high level of students' cooperation. However, the students seem far too often unprepared for these cooperative methods and the group effort is hampered by problems connected with group dynamics.

Erika is an experienced leader working at an environmental education center organized by a regional museum. She often leads the center's two-day residential program in a nearby forest. According to her,

> Our experience with the residential programs has been that eight out of ten groups are practically dysfunctional, i.e., they cannot work in small groups, they have five or more disruptive individuals, so the leaders are practically forced to improvise with whole groups. (Erika, program leader, regional museum)

As a result, Erika and the other program leaders have to apply a flexible strategy that is based on their identification of the group dynamics and that interlays the activities focused on achieving the program's learning goals with intentionally developing the students' ability to cooperate. Erika feels that by including this group-dynamics dimension, she compromises the program's environmental dimension:

> To build a program on concurrently developing group work and managing environmental education goals is dangerous because as the children realize they are making progress in the group work, it becomes the dominant topic for them. (Erika, program leader, regional museum)

This dilemma was mentioned also by other program leaders in our study. As we could see, the program designers apply a wide variety of solutions. The Orange Program intentionally does not employ team-working activities and focuses on environmental goals only. As a result, the Orange Program contains the fewest activities expecting students' team cooperation of all the programs we observed. However, as the leaders in this program reported, this strategy is one of the weaknesses of the program because students are often not used to cooperating and the conceptual learning activities at the beginning of the program tend to be less well accepted by students.

The other programs we observed, particularly the Green and the Blue Programs, try to incorporate some elements of group development. At the beginning, the program leaders offer several activities practicing students' cooperative skills, and they facilitate debriefing on what the group has done and what it could do better in the future. These activities are well accepted by the students, but they also are not much connected with the rest of the program.

A third possible strategy is applied in the White Program. Here the program leaders do not use any particular team-building activities, but all the activities the students do to practice their outdoor skills (cooking a dinner, building a tent) contain a strong element of group work, and the students occasionally reflect on that.

As a result, we could see three distinctive strategies for dealing with a group unprepared to cooperate: avoidance, inclusion, and integration.

It is not possible to say which of these strategies works best. We assume that it depends on the program's goals; likely, the program leaders' experience and beliefs influence the decision. At the same time, the chosen strategy for dealing with the dilemma of unprepared groups is probably one of the central program crossroads affecting the whole program design.

In addition to the level of preparedness of the student group as a whole, the students' individual characteristics may affect the program. Age, gender, preferred learning styles, phobias, physical disabilities, and ethnic and cultural identity have often been mentioned in this respect (Rickinson et al., 2004). According to Rickinson et al. (2004), gender does not matter. However, this has been contradicted by our findings which show that girls tend to be more satisfied with outdoor programs than boys.

The size of the group and the related leader-student ratio may also influence the program. However, well-prepared conditions for social learning may reverse the negative effects of big groups in outdoor environmental education (Stern, Powell, & Ardoin, 2008).

2.3 TEACHERS AND LEADERS: THE ADULTS TO BE FOLLOWED?

> Longer stays and active engagement of visiting teachers in on-site instruction enhanced most outcomes. (Stern, Powell, & Ardoin, 2008)

This story happened to Jan when he observed a one-day outdoor environmental education program in a natural area with dunes and pine forests. The program leader organized the group of teenagers into a semi-circle and started to explain the uniqueness of the dune in the area, how it evolved, and what animals live in it. After a short time, the students started to get bored. To be honest, Jan expected them to grow bored long before then. The leader had arranged the group so that everyone could see her. However, the students had the dune behind them the whole time, and so they could not see what the lecture was about (see Figure 5). The effect of outdoor environmental education programs depends to a large degree on effective

implementation, and this means the quality of the program leaders' work (Rickinson et al., 2004).

Leaders and teachers are the adults accompanying students in outdoor environmental education programs. We will focus on their interaction in the next chapter, but let us look at some of the other associated issues here.

Leadership skills and authenticity are the most often mentioned crucial features of good leaders. As was demonstrated by Jan's experience described above, lack of leadership skills can have a devastating effect. In the programs we observed, we could see many examples of brilliant leadership work. The program leaders were appreciative, organized the students into a circle for discussions, and used simple, easy-to-understand language. However, in some cases, we could also see examples of lack of good leadership.

Figure 5 *The Dune Is Behind the Students. Photo: Jan Činčera.*

In one case, the observer described the style of a young program leader as boring and resigned, expressing the feeling that the group of students would find the activity stupid. Another leader would run ahead of the group on the field trips and started his lectures before the last students arrived. Some of the leaders tended to use directive language, phrases like "now you will do", instead of "now you can".

The practice of many program leaders is likely to be influenced by the learning concepts they hold. Lucie, an experienced evaluator of environmental education programs, commented that some of the leaders believed they applied a particular learning method (for example, the Flow Learning Model by Joseph Cornell, 2012), but in fact, they did not keep to it and had modified it so much that they compromised its effect. We will analyze the issue of program leaders' personal concepts in one of the following chapters.

However, according to the majority of our respondents, the most important element is the program leaders' authenticity. As Lucie puts it:

> Naturally, the personality of the leader. When the leader has no trust in children, it is a big barrier to everything. The leader must be authentic but must be also trustworthy for the children. (Lucie, program evaluator)

Program leaders must like their work, despite usually being poorly paid for it. They must love nature, the locality, and model this love for the students. They must like children and working with them. The ethos of the leaders' work is strong and inspired by the perceived mission of the center to protect nature and prevent its destruction by environmental problems.

It should be mentioned that, from the students' perspective, the outdoor leaders in all the observed programs in our study were skilled and caring. With a few exceptions, the students described their program leaders as friendly, enjoyable, patient, and caring. They also believed the leaders were capable and dedicated managers, experts with a rich knowledge of the locality and of science, and good teachers. According to Michal, a 12-year-old student participating in the White Program:

> When we were on the field trip, (…) they explained to us everything, everything in detail, they added some interesting points, and they were very friendly, kind. (Michal, student, about White Program)

Negative comments by students were rare and usually connected with the students' unfulfilled wish to have the leaders' attention all the time. For example, one of the student respondents criticized a leader for being unable to remember everyone's names. In another case, a student criticized a leader who sometimes hid "in the corner" to check his smartphone.

The role of the accompanying teachers is sometimes difficult and we will discuss some of its aspects in the next chapter. To a certain degree, the teachers influence the program before, during, and after; in light of this, their role is far from marginal. As Lucie described her experience from evaluating an environmental education program:

> The teacher who supported her class, kept up their motivation (…), then her students were more successful than when another teacher said, we did not get it, we had no capacity. At the same time, when a school arrives to a residential program [it makes a difference] whether or not the teachers go and watch, it is interesting for them to take inspiration, to link it with their lessons. However, I was on programs when the teachers disappeared and were happy to just relax. (Lucie, program evaluator)

Similarly to the program leaders' role, two aspects seem to be crucial here: the teachers' expertise and their attitudes towards outdoor environmental education. According to the leaders, the accompanying teachers often lack the competence for teaching outdoors or for developing their students' competence for outdoor learning. Erika supposes it is because the teachers are much more experienced in transmitting knowledge to students than in developing the students' competences and skills, i.e., the areas essential for environmental education. Some of the teachers are unable to specify what such a program should achieve; they sort of want to have any kind of environmental education just to fulfill the mandatory part of the national curricula.

Based on our observations, with the exception of the White Program, most of the accompanying teachers were silent observers of the programs rather than participating as the leaders' active partners. Some of the leaders also complained about the teachers' disruptive behavior, which was mostly connected with the teachers' lack of experience with outdoor activities and with their unreasonable safety concerns:

> Sometimes it may be hampered by the accompanying teacher who does not want to go outdoors, is not inclined toward it, and it may influence the atmosphere in the class – if the teacher does not want to, the children may get the same feeling. (Peter, leader, Green Program)

Most of the accompanying teachers we interviewed were satisfied with this passive role and did not want to be more actively engaged. At the same time, this did not imply a lack of interest in the program. The teachers' shared attitude was that the school booked the programs as a kind of service provided by the center, the programs are professionally designed and led, and there is not much reason to interfere.

2.4 THE ROLE OF PLACE

Even though Jan did not participate actively in the program, the beautiful environment of Harakka Island moved him deeply, a feeling he carried with him upon leaving. He felt he could spend the whole day on this magical island doing nothing, just sitting and watching the birds and the sea. In many respects, place plays an important role in the effect an outdoor environmental education program has on the participants.

As some studies indicate, the role of the natural conditions may be both supportive and disruptive. At first, the novelty of a place for students may attract their attention, but it may also harm their learning (Rickinson et al., 2004). According to Boeve-de Pauw et al. (2018), while some novelty is positive, too much of it may complicate students' cognitive learning. However, this question is a complex one.

Dale et al. (2020) found that the novelty of a place is one of the factors positively contributing to the effectiveness of a program. In their study, they also analyzed the overall features of the kind of place that enhances a program's success. Together with the uniqueness and novelty of the place, it is also the natural state of the place (not disturbed by humans), and a well-prepared linking of the program activities with the specifics of the place (place-based learning).

This last aspect of linking the program with the place was mentioned also by the respondents in our study. According to some of them, an outdoor program should be attractive in some way, but it does not necessarily need to be unique. For example, Erika reported she often goes with students to the places near their schools:

> If they come to us once and experience something here, that is great. However, if we show them something close to their school that is interesting to them, then the impact is much stronger because they can go there regularly, and then something reveals itself there. At one school, we showed the students a place where frogs migrate, and then it started to be an important place and the children started to visit it. (Erika, program leader, regional museum)

This support for a place-based learning strategy was further highlighted by Pavel, a young teacher accompanying his students in the White Program. He much appreciated the way the program connects general environmental topics with the place, giving the students a chance to see for themselves the effects of the drought.

The influence of the weather, or, more broadly, pushing students outside of their comfort zones due to unexpected natural conditions, is another much-discussed topic. There is no clear answer here, either. As we mentioned above, some authors believe in the importance of experiencing a certain level of discomfort in outdoor learning (Winks, 2018). Others see potential risks. Talebpour et al. (2020) presented findings showing that participants in an outdoor program who experienced heavy rains reported a decrease in their nature-connectedness after the program. As the authors suggest, while mild weather conditions may not affect students' experience, weather perceived as "bad" may have a detrimental effect.

Both poles of this discussion are reflected in our respondents' opinions. For Erika and some of the other program leaders, the experience of being caught in the rain outdoors might be unique in the students' life:

> So the 2nd grader tells us that this is the first time he has been caught in the rain. So he intentionally takes off his raincoat and walks in the rain for the first time in his life, and it is his strongest experience in the two-day program. So, this pushing beyond the comfort zones, too – for them it is the unusual activities – is the 'bonus' of these programs. (Erika, program leader, regional museum)

However, other respondents in our study reported that some of the outdoor experience is too far beyond the comfort zone of the majority of society. As a result, even a relatively common situation like being caught in the rain outdoors must be experienced before the group is prepared for further, more intensive experience.

Besides the outdoor environment, the center's facility also plays a role in the effectiveness of the programs organized at the center. In our research study, the students enjoyed the immediate surroundings of the centers, particularly because the surroundings provided opportunities for free play in nature. Some students also mentioned the effort of the center to apply the principles of environmentally friendly management.

However, most of the students commented negatively on the less comfortable aspects of the facility. Namely, the unusual local or organic (and perceived as tasteless) food was often mentioned. The student respondents from one of the programs also disliked their accommodation in shared rooms for a rather large number of students. Last but not least, the weak or missing Wi-Fi signal was repeatedly a subject of students' complaints.

2.5 PROGRAM DESIGN

The distinctive qualities of effective outdoor environmental education programs and the main decisions regarding such programs' design are the main focus of this book. In this section we touch upon three

particular factors that we are not going to return to later on but that seem to be supported across research studies and program leaders' opinions.

The length of the program is the first one. Most authors agree that longer programs are more effective than short ones; specifically, five-day program versions have a stronger effect than three-day versions (Rickinson et al., 2004; Bogner, 1998; Bogner & Wiseman, 2004; Bogner & Wiseman, 2006; Stern, Powell, & Ardoin, 2008; Sellman & Bogner, 2013). According to the meta-evaluation conducted by Zelezny (1999), programs with a measurable behavioral effect lasted at least ten hours, which corresponds with at least a two-day residential program. While some effects have been found even in shorter outdoor environmental education programs (Stern, Powell, & Ardoin, 2008; Sellman & Bogner, 2013), the advantage of longer programs prevails.

Of the observed programs in our study, only the Orange Program was designed as a three-day program. The Blue Program was originally five days, but then the center started to offer it also in a shorter, three-day version. Nowadays, the program is almost completely conducted in the shorter version. According to the program leaders, schools want to save money and time, and so they prefer shorter stays over longer ones, even though longer programs are more effective.

The pressure by schools to shorten the programs was mentioned also by other program leaders. As Lucie noticed, while many programs are often initially designed as five-day programs, when a school insists on a shorter version, the center tries to fulfill this request and adjust the program. However, such an adjustment often compromises the logic of the program:

> They pick some activities, or the school says what it wants, but the organization does not think about the gross of the program, what students should learn if they are there for three days instead of a week. (Lucie, program evaluator)

From a certain perspective, the centers work in a market environment (Činčera, 2013a). They offer their programs to schools and are dependent on the income from the schools. As a result, they often find themselves being forced to compromise the quality of the program

to meet the wishes of their customer. Moreover, this market-based framing for outdoor environmental education programs may contribute to the perception of the accompanying teachers as distanced from the program, not as real partners.

Additionally, other preconditions of running a successful program include the level of the program's internal consistency, its elaborateness, and the logic of the assumed relationship between the program's goals and activities (Rickinson et al., 2004).

This finding was confirmed by the program leaders in our research study. Josef is a highly experienced director and program designer at a large environmental education center. His center has run residential programs for almost thirty years. According to him, a major challenge in designing residential programs is:

> To make them not like a mosaic of unconnected pieces, but to design them according to a logical framework, to get to our understanding of what a program wants to achieve, but also to the demanding journey of how the individual program blocks and activities can contribute, and I think, it is a never-ending struggle. (Josef, program director and designer)

The program leaders we interviewed also suggested that a well-designed program should have a clear message of what it wants to communicate, and a well-prepared flow of activities.

The final important factor we want to mention in this section is linking environmental education programs with school curricula, particularly by providing pre-program and follow-up activities at school. This idea is again supported by substantial research findings (Rickinson et al., 2004; Menzies et al., 2017; Dettman-Easler & Pease, 1999; Stern, Powell, & Ardoin, 2008; Smith-Sebasto & Cavern, 2006), and it was echoed by the program leaders in our study.

Regarding this topic, Jarek, an educational expert responsible for the department of science education in his agency, points out:

> It (the program) must be put into the context of the timeline, so as they (students) dealt with this topic in their school, it must be linked with the program. (…) This cooperation between teachers and leaders is essential (…) because, I believe, this is the meaning, it should not

> be something separate to teach outdoors (…), it should fit together. (Jarek, educational expert)

However, of the programs we observed, only the Orange Program contains pre-program and follow-up activities for teachers. While the leaders of the other programs agreed that such activities are important, they also found it difficult to design them and to persuade the teachers to include them in their curricula.

2.6 CONCLUSION

Factors such as the natural characteristics of the setting of outdoor environmental education programs, the competences and attitudes of the program leaders and of the accompanying teachers, student group cohesion, and the distinctive features of the particular program all influence the programs' effectiveness.

For some of these factors, the existing research findings and the program leaders' opinions seem to be quite clear. To maximize its potential, a program should be longer rather than shorter, well-prepared, and linked with school curricula. In other areas, however, we have found contradictions or issues with much less-clear solutions. For instance, there is no clear answer regarding how to deal with students' unpreparedness for cooperative work in outdoor settings – each of the above-mentioned approaches has its limitations.

There is also little agreement on whether or how much students should be pushed beyond their comfort zones; the answer seems to be hidden somewhere in between the two extremes.

One of the most challenging issues is the relationship between the program leaders and the accompanying teachers. It seems to be affected by a market-based framing which influences the distribution of roles and power in the programs.

In the following chapters, we will analyze in more detail some of the issues that emerged in the course of our research.

3 POWER AND EMPOWERMENT IN OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS

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Chapter Abstract

Student empowerment as an outcome of outdoor environmental education programs is connected with the question of who has control over these programs. In this chapter, we analyze how power is distributed among program designers, leaders, participating students, and accompanying teachers. We show that no model of dealing with the dynamic relationships among these program stakeholders can be considered wrong per se but that each brings with it particular implications for the other aspects of program design and implementation.

3.1 INTRODUCTION: THE QUESTION OF POWER-SHARING

> Empowerment brings the learners to the center of the learning experience: it's about recognizing and realizing their humanity and their ability to take action for positive change. Empowering learners enables them to cooperate and to take ownership of their learning. Everybody can make a change. To experience this can help learners to shape the future in a sustainable way. (Real World Learning Model, 2020b)

> I think when it (the program) is strictly set, then everyone is prepared for it, everyone knows what will happen. If they (students) had to decide by themselves, I think it would cause conflicts, so that one group would be angry with the other that they decided it that way or that they were voted down, so it would bring discord into their cooperation. (teacher, 5 years of practice)

There is a fundamental question that everyone responsible for designing an outdoor environmental education program needs to consider: Who is in charge? In other words: Who decides what aims should be achieved and what activities should be implemented? Who decides when to investigate the local pond and when to set out for a field trip? Who has this decision-making power over the program, and how and with whom is this power shared?

To questions such as these, there are no easy answers. When Jan first participated in an outdoor environmental education program in his teens, everything seemed to be clear. The program leaders, called "the instructors", prepared an elaborate series of games and other activities, and the students played and enjoyed them. However, is this the only way? Should the students not have a part in shaping the program they are participating in?

In this chapter, we investigate the question of power-sharing from four perspectives: that of program designers, program leaders, accompanying teachers, and students. We will look into the dynamics of the process of negotiation for influence over the program. But before this, we will introduce the ongoing debate on empowerment.

3.2 POWER: TO EXERT OR TO EMPOWER?

According to many scholars, empowerment is a central goal of outdoor environmental education (Shellman, 2014; Daniel et al., 2014; Sibthorp & Arthur-Banning, 2004). Empowerment is usually defined as a sense of personal control, one's belief in having the opportunity to promote desirable changes in one's life situation. While the terminology has not been completely settled, empowerment is often associated with psychological concepts like self-efficacy, self-determination, sense of ownership, or locus of control (Broom, 2015; Kohn, 1991; Shellman, 2014; Sibthorp & Arthur-Banning, 2004). Simultaneously, these concepts are usually considered the main preconditions of responsible environmental behavior (Allen & Ferrand, 1999; Boeve-de Pauw, Donche, & van Petegem, 2011; Chiang et al., 2019; Cottrell & Graeffe, 1997; Hsu, 2004; Marcinkowski, 2009).

In light of this, it seems clear that sound outdoor environmental education programs should support student empowerment (Real World Learning Model, 2020b; Kendall & Rodger, 2015; Menzies, Bowen-Viner, & Shaw, 2017). Therefore, students should have a substantial level of control over their learning. They should have an opportunity to participate in decision-making about the program goals and activities, and they should have a high level of autonomy in the learning process (Daniel et al., 2014; Povilaitis & Hodge, 2019; Sibthorp & Arthur-Banning, 2004; Kohn, 1991; Sibthorp et al., 2008; Thomas, 2010).

In the context of outdoor environmental education programs, this autonomy may be provided in many ways. Students may be involved in the planning of their program. The program may consist of activities assuming a high degree of student autonomy, such as a solo hiking expedition or various personal challenges. Students may become leaders of the program activities. Adult leaders may minimize autocratic leadership styles and promote discussions with students (Kohn, 1991; Priest & Gass, 2005; Thomas, 2010; Daniel et al., 2014). While the evidence is still limited, it is presupposed that a higher level of student autonomy positively correlates with student satisfaction, action competence, and feeling of empowerment (Cincera & Kovacikova, 2014; Cincera & Krajhanzl, 2013; Cincera et al., 2017; Cincera et al., 2019).

However, the recommendation to promote student autonomy is often ignored in practice. Schools usually expect that an outdoor environmental education program will achieve certain specific goals and the outdoor centers select the best activities to fulfill this expectation. From this perspective, well-designed programs with developed and inter-linked activities are more likely to achieve their goals (Rickinson et al., 2004). Many studies support this view (Bogner, 1998; Bogner & Wiseman, 2004; Bogner & Wiseman, 2006; Dettman-Easler & Pease, 1999; Emmons, 1997; Ferreira, 2012; Manoli, Johnson, & Hadjichambis, 2014). In light of this, one could argue that outdoor environmental education programs should be designed by experts experienced in outdoor learning methods and knowledgeable about the locality where a particular program takes place.

Furthermore, given the limited length of most programs, it is often difficult for outdoor program leaders to use a participative approach with students whom they do not know well and without having a prior chance to assess the students' competence. Not only may the students not be prepared to make reasonable choices, but their lack of competence may also lead them to safety risks (Thomas, 2010; Daniel et al., 2014; Menzies, Bowen-Viner, & Shaw, 2017; Loewenberg Ball, Thames, & Phelps, 2008; Hill & Chin 2018).

To sum up, while student empowerment is considered a highly valuable goal, it is not clear how it should be achieved in outdoor environmental education programs. While some authors believe that the right way is to use well-developed programs designed by experienced experts, others believe in the importance of student autonomy and student participation in the decision-making about the program's goals and activities.

To make this issue even more complex, it is not always obvious who the experienced experts are. Should it be the program leaders, with their immediate understanding of the weather conditions and of the reactions of the particular student group? Should it be the accompanying teachers, who have the most qualified knowledge of their students' learning capacity and educational needs? Or the students' parents? Or specialists in program design? Let us look at this issue from the perspectives of the involved groups themselves.

3.3 THE CHILDREN OR THE ADULTS: HOW MUCH STUDENT AUTONOMY IS GOOD?

While the participative approach that provides students with a high level of autonomy in outdoor environmental education programs has been widely recommended by researchers as a sound strategy that empowers students, it has also been questioned by some authors. Even more importantly, according to some surveys, this participative approach is not much used in practice (Menzies, Bowen-Viner, & Shaw, 2017).

These findings correspond with our observations. Of the five programs we analyzed, only the White Program provided students with some level of autonomy. In this program, the program leaders' (and accompanying teachers') effort to share their power was obvious and intentional. Marek, a highly experienced leader and the designer of the program, admitted being influenced by his experience abroad and by published recommendations. According to him, the need for student autonomy goes hand in hand with the need for the authenticity of the students' experience and of the program itself:

> I think the program is strong in providing students with a considerably high level of autonomy and shared responsibility for the program. And this is what builds their feeling that they manage something or that they accomplished it. (…) And they do not have a feeling that someone prepared something for them, something that they are supposed to do (…), and they feel that they experience it on their own, that this experiencing is their own business. (Marek, designer and leader, White Program)

However, even in the White Program, the opportunities for students' decisions were limited and the leaders differed in the ways in which they offered these opportunities to the students. Nevertheless, some of the participative features of the White Program were remarkable. When we compare the White Program with the Yellow Program, we see that while both have a similar focus on outdoor skills, they differ in the level of student autonomy permitted. When the students planned their field trip in the White Program, they (in small groups) could decide what places they wanted to visit and where to go. They could also decide what food to take with them and what to

carry in their bags. In contrast, the students in the Yellow Program were assigned the locations they had to visit and were given all the food by the program leaders. The only thing left for the students to do was to find their way. In the Blue Program and the Green Program, the field trips were fully organized by the program leaders and the students had no opportunity to influence where to go or what to do.

Overall, in the programs we observed we found the following strategies for sharing some degree of power with the students:

- Responsibility for simple tasks. In the Green, Yellow, and Blue Programs, students had no right to decide what to do. However, when given a task, they had the freedom to decide how to do it. This freedom was limited to rather simple activities, like making a fire or finding their way to the assigned destination.
- Responsibility for complex tasks. In the White Program, the students were given loosely defined tasks, such as organizing a day hike. They could decide where to go, which way to go, and what food to take with them. The leaders provided guidance but respected the students' choices.
- Responsibility for follow-up tasks. In the Orange Program (and in the original version of the Blue Program), the students had no freedom to shape the residential part of the program beyond their responsibility for simple tasks. However, at the end of the residential part, they were encouraged to choose their own follow-up tasks (to find a way to decrease their energy consumption at home).

Our observations were limited to five programs for young students. Based on our experience, other strategies are also used in other programs, especially programs for older students. For example, in a five-day inquiry-based outdoor program for secondary school students that Jan visited in Scotland (see Figure 6), the students could substantially shape their inquiry project, including formulating their hypothesis, designing their research, etc. As Mirek (Yellow Program) told us, his center offers similarly designed programs with a significantly higher level of student autonomy than we could see in the Yellow Program. This shows that the strategy of "responsibility for shaping the process" is also a viable option.

Figure 6 *A High School Student Is Independently Collecting Data in an Inquiry-Based Outdoor Program. Photo: Jan Činčera.*

However, it is difficult to assess which strategy is most successful. Based on our observations, students liked their programs regardless of the approach used. Our statistical analyses did not find a relationship between perceived student autonomy and student satisfaction in any of the five observed programs. While these results contradict the previous findings from our Eco-School research (Cincera & Kovacikova, 2014; Cincera & Krajhanzl, 2013; Cincera et al., 2017; Cincera et al., 2019), they may be explained by the different nature of these residential programs that last several days and take place in an unfamiliar environment, in contrast to students' long-term work at school, which was the case with the Eco-School program. In addition, the students' age may be an important factor, too. Older students may expect to be given more autonomy than younger ones.

Let us look at David and Pavel, two boys of the same age who participated in a field trip organized as part of their respective outdoor programs. David experienced some level of autonomy in the White Program, as we described above:

> The best for me was (…) the full-day expedition, that we could plan it ourselves. (David, student, about White Program)

David enjoyed the autonomy provided by the program leaders. However, he also reported clashes in his group among students with different kinds of motivation and different levels of the capacity to enjoy a long field trip.

Pavel participated in the Blue Program which provided almost no autonomy as the program was composed of completely pre-arranged activities. Nevertheless, Pavel enjoyed his leader-directed program, too. He appreciated the activities prepared by the leaders during the field trip, and he liked that the trip was not only about going somewhere, but it was also fun.

This is not to say that the level of student autonomy does not matter. Almost all the students we interviewed agreed that they would appreciate having more freedom to shape their program by themselves – by adding more time for playing cards or mobile-phone games, and for other social activities with their peers. Students tend to interpret the outdoor program as a kind of school trip. They accept that the program is organized by the leaders and they appreciate it when the activities are fun and the leaders are friendly. However, students want to have some time for themselves, too, not just for learning.

What do school teachers and program leaders think about this? Generally, all the teachers we interviewed were skeptical about student autonomy in outdoor environmental education programs. They appreciated that the programs were well-prepared and questioned the ability of their students to decide about the program activities in a meaningful way.

The opinions of the outdoor program leaders and educational experts we interviewed were mixed. Many of the leaders assumed that programs must be well-prepared to be effective. As they saw it, while the leaders should decide on the program goals and activities,

the students should have the right to do the tasks on their own and to perceive and interpret them on their own. For example, according to Peter, a relatively new leader in the Green Program, if he gave students more autonomy:

> It would go somewhere where I do not want it to go, and (…) I still have some goals, (I want to) lead students somewhere, whether to (obtain new) knowledge or skills, and I worry that if the youngsters could decide, they would decide on something I do not want. (Peter, leader, Green Program)

Similarly, Irena, an experienced leader in the Yellow Program, is highly skeptical of the students' capacity to participate meaningfully in decision-making:

> I cannot imagine designing this program according to children, I do not know how to do this. They usually want to do nothing, just to play ball, and they are satisfied. (Irena, leader, 5 years of practice, Yellow Program)

Other program leaders and educational experts in our study believed that providing autonomy to students is worthwhile but difficult to do in practice. The experts mentioned safety concerns and the responsibility that the program leaders have for the students. Additional barriers often include the program leaders' lack of familiarity with the student group, and the group's unpreparedness to participate in decision-making. Last but not least, some of the leaders admitted they did not know how to work with students in this way.

If the effectiveness of giving students the opportunity to have some control over the program is questioned, then how should power be distributed among the adults involved?

3.4 THE ADULTS AND THE ADULTS: WHO IS IN CHARGE?

The distribution of power in outdoor environmental education programs among the stakeholders who are adults presents another interesting issue. Four groups of adults share some level of control

over these programs. Program designers prepare the programs and define the program goals and activities. Program leaders implement them and make daily, immediate decisions based on particular contexts and student groups. The accompanying teachers have the main responsibility for the students and their learning. Additionally, the students' parents have the right to decide whether the students will participate or not. The parents are also the main influencing factor regarding the way the students interpret their outdoor experience and regarding the long-term effect of their learning.

3.4.1 The Teachers and the Leaders: Opportunities for Cooperation, Sources of Tension

According to Kendall and Rodger (2015), effective outdoor environmental education programs should involve the accompanying teachers in the process of planning the program. However, in many cases, the programs are designed by the external outdoor organization only (Menzies, Bowen-Viner, & Shaw, 2017).

When it comes to the relationship between school teachers and program leaders, or schools and centers, there are several options. As Ballantyne and Packer (2006) suggest, there are three possible models according to which the cooperation between outdoor environmental education centers and schools may operate:

- the destination model in which the schools see the centers as providers of external programs in attractive localities;
- the expert/advisory model in which the schools try to obtain inspiration and advice from the centers regarding environmental management and teaching methods; and
- the partnership model which is based on close cooperation between the schools and the centers.

Ballantyne and Packer (2006) recommend the partnership model in which the on-site program is just one part of a broader learning experience that influences the whole school community.

However, this kind of partnership interaction between teachers and program leaders may be difficult as the two sides may differ in their respective expectations about the program. For example, Slattery

(2002) found that park rangers responsible for interpretative programs expect a higher level of shared responsibility for the program than what the accompanying teachers can offer. Moreover, the park rangers reported that the teachers sometimes interpret the program inadequately and focus on the recreational rather than the ecological value of national parks.

Based on our findings, the destination model dominates. Most of the teachers we interviewed admitted that they are happy that the outdoor environmental education program is led by someone else. Some of the accompanying teachers mentioned that their role in the program is very demanding as it is because of their responsibility for the students the whole time and because of the associated paperwork. One teacher even suggested that the programs should be completely prepared by the outdoor center to minimize the accompanying teachers' work.

From the perspective of most of the program leaders, the best role the accompanying teachers can play is not to interrupt the program and to limit their interventions during the program. As Valerie, a young leader in the Orange Program, believes:

> When they participate or when there are more teachers, they should not disturb the program by chatting and not being interested in what is going on. So, it should not be a completely active but also not a completely passive participation. Not to interrupt the leaders' leadership, leave it to them, but to be there, and, when I can see there are unexpected situations, to be at hand. (Valerie, leader, Orange Program)

This position is understandable. If the programs are carefully prepared and the program activities closely interconnected, if the programs call for specific leader competences, for the leaders' knowledge of place and professional experience, and for many elaborated props, then the accompanying teachers' intervention may be difficult or even disruptive (see Figure 7). At the same time, the program leaders in our study sometimes criticized the accompanying teachers for their lack of interest in what is going on.

Figure 7 *A Program with Elaborated Props Makes the Accompanying Teachers' Involvement Difficult. Photo: SEV Český Ráj.*

Of the programs we observed, only the Orange and White Programs required the accompanying teachers to become actively involved. The Orange Program required the teachers to facilitate the activities before the program and then back at school. In the White Program, the teachers were intentionally motivated to lead some of the program activities to be seen as on the same level as the program leaders. Again, this approach was inspired by the existing published recommendations and the experience of the program designer.

While most of the accompanying teachers were satisfied with the roles they played in the programs, they tried to create their own space for shaping the program. This was obvious in the Green Program in which the program activities finished in the afternoons and the teachers organized the evening activities themselves. As a result, two types of tension emerged. First, the students were sometimes disappointed that

the teachers organized their free time, i.e., the time they hoped to have under their own control. Second, some of the teachers' activities we observed (a discotheque, a night-time "trail of courage") contradicted the values the program leaders wanted to communicate to the students.

3.4.2 The Designers, the Leaders, and the Parents in the Background

From the perspective of program designers, to prepare a sound environmental education program takes a level of expertise beyond the capacity of common program leaders. An approach based on expertise makes it possible to prepare a highly effective program that will ensure the achievement of the program's educational goals. Four of the five programs we analyzed were designed by someone other than the current program leaders.

In our research study, the relationship between program designers and program leaders was ambivalent. On the whole, the leaders liked the programs and the way they were designed. Nevertheless, they tended to criticize some of the program elements and expressed a wish to be able at times to modify the programs to make them better-suited for a particular context.

For example, the Blue Program was originally designed as a combination of (preferably) a five-day residential program and a follow-up community-based project. However, the budget for the program ran out, and the leaders realized they did not have enough resources to keep offering the program in its original form. Moreover, while the accompanying teachers appreciated the residential part, they were not very motivated to facilitate the time-consuming follow-up community-based project. As a result, the leaders decided to leave out this project and keep the residential activities only. The leaders worried that they may have compromised the program, but they felt there was no other way to deal with the situation.

The Orange Program has been designed by an international center and the program leaders run the authorized Czech version. The program is supposed to be conducted as it is, without any modifications, to keep its quality. Alena, an experienced leader of the program, has mixed feelings about this approach:

> That the program is so prepared is a big advantage for the leaders, they do not need to invent anything, they just learn to lead it. (…) Of course, the disadvantage is that it is not possible to improvise in the activities, that it must be conducted as it is prepared, (…) it does not allow one to flexibly react to the weather, to the situation that emerges in the group, etc. (Alena, leader, Orange Program)

Alena appreciates the quality of the program and does not question that to design a program on the same level of elaboration is beyond her capacity and competence. At the same time, she feels a need to be allowed to adjust the program to the immediate conditions, be it the weather or the currently participating group. If she is not allowed to make such adjustments, she feels tension in her relationship with the program designers.

Finally, we should not forget the role of the students' parents. While their control over the programs is rather indirect, it is still crucial. First, the parents decide if a student can participate in the program. Whatever the reason for a potential decline may be (ideological, financial), it has consequences for the overall effectiveness of the program because these programs expect most of the school class to participate together. Second, the parents interpret the meaning of the program and influence how long its effects last. For example, when the participants in the Orange Program attempted to challenge some of the behavioral patterns in their families (like burning plastic bottles in a stove), their attempts were rejected by their parents and siblings who were unwilling to change their daily routines. From this perspective, the family members in the background are the real winners of the negotiations related to influence over the program.

3.5 CONCLUSION

This chapter was about power and empowerment. It also became a chapter about a crossroad as we realized that the issue of power distribution among the program stakeholders does not offer easy solutions. Our conclusion was somewhat Solomonic: none of the ways leading from the crossroad of power is wrong *per se*, but each of them

is demanding and complex. In the following chapters, we will look at some other questions so as to consider this issue also from other perspectives.

To empower students by giving them the knowledge, tools, and skills to shape a sustainable life is an essential goal of environmental education. There is no single or easy way to do this in outdoor environmental education programs. However, it is far from being a lost cause.

4 FRAMING OUTDOOR EXPERIENCES IN OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS

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Chapter Abstract

How our outdoor experiences affect us depends on the meaning we derive from them. This meaning may be influenced externally by the frames created by program designers or leaders. In this chapter, we look at the design of outdoor environmental education programs from the perspective of framing theory. Accordingly, we analyze the ways in which program designers and leaders work with surface and deep frames, and how they use these frames to communicate the main messages of their programs. Based on our analyses, frames are considered important by program leaders. However, the application of frames in the practice of outdoor environmental education raises specific issues. This chapter briefly presents some of these issues and discusses their implications.

4.1 INTRODUCTION

> Frames play a powerful part in how we understand and interpret the world around us. (…) Imagine you are working at a stream keeping in mind the frame 'Small changes can have a big impact'. Ask your learners to experience this idea; e.g., they might change the water flow by removing a stone. Encourage them to transfer this finding to other areas of their own lives and to consider its relevance in terms of care for nature. Although the process of learning is quite open, you know where you are heading and your learners feel that this outdoor experience might be much more meaningful for their lives than just 'learning something about a stream'. (Real World Learning Model, 2020b)

When Jan was a young boy, he would walk in the White Carpathians with his wise grandfather. These potentially boring trips turned out to be wonderful experiences of nature investigation and of Jan's growing love for the green meadows and forested hills. Thirty-five years later, Jan still vividly recalls watching with fascination a grass snake squirming in front of his feet or a horn-beetle crawling on an old oak. To learn from an experience requires more than just to experience something: the same experience may be easily forgotten as meaningless for us or it may stay with us for a lifetime.

Jan's grandfather framed Jan's experiences in nature so that Jan could transfer sensory experiences into meaningful ones for himself. For some authors, framing plays a crucial role in outdoor environmental education. Rachel Carson (1965) described showing her adopted son, Roger, nature's beauty to nurture his "sense of wonder". Louis Chawla (1999) found that the ways in which children's experiences in nature are framed by significant adults can have a profound impact on the development of the children's environmental values and behavior.

In light of this, what does framing mean for the practice of outdoor environmental education programs? What frames are used and how are they applied in practice? Let us look at this aspect of these programs in more detail.

4.2 FRAMES MATTER

Imagine two programs about the forest. In one, leader Eliška describes the forest as a valuable resource that we need to exploit carefully. In the other program, leader Blanka presents the forest as a home to many living creatures. The language a program leader uses is important. Eliška's words promote some of the same values that have led to the environmental crisis (Bowers, 2001; Cachelin, Norvell, & Darling, 2010). It might happen unintentionally, if Eliška is not aware of this relationship, or intentionally, if Eliška believes in consuming natural resources responsibly. Whatever the reason, Eliška applies a particular frame for the interpretation of the students' experiences in the forest.

The metaphors that are used for the forest in this hypothetical scenario, calling it either "a resource" or "a home", likely bring up different feelings and values among the students. Conscious or unconscious interpretation of metaphorical signs is an essential part of human life from early childhood – as linguistics, semiotics, psychology, and cognitive science have shown, people usually think (and express things) metaphorically. We perceive and experience things in relation to other things, not just in language but also in thought and action (Lakoff, 1980). Moreover, metaphorical signs not only transfer meaning, they also carry associated attributes, feelings, and values. This issue can be studied from the perspective of framing theory. The theory of cognitive frames first appeared during the 1970s (Bateson, 1972; Goffman, 1974), and since then, it has influenced cognitive psychology, linguistics, and social studies, as well as mass communication strategies in advertising, political and advocacy campaigns, and marketing. According to Bateson (1972), frames are cognitive models which allow a person to interpret and evaluate a message. Frames are connected with further associations leading to narratives, metaphors, or themes that provide the deep meaning of the perceived message or reality (Cox, 2010; Cachelin & Ruddell, 2013; Arowolo, 2017; Real World Learning Model, 2020a). Frames motivate people's reactions to messages; they are essential for the way people interpret, understand, and respond to events and information (Adlon & Dietsch, 2015; Cachelin et al., 2011). It is likely that the different frames of our two scenarios – "the forest is a resource"

and "the forest is a home" – will lead to different interpretations by students about what a forest is and how we should treat it.

Further, framing theories point out that the audience's frames may overlap with or contradict the sender's frames, and that frames are reinforced every time they are activated, whether positively or negatively. People usually view the world through their frames, and new information is made to fit into these frames or is otherwise ignored. The only way to combat a frame is to reframe an issue in a different, more powerful and compelling way (Goffman, 1974). From the perspective of a child taught to interpret the forest through the "resource" frame, it could be difficult to accept the alternative perspective of the "home" frame. The process of building individual and collective associations, attributes, feelings, and values around a metaphorical sign ("the forest") can take time and is not always straightforward, but once the attributes are implanted, it is usually very difficult to modify them – they can become set in stone (Real World Learning Model, 2020b).

Frame analysis has frequently been used in the field of environmental communication and interpretation. Crompton (2010) analyzed the frames used in the campaigns of environmental organizations in the United Kingdom; Sangkil et al. (2016) compared various frames used to promote biofuels; Yocco et al. (2015) compared different frames used by selected zoological gardens to promote environmental concern; and Hart (2010) analyzed the many ways climate change is framed in the media. Similarly, other researchers compared the frames used in interpretative signs aiming to control visitor behavior in protected areas (Cialdini et al., 2006; Winter, 2006; Winter et al., 1998).

This body of research shows, overall, that frames matter. Different ways of framing an issue, such as using positive frames (most people act responsibly) or negative frames (people harm the environment), had different impacts on visitor behavior (Cialdini et al., 2006; Winter, 2006; Winter et al., 1998). Moreover, messages evoking biocentrically focused frames had a higher impact on the environmental concern of visitors to zoological gardens than egoistically focused frames. Texts associated with humans-as-part-of-nature frames evoked different associations from texts communicating humans-

-as-apart-from nature frames (Cachelin, Rose, & Paisley, 2015). Metaphorical frames enable the communicating partners to share perspectives and make their communication and interpretation efficient and fluent, but such frames can also narrow the communicated content to one central aspect and "hide" other aspects (Lakoff, 1980).

The application of frame analysis in the field of environmental education is still a relatively new field of research, only recently launched by Cachelin et al. (2010; 2011; 2013; 2015). However, the effort to intentionally influence the way in which students interpret their outdoor experiences is not new at all and can be associated with many well-established educational approaches.

4.3 FRAMES IN OUTDOOR ENVIRONMENTAL EDUCATION

Developing and using frames, and evaluating their impact, connects environmental education to linguistics, semiotics, anthropology, psychology, and psychoanalysis because frames as organizing cognitive structures are interlinked with the concept of signs. The concept of signs which transfer information has come to be understood as a fundamental cognitive postulate (Saussure, 1966; Heidegger, 1971; Jung, 1969; Eco, 1979), and it has strong implications for the development, application, and analysis of frames in outdoor environmental education. According to the Real World Learning Model (2020b), outdoor environmental education programs should be organized around a frame that provides a connecting story. This story should communicate the principles and values of sustainability. For example, the diversity frame communicates the following message: "In diversity is the preservation of life". The frames should be associated with values such as respect for nature or equal opportunities for all people. Further, they should be associated with self-transcending values as defined by Schwartz (2012, 2014), such as "unity with nature", "a world of beauty", or "protecting the environment". The Model also suggests differentiating between surface frames (related to everyday practice) and deep frames (related to a deeper meaning).

As described by the Real World Learning Model, surface frames provide a narrative for the learning experience that, through transfer of information via signs, leads students to grasp the deep frames associated with sustainability values. Crompton (2010) defines surface frames as introductory frames that get the attention of the audience, and deep frames as general concepts which carry certain feelings and values based on our experience. The concept of deep frames is connected with George Lakoff's (1980) "conceptual metaphors", i.e., the deep, central metaphors which organize the way we view and interpret the world and structure human experience in spatial, ontological, cultural, and personal domains (Lakoff, 1980).

The concept of framing a learning experience or using an activity as a metaphor to communicate something meaningful is not new in the educational field. Let us look at a few examples of how various educational approaches work with this concept.

Framing is one of the basic methods applied in adventure education programs (Gass & Priest, 1993; Schoel & Maizell, 2002; Priest & Gass, 2005; Gass & Priest, 2006). The theory of adventure education differentiates between various types of framing (metaphorical, isomorphic, etc.). Intentional use of framing is meant to help students to get involved in the activity and then to transfer their experience.

Let us consider the activity called Spider's Web (Rohnke, 1989). In this activity, the participants go through small holes in an artificial web made of ropes. It is good fun, and it contains a strong element of adventure and team spirit because one cannot solve the problem without help from the others. The activity can be introduced as a fantasy-like story or as a metaphor for solving a difficult work problem. The metaphorical frame of escaping from a spider's trap may evoke associations leading to the other, deep frame of dealing with difficult problems. This strategy is very powerful. Opening an activity with a metaphorical, easy-to-accept frame may help participants to uncover the deep frame, one that resonates with their real-life issues and that they might have been unwilling or unable to tackle directly.

Similar principles, while differently labeled, are used worldwide. One of the programs in our study, the Orange Program, has been designed according to the principles of the earth education approach founded in the 1970s by Steve Van Matre (1990). In this approach,

framing (even if called differently) plays an important role. The whole program is introduced as a "magical learning adventure" with elements of mystery. These stories are strongly connected with the deep frames that are associated with the program's intended educational outcomes (responsible environmental behavior). We will look at this more carefully when we analyze the Orange Program.

These principles also strongly resonate with the educational approach used in scouting. A "symbolic framework" is applied to farming activities, summer camps, or the ongoing work of scout groups. A single activity or the whole summer camp can be situated within a symbolic framework, usually a fictional adventure story with a deeper meaning. This story motivates the children while communicating deeper ideas connected with the learning goals (Horavova & Klapste, 2006; World Scout Committee, 2011).

In other educational approaches, the idea of framing the learning experience is part of an attempt to organize an educational program around a communicated theme, e.g., a strong central concept of the main message that the participants should understand. This approach is essential for thematic interpretation in which all the activities are designed to communicate one main message (the theme) that is crucial for understanding the importance of the interpreted phenomena (Ham, 1992; 2013). This approach has been shown to be more effective than disjointed transmission of dry facts (Tarlton & Ward, 2006).

In the Czech Republic, the idea of framing experiences in nature is well known due to the highly influential works of the Czech non-formal educator Jaroslav Foglar. Foglar intentionally framed boys' outdoor experiences as adventure quests, encouraging the boys to strive to develop their personal qualities in order to become as good as the idealized hero of the story. Particularly popular were the idealized portraits of Native Americans as bearers of personal wisdom, woodcraft, and responsible life (Pecha, 1999; Martin, Leberman, & Neill, 2002; Martin, 2011; Jirásek & Turcova, 2017).

The symbolic framework, the central theme, or similar concepts are often used as an organizational principle applied in summer camps and outdoor environmental education programs. Now we will look at how they work in the five programs we analyze in this book.

4.4 FRAMES IN PRACTICE

All the programs in our study used elaborated surface frames, including apprentice training obtained from a mystery person (Orange), the story of life returning on a destroyed volcanic island (Green), a mystery tree with cut-off roots (Blue), the wisdom of Native Americans (Yellow), and the adventures of a youth club in the outdoors fifty years ago (White).

Figure 8 *Symbolic Surface Frames May Be Expressed by Various Tools, Including Drama and Fun. Photo: SEV Jizerka.*

These surface frames were communicated by various tools (see Figure 8). Most of the programs used props and sets (a picture of the island, the mystery person's lab, long sticks with feathers, etc.), songs, diaries, and rituals to communicate the frames. The most common general principles used in communicating the surface frames seemed

to be adventure and mystery. These principles were used by the program designers to attract students' interest to participate in the program activities. Other reasons for using these frames included efforts to organize the program into one whole and to explain the meaning of the individual activities. The opinion of Jarmila, a leader in the Green Program, summarizes the view of most of the program leaders we interviewed:

> I like that the program is motivated by a story, and that whether it is something that really happened is a little bit mysterious for the children. And this fascinates them… (Jarmila, leader, Green Program)

This feeling was supported by most of the participating students. When the program's surface frame was well-elaborated, with a sense of mystery and adventure, the students tended to get engaged in it (see Figure 9). In the Orange Program, in which the students learned from a mystery person named E.M. the secrets of the essence of what

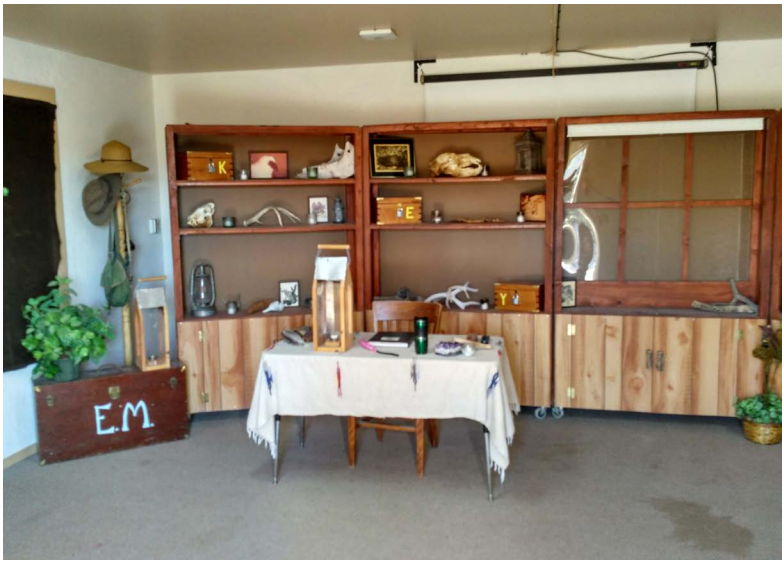

Figure 9 *The Mysterious Atmosphere of E.M.'s Lab. Photo: Jan Činčera.*

"being an Earthkeeper" means, the students spontaneously asked if the program leaders knew this person, what gender E.M. was, etc. According to the program leaders, after some time the students started to realize that E.M. was an imaginary person. However, for the most part, they continued to follow the imaginary scenario. The truth about who E.M. was remained a tacit, unspoken, and shared understanding between the students and the program leaders.

Regardless of whether the students still believed in the existence of E.M., the surface frame continued to motivate them to "become Earthkeepers". It also worked as an easy way to explain the meaning of the activities prepared by the program leaders.

However, the delicate game of using made-up surface frames does not always work and may in fact become a source of certain problems. As we could see in the previous chapter, for Marek in the White Program, it was important that the program be based on an authentic experience. To motivate students and to provide them with the key to the deep frame of the White Program, the program designers fabricated a journal of a youth club documenting the children's adventures in that same geographical area fifty years ago. Petra, a young leader cooperating on designing the White Program, reflected on her dilemma:

> We came to this point quite late in the process of designing the program that, yes, we are lying to these children. But (…) we tell them we found the journal, which is not true, but at the same time, we tell them we do not know if it is the truth, that someone may have made it up. (…) So, from my perspective, it does not matter (…), we keep it concealed by mystery, and they can trust it or not. (Petra, designer and leader, White Program)

This tension was also commented on by some of the students. For example, when the students in the White Program discovered that the existence of the youth club from the past could not be verified, one of the ten-year-old students participating in the program reacted negatively:

> I was angry, (…) they told us we would find one of the people from this (youth club), but we did not find them, and so that (…) this secret, nobody knows yet. (male student, about White Program)

The issue of authenticity is one of the problems associated with using surface frames. Another problem is the relationship between the surface frames and the deep frames.

While the majority of the program leaders in our study agreed that their program should have a deep frame functioning as a kind of central message or a theme expressing the main idea, most of them were unable to articulate what the deep frame of their program was. Except for the Orange Program, the deep frames remained rather implicit, or different program leaders of the same program had different interpretations of what the deep frame of their program was.

An interesting situation emerged in the Yellow Program. The original surface frame of the program was "Survival in Nature". However, after some time, the leaders realized that this frame did not motivate school teachers to select the program, probably because they were afraid of what might happen to their students during the program activities. As a result, the team re-framed the program, using the frame of "Woodcraft". While this helped to attract more teachers, both the frames remained at play, with some of the program leaders preferring to speak about survival in nature while others spoke about the wisdom of Native Americans. Consequently, the deep frame of the program was also unclear and somehow two-fold. While the "Woodcraft" frame encouraged students to relate to nature through wisdom and responsible life, the "Survival in Nature" frame did the same through challenges to be overcome. However, these deep frames may be associated with different sets of values: the first one with the values of universalism (responsibility, wisdom, nature connectedness), the other with achievement.

This dilemma was further reflected in the program activities when some of them were competitive and motivated students to achieve something, while others focused on understanding nature.

Interestingly, the problem of double frames in the Yellow Program did not seem to have a high impact on the students. When we asked the participants "what the program was about" and "what they learned", most of them answered that the program was about caring about and responsible behavior in nature ("we should behave well in nature", "it is important to help nature", "we take from nature only what we need"), or they reported general statements expressing the

importance of nature ("nature is my home", "nature is important"). Only about ten percent of the students summarized their experience in a way that echoed the "survival framework", saying that the program was about "how to survive in nature or what of nature can be used for food", that "it was about surviving in nature".

The uncertainty about the deep frame of the program (i.e., what the program wanted to say) was reflected in how clearly the surface frame was linked with the deep frame. This link was carefully elaborated in the Orange and Green Programs. As we could see, the Orange Program linked both frames in terms of a master-apprentice relationship in which a mystery person, E.M., indirectly taught the students to appreciate and understand nature (see Figure 10).

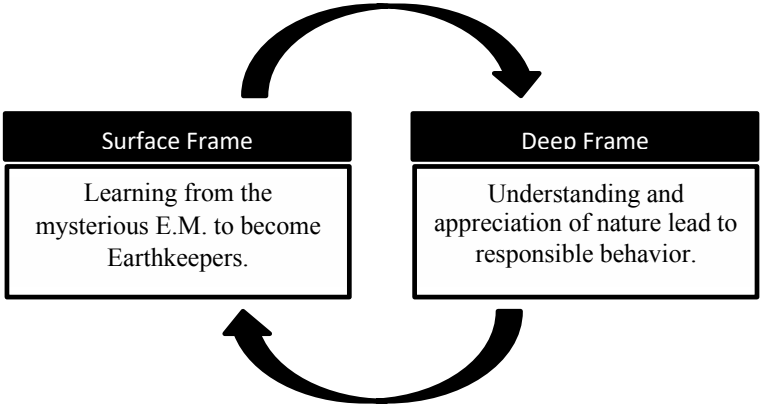

Figure 10 *The Master-Apprentice Relationship between the Surface and Deep Frames in the Orange Program.*

The Green Program built this link between the surface and deep frames through a generalization of the concept communicated by the surface frame (a volcanic eruption and the gradual return of life to the island) to refer to the deep frame of the return of life:

> The story that the program is about is not made up, but it describes the return of life, succession, on a specific example, so it makes sense to me. (Jarmila, leader, Green Program)

In the White Program, the link between the surface and deep frames did not work so well. The idea was based on showing the students a mirror of what children of their age did in the past and what they can do now. However, the students were not encouraged to discuss this comparison in the program, and so the deep frame (an adventure in nature) remained implicit.

In the Blue Program, Daniel, an experienced program leader, gave up on communicating the deep frame:

> It did not work well, I think. This main message, we often repeated it, but (…) when the message was too complicated, the children did not get it. (…) For the young children, (…) it was not the most important thing that they took away. And for the older ones, difficult to say. (Daniel, leader, Blue Program)

In this program, the original relationship between the surface and deep frames was based on allegory. The program leaders presented the story of an old mystery tree that had lost its roots, which represented the metaphor of the need to belong somewhere, leading to the deep frame of "the sense of place". However, the program was reduced by budget cuts, the activities introducing the frame were partly eliminated, the allegory was not discussed with the students, and it became difficult to grasp. Consequently, while the students seemed to enjoy the program activities, they did not reflect on their deeper meaning. As a result, the program lost its central theme and was just a set of loosely connected activities.

4.5 CONCLUSION

Designing outdoor environmental education programs from the perspective of framing theory is important, but it is also a very challenging undertaking. Overall, our study backs up the recommen-

dations of the Real World Learning Model (2020b). However, the implementation of these recommendations may differ depending on whether a particular program is shaped by the designers and leaders or whether control over the program is shared with the participating students (or teachers). Accordingly, the program frames can be elaborated by the adults, or the students may be encouraged to create their own metaphors for what the program is about. It is possible that elaborated frames do not work well in the participative approach. Nevertheless, for the programs that are shaped by the adults, frames are instrumental in boosting student motivation, explaining the meaning of the program activities, and supporting the program's learning outcomes.

To allow students to connect the program activities with the learning goals, program designers should create not only a surface frame but also a clear deep frame communicating the message summarizing the program goals. Additionally, the surface and deep frames should be tied together. We could see that this is not always the case, as the program designers and leaders in some of the programs had difficulty in expressing "what the program is about" or how a surface frame should evoke the deeper meaning of the program. However, we could also see that other factors communicating the meaning of the experience are at play as well. Students seem to be able to predict what the program will be about. They also seem to be influenced by the program leaders as their role models, and by the overall approach of the environmental education center. In light of this, elaborated and well-communicated frames are likely just one of the means that shape students' interpretation of their outdoor experiences.

5 VALUES IN OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS: BETWEEN EDUCATION AND ADVOCACY

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Chapter Abstract

Should or shouldn't outdoor environmental education programs promote particular values? This chapter focuses on the tension between trying to avoid manipulation and trying to pursue the aims of environmental education. We summarize the discussion of values in environmental education and outline Schwartz's theory of universal values, then we analyze what program leaders think about values and how they deal with the issue in their practice. We argue that no education is value-free. Based on our research study, we found a normative, value-laden approach in outdoor environmental education to be controversial but still the most suitable approach for these types of programs. In the conclusion, we examine various methods of shaping environmental values in outdoor programs.

5.1 VALUES ARE CONTROVERSIAL – AND NECESSARY

> Environmental educators, therefore, need to be as 'value-fair' or 'value-free' as they can when working in this role. They must scrupulously strive to get all the facts, examine and illuminate all the viewpoints, and keep from letting their particular position (as an environmentalist) from mixing with their educator role. (Hug, 1977)

> The goals of environmental education are (…) to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment. (Tbilisi Declaration, 2005)

Traditionally, shaping environmental values has been considered an essential goal of environmental education. When we engage in environmental education, we believe that we will change students' worldviews, moral perspectives, and values to make them more motivated and willing to participate in environmentally responsible actions (Scott & Oulton, 1998; Baker et al., 2019; Tbilisi Declaration, 2005). There is strong evidence that this is what environmental education programs in many cases actually do (Bogner, 1998; Johnson & Manoli, 2008; Manoli et al., 2014; Mullenbach, Andrejewski, & Mowen, 2019; Johnson & Cincera, 2015). Environmental attitudes and values are considered to be predictors of responsible environmental behavior, which is the ultimate goal of environmental education (Bamberg & Moser, 2007; Kollmus & Agyeman, 2002; Heimlich & Ardoin, 2008).

However, the effort to change students' values has been misused by totalitarian regimes far too often for us to remain blind to its potential risks. From a Central European perspective, such ambition sounds suspicious.

In the United States, John Hug (1977) opened this question in his famous essay "Two Hats". According to Hug, the role of an educator is different from the role of an environmentalist. While both roles are important, a person cannot play both at the same time – being a teacher means not advocating for a particular position toward an environmental issue. However, what would this mean in practice?

As many scholars assert, education is never value-free and is always rooted in some, implicit or explicit, values (Stevenson, 2007; Poole et al., 2013; Veugelers, 2010; Cairns, 2002). Veugelers (2010) suggests that teachers may declare their value neutrality, but it is never achieved, as all teachers express particular values in their teaching. Moreover, other values are communicated indirectly, through the hidden curricula (for example, the level of students' freedom to participate in decision-making at school) or through the prescribed curricula (for example, the values of democracy or economic growth that are often incorporated in national curricula documents). From this perspective, environmental education is rooted in values such as "protection of nature", "unity with nature", "justice", and other values of universalism (Schwartz, 1994, 2014).

Moreover, promoting particular values seems to be crucial for achieving the main mission of environmental education. As we could see in the opening quote from the Tbilisi Declaration, environmental education has behavioral intentions, whether its aims are interpreted as direct behavioral modification or as development of competences for sustainability. Decades of research have shown that affective variables such as environmental sensitivity and eco-centric values and attitudes play an important role in people's willingness to engage in pro-environmental behavior (Stern, 2000; Goldman et al., 2020). In light of this, value-free environmental education would be in contradiction with its own fundamental principles. However, this is not without its consequences. To see what these consequences are, we need to look at this issue from the perspective of the theory of universal values.

5.2 THE THEORY OF UNIVERSAL VALUES AND ITS IMPLICATIONS

Schwartz (2012) identified ten basic groups of universal values, or values accepted all over the world (see Table 2).

Universalism	Broadminded, Equality, Unity with the World, Protecting the Environment, a World of Beauty, Inner Harmony, World Peace, Social Justice, Wisdom
Self-Direction	Freedom, Independent, Curious, Creativity, Choosing Own Goals, Privacy, Self-Respect
Benevolence	Mature Love, Spiritual Life, Helpful, Forgiving, True Friendship, Meaning of Life, Honest, Responsible, Loyal
Stimulation	Daring, Variation in Life, Excitement in Life
Hedonism	Enjoying Life, Self-Indulgent, Pleasure
Conformity	Self-Discipline, Politeness, Honoring the Elders, Obedient
Tradition	Humble, Detachment, Respect for Tradition, Devout, Moderate, Accepting My Portion in Life
Achievement	Intelligent, Capable, Successful, Influential, Ambitious
Power	Social Recognition, Social Power, Wealth, Authority, Preserving My Public Image
Security	Healthy, Family Security, Social Order, Clean, Sense of Belonging, Reciprocation of Favors, National Security

Table 2 *The Groups of the Values in the Schwartz Model.*

Some of the values are mutually supportive (conformity and safety), while others contradict each other (benevolence and power). The structure of these relationships is often presented in the form of a map or a chart. In Figure 11, we can see how the groups of values are organized.

According to Schwartz, while the neighboring values support each other, the opposite values contradict each other. As a result, by promoting the values of universalism, we also promote the nearby values of benevolence and self-direction, and we compromise the values of power.

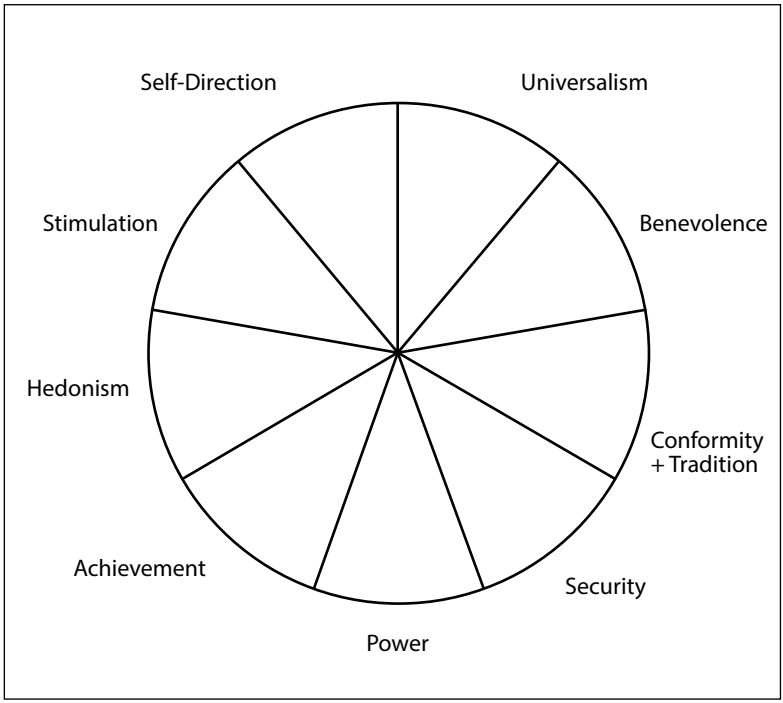

Figure 11 *The Organization of the Values in the Schwartz Model.*

As Schwartz (2012) saw it, people of all cultures emphasize the values of universalism, benevolence, and self-direction over the values of power. From the perspective of environmental education, this is very important, since it could be interpreted as an argument for a widespread tendency to protect the environment and find a balance between social and environmental needs. Simultaneously, the Schwartz Model shows that by promoting the values of protecting the environment, we implicitly clash with the values of social power, authority, and wealth. Similarly, by promoting students' self-directed learning and autonomy, we implicitly clash with values such as social order and security. By its very nature, environmental education is value-laden and unavoidably leads to confrontation with those whose values it compromises.

Schwartz's theory has been applied in the fields of environmental communication as well as environmental education. The non-profit organization Common Cause (Blackmore et al., 2013) analyzed the underlying values and frames communicated by environmental organizations in the United Kingdom. Based on their analyses, they strongly recommended communicated frames supporting the values of universalism and benevolence rather than the values of security, achievement, and power. The same recommendation was formulated for the field of outdoor environmental education programs in the Real World Learning Model (2020c).

However, the effort to apply the Schwartz Model opens further areas of questions. While Schwartz considers the values in the power group to be the weakest, other authors have pointed out these values' ability to camouflage as other, socially more acceptable values (Cincera, Binka, & Cerny, 2015). For example, in their analyses of environmental education textbooks, Ideland and Malmberg (2014) identified a resemblance between the mechanisms applied to promote what is seen as the "right" values and mechanisms applied by the Catholic Church in the Middle Ages. The ideal, "eco-certified" child should be, according to their interpretation of the textbooks, formed by the discourses of personal guilt and personal sacrifice for saving the Earth. The striving to find appropriate ways to promote students' environmental values may lead to entering into a precarious field where only an honest self-reflection may prevent program leaders from the risk of manipulation and, therefore, paradoxically, the risk of promoting the values of power.

5.3 VALUES EDUCATION AND ENVIRONMENTAL EDUCATION

As we have argued, education is never value-free. Environmental education is based on the values of universalism and, therefore, promotes these values in its practice. However, this leads to inevitable clashes with social groups or individuals preferring some of the other groups of values.

These clashes have emerged repeatedly in different regions and at different times. In the United States, this issue was described by Michael Sanera (1998). According to Sanera, environmental education tended to indoctrinate students by using environmental activists' unbalanced opinions and attitudes. In contrast to such practice, Sanera said, environmental education should focus on providing scientific knowledge rather than on shaping students' values and attitudes: "facts, not fear". In the Czech Republic, we have experienced similar waves of criticism, especially from nationalist right-wing positions. In particular, climate change has become a catalyst for heated debates challenging the significance of environmental education in a democratic society.

Nevertheless, such criticism has also encouraged fruitful discussion among environmental educators and helped them to reflect on the meaning of their field. The Guidelines for Excellence published by the North American Association for Environmental Education stressed the importance of "fairness" in presenting different perspectives on environmental issues – which, implicitly, means dealing with different values equally (NAAEE, 2000).

In light of this, the question of how best to approach values in environmental education may be of higher importance than why. Two streams of thought have emerged.

The first group of authors is more or less consistent with the Guidelines for Excellence. According to them, the practice of environmental education must seek a balance between indoctrination and education (Jickling, 2003; Jickling & Wals, 2012; Jickling & Spork, 1998; Disinger, 2001; Holsman, 2001). As a result, teachers should cover several different perspectives and refrain from enforcing any particular value.

However, according to the other standpoint, such balance is unachievable. As Helena Kopnina (2012) argues, despite trying to promote a pluralistic perspective on ethical issues, education for sustainable development is based on the concept of anthropocentrism. According to this concept, it is human needs that are valued and the value of nature becomes instrumental, measured by the degree of nature's usefulness for humankind. As a result, an effort to achieve pluralism may have a limited benefit. Any education dealing with

nature is always rooted in a particular, either anthropocentric or bio-centric, ethical perspective. The key is what people believe is worth promoting.

In this context, the following questions need to be considered: What values are promoted in outdoor environmental education programs? And particularly, how do these programs communicate the value of nature – as a living society that has its own, intrinsic value, or as a resource valued based on how much it satisfies human needs? Franz Bogner (2018) defined three main environmental values:

- preservation of nature, reflecting the bio-centric perspective of nature conservation and preservation;
- utilization of nature, based on the anthropocentric perspective of nature as a resource for satisfying human needs; and
- appreciation of nature, a mixed perspective expressing a disposition toward people's positive nature experience.

Even though they are ontologically different, the anthropocentric and bio-centric perspectives are not necessarily mutually exclusive. The set of our beliefs about the world is often contradictory. The same person may accept the intrinsic value of nature and support nature protection for nature's intrinsic quality while at the same time agreeing with the need to alter nature to satisfy human needs. Again, this makes the question of dealing with values in environmental education complex. What options do we have?

Caduto (1985) identified eight distinctive strategies that can be applied in environmental education:

- laissez-faire (not dealing with values at all);
- moral development (focusing on gradual, age-appropriate methods of dealing with issues through discussing ethical dilemmas with students);
- inculcation (instilling particular values considered desirable through moralizing, modeling, and reinforcement);
- values analyses (based on logical thinking and on analyzing values);
- values clarification (highlighting students' self-awareness and the identification of their values);

- service learning (based on acquiring values through action);
- behavior modification (assuming value change after behavior change); and
- confluent education (based on a holistic approach in schools).

As we can see, these strategies elaborate on the very general ideas we have already discussed. When dealing with values, any outdoor environmental education program is at a crossroad. One way leads to the laissez-faire, i.e., value-free, approach. We may decide not to deal with values at all, based on the assumption that education should be value-free. Another way calls for ethical pluralism. We choose to develop students' competence to critically assess various values, and we curb our effort to promote some values over others. And another option is to deliberately support particular values (preservation of nature) taught by inculcation. Let us look at these options from the perspective of practice.

5.4 VALUES IN OUTDOOR ENVIRONMENTAL EDUCATION PRACTICE

5.4.1 Value-Free Outdoor Environmental Education

The belief that environmental education should be value-free and outdoor program leaders should respect the laissez-faire strategy is widely spread, but it probably does not dominate in the field. Let us look at this from the perspective of Hugo, a young leader in the Blue Program.

Hugo is in his twenties and has recently finished a Bachelor's program in leisure education. As the Blue Program's center is small, Hugo must manage much more than teaching students. He plans the stays of the school groups that come to the center and fixes smaller technical problems when necessary. According to Hugo, program leaders should apply a laissez-faire strategy in their practice:

> I do not think we should push any values into children's heads. (…) I like it when they, after what they have seen and done, make their own values. (Hugo, leader, Blue Program)

Hugo supports the need for the program's ethical neutrality. However, the Blue Program which Hugo leads is not value-free. Its frame (the lost roots) evokes the concepts of a sense of place and a sense of belonging. Hugo also uses value-laden language. For instance, when he introduced the program, he stated that "people, like trees, need their roots". This is clearly associated with a sense of belonging, one of the values of security.

When leading the students' interaction with nature, Hugo and the other leaders in the program provide a variety of perspectives on nature values. For instance, when the students observed a peat bog, Hugo told them about the grouse living in the area and stressed the need for their protection.

In another part of the program, peat bogs were described as "useful to us" (utilization of nature) because we can "enjoy a new experience in a peat bog" (appreciation of nature), "peat-bogs are a home to many unique species" (nature protection) and "the source of wonderful fairy-tales and stories" (appreciation of nature). The program also presented the way peat was used in the past for industry (utilization) and explained the reasons why this practice is forbidden now (nature protection).

Altogether, many different types of values were communicated in the Blue Program and, based on our experience, in all the programs we observed. Education, as stated earlier, is not value-free. The laissez-faire strategy tries to avoid this fact. However, laissez-faire does not seem to be a realistic approach in outdoor environmental education.

5.4.2 Pluralistic Outdoor Environmental Education

Other program leaders believe in the importance of a balanced pluralistic approach. For example, Václav, a middle-aged leader in the Orange Program, believes that when teaching about a forest, leaders should explain to students that it can be interpreted as a source of both instrumental and intrinsic values:

> To keep the balance between the two poles (…). If we present in the program just the first pole, or just the other, then it may happen that the children, when a little older, will bump into the wall of this 'truth' (…), and then they will say, 'they were lying to us'. (Václav, leader, Orange Program)

There are also other good reasons for such plurality. As we could see, the Blue Program, and the other programs as well, communicate a set of different, often seemingly contradictory, values. For example, the Yellow Program communicated the values of universalism (protection of nature, unity with nature, wisdom), stimulation (daring), and achievement (success) (see Figure 12). Specifically, the program leaders encouraged the students to act with care in nature ("Native Americans had the wisdom to live in harmony with nature") and to cooperate ("this is not a competition"). However, they also encouraged the values of achievement and success by counting the students' scores in selected activities and motivating them to earn more ("you have got a high score … you can do this to get three times more").

Moreover, various leaders of the same program may not share the same understanding of the values they want to communicate. Let us meet Irena.

Irena is an experienced leader in the Yellow Program. She has been working for the center for more than ten years. She is a leader who believes in the importance of a sensitive, bio-centric approach to nature. She would be happy if the program she leads promoted the values of universalism because she believes this is what the idea of woodcraft is about. However, she realizes that not all the program leaders are of the same opinion. Should her colleagues be forced to communicate the same values as Irena? However tricky this question may be, Irena believes that no, they should not, even if it means that the program communicates a range of different value perspectives and each run of the program is slightly different.

Nevertheless, a pluralistic approach assumes providing students with the opportunity not only to be introduced to but also to analyze different values embodied in a specific context. Such analyses call for particular methods (discussion, reflection, essays), and we did not notice any of these being used in the observed programs.

This leads us to the question of how widespread the pluralistic approach is in the context of outdoor environmental education programs. While we do not want to deny its application by some centers, the prevailing practice is likely different.

5.4.3 Normative Outdoor Environmental Education and the Issue of Inculcation

In the five programs under our investigation, we observed many instances of promoting the values of universalism (nature protection, unity with the world, inner harmony, wisdom), benevolence (cooperation), self-direction (independence, curiosity), stimulation (daring), or hedonism (pleasure). Marginally, we noticed also other values, such as achievement (success), power (authority), and conformity (self-discipline) (see Figure 12).

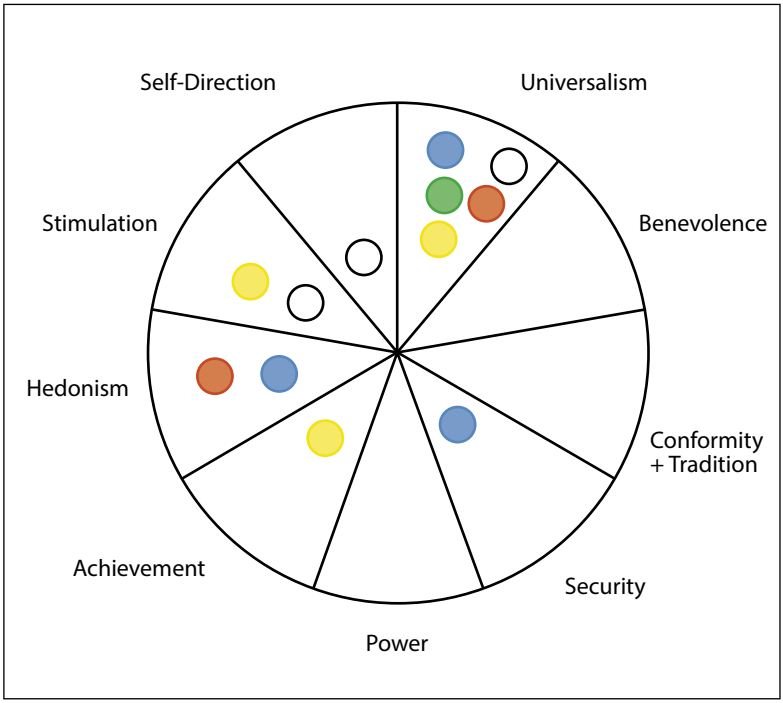

Figure 12 *The Most Frequently Communicated Values in the Observed Programs. The Colors Indicate the Observed Programs.*

As we can see, with the exception of the Green Program, in addition to the values of universalism, the programs communicated also other, in some cases mutually contradictory, values. At the same time, the intersection of all the programs was in the values of universalism, with the program leaders highlighting the importance of nature protection and the beauty of nature.

These values were inculcated by modeling, moralizing, and the use of value-laden language by the program leaders. Apart from moralizing spontaneously in some immediate situations, the leaders moralized deliberately, as part of planned activities. When Alena in the Orange Program led an activity focused on the food chain, she intentionally used value-laden language:

> We have to protect nature, so be careful and do not harm animals. (…) Think more about your decisions, it does not take much to disrupt food chains. (Alena, leader, Orange Program)

Modeling was another frequent strategy used in the observed programs. For example, the leaders in the White and Blue Programs used the opportunity to pick up litter in the protected natural areas and encouraged the students to help them. The leaders in the White and Green Programs modeled their authentic interest in nature observation, and were somewhat mimicked by the students. When Jaroslava, a young leader in the Green Program, found a big bug, she exclaimed:

> Oh, you beauty! Oh, it is so magnificent! (Jaroslava, leader, Green Program)

The values of protecting nature were also indirectly communicated by the facilities of the centers in three of the observed programs. These facilities are designed based on principles of energy and water efficiency, and they provide local, healthy, and mostly organic food. Last but not least, particular values were communicated by the program frames. As we could see, the Orange Program was introduced as a training center for students who want to become Earthkeepers. As a result, protection of the environment was the underlying

communicated value through the whole program. Similarly, the Yellow Program was framed by a story about Native American woodcraft, and so the value of wisdom was repeatedly highlighted in the program activities.

Most of the leaders we interviewed agreed that their programs are not value-free, and that they promote particular values associated with the mission of the center.

Jaroslava is well aware of the value-laden processes she helps to facilitate in her program:

> I do not see our program as value-free. It is about what it (the program) is based on, respect toward life (…) and toward what we investigate. (…) And I do not think that the values are connected with nature only. It is also about how we speak about cooperation (…), that we do not use competition in this program – this is also value-laden to me. And how I speak about something, what I appreciate, forms how the children perceive it. (Jaroslava, leader, Green Program)

Therefore, inculcation, either direct or indirect, seems to be a reasonable strategy. However, this opens the question: at which point does an appropriate strategy turn into inappropriate manipulation?

There is no clear answer to this question among the group of program leaders in our study. For some of them, the boundary lies in the authenticity of the learning context. Let us look at a short exchange between Marek, a highly experienced leader, and a 10-year-old boy participating in the White Program. This exchange took place during a field trip when Marek shared with his group of students the story about the environmental consequences of hunting deer in the area:

> Male student: And why should the deer be here, then?
> Marek: And why are you here? They simply live here on their own. (Marek, leader, White Program)

As we can see, Marek used a relatively straightforward inculcation strategy, addressing directly the boy's values. At the same time, the situation emerged spontaneously, without previous planning. By answering the boy's question, Marek expressed his value perspective

on the issue, but he did not directly force the boy to accept it. However, given the role model Marek was playing, it is reasonable to say that Marek deliberately challenged the student's values with the intention to change them according to the program's mission.

Other leaders believe that some level of manipulation of students is acceptable if it is well-intended. The key principle for them is respect for the students' freedom to not accept the values supported by the leaders. Alena, an experienced leader in the Orange Program, expressed this idea:

> I do not think teachers should be value-free. On the contrary, teachers must be clear and easy to understand in their values, but it is up to the children whether they accept these values or just some of them. (Alena, leader, Orange Program)

5.4.4 Does Normativity Matter?

The impact that promoting environmental values can have on students is far from straightforward. Of the observed programs, we found a possible effect on students' values only in the Orange Program where it has been repeatedly documented (Manoli et al., 2014; Johnson & Cincera, 2015; Johnson & Manoli, 2008). However, most of the students participating in the programs in our study reported they learned that "nature is important and we should protect it", "nature is precious", "we must unite with nature and protect it", "we need nature and should protect it", "nature has its own rights", and other value-laden comments. While these comments do not necessarily indicate strengthening students' environmental values, they do show that these values were supported by the programs.

In our statistical analyses we found that students' environmental values as measured after their participation in the program are influenced by several factors. The first factor is the environmental values the students had before the program. The more students supported nature protection and the more they appreciated nature's beauty before the program, the more they tended to be positively influenced by the program.

Students with a high level of pro-environmental values also saw the programs more positively than other students. The main factor influencing students' environmental values after the program was how much they believed that the program encouraged them to do something for the environment. Direct strategies, such as telling students what they can do for the environment and program leaders' modelling of responsible behaviour, seem to be crucial for enhancing the environmental values of those students who had already held a high level of these values before the program.

In contrast, the minority of students with a high level of utilization values tended to be critical of the program and reflected on their activities as meaningless.

Comparing the programs, we can see that they did not significantly differ in what values they communicated. However, we found that the Orange Program, the only one with confirmed effect on students' values, was also the program with the highest level of encouraging students to do something for the environment.

The high level of this kind of encouragement in the Orange Program was noted by our observers as well as reported by the students. The leaders in this program reflected with the students on what they can do to decrease their consumption of energy and materials so as to do something for the environment, and the students made "pledges" about what they will do as their follow-up task after they return home (see Figure 13). In the other programs, the leaders' encouragement was rather implicit or limited, focusing mainly on caring behaviour in nature or on respecting the rules of environmental management in the center's facility.

Figure 13 *A Leader in the Orange Program Is Reflecting with Students on What They Can Do to Help the Environment. Photo: Jan Činčera.*

5.5 CONCLUSION

We started this chapter with Hug's brilliant essay on the two-hats issue. We could see that, regardless of its relevance, Hug's argumentation can hardly be the way to follow in outdoor environmental education practice. No matter how hard we may try to remain neutral, this practice seems to be inevitably rooted in promoting particular values that are, by different means, inculcated into students.

This does not mean that anything is possible. Program leaders seem to be aware of the ethical consequences of inculcation and try to stay within socially acceptable boundaries. Students are not forced to accept the presented values, and they have the right to stick to their perspective. However, when we are speaking of young students who admire their leaders, it is hard to ignore the reality of the normative nature of most such outdoor environmental education programs.

Regardless of the above-mentioned controversies, we assume that, because we are facing an environmental crisis, the values promoted by these programs are of high importance in contemporary society. Outdoor environmental education programs play their role in this story. And whatever doubts we may have, inculcation of particular values is part of it.

6 EXPERIENTIAL LEARNING IN OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS: A SOURCE OF LEARNING AND CONFUSION

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Chapter Abstract

This chapter focuses on program leaders' personal theories of experiential learning. While the program leaders in our study all agree that outdoor environmental education programs should be experiential, the individual leaders' personal theories of what and how students should learn by experience vary considerably. In this chapter, we identify three distinctive types of leaders' personal theories and show that each type provides different answers for program design and implementation. We also analyze these personal theories' weak points, their deviations from research-supported educational theories, and their other inconsistencies. Finally, we discuss the potential relationships between program leaders' personal theories and the other crucial decisions regarding program design that were covered in the previous chapters.

6.1 INTRODUCTION

> I have a good story from the last run of the program. We were searching with the third eye (a magnifying glass), when a boy ran to a birch with a hole in it, leaned down over the hole, and suddenly heard, 'SSSS!' from the hole. He jumped away as if someone had shot him, screaming: 'There is a snake!' Wow, a snake! Everyone surrounded the hole, what shall we do? Shall we look at it? Fear. So I switched on the lantern, shined the light inside, and we heard a very strong, 'KSSSCHSS', a loud hissing. And I said, it is a weasel, it has something hidden in there. And everyone was waiting to see what would jump out of the hole, and so I shined the light in it again, and it was a coal tit, sitting on its eggs, but so loud. I didn't know it could make such a loud noise, either – like a wild beast. And all the children went crazy that a tit lives in a hole and, in defense, makes such a noise. And this is the kind of knowledge not many children have, like, wow, nature is interesting! (Václav, leader, Orange Program)

What we experience is what we remember. As mentioned earlier, young Jan's outdoor experiences in the mountains with his grandfather led him to the moment when he started his research in environmental education.

Unlike classroom learning, outdoor learning offers the opportunity to learn from what students experience in real-world settings. This is what makes outdoor learning so powerful, and this is also what makes it so challenging.

The importance of encouraging students to learn through their own experience in real-world settings has been a long-time principle in the field of environmental education (Athman & Monroe, 2001; Rickinson, 2001; Vos, n.; Real World Learning Model, 2020b; Lumber, Richardson, & Sheffield, 2017; Monroe et al., 2017). However, this is only where the journey begins.

Many authors have elaborated on what experiential learning means (Morris, 2019). Most of these authors define experiential learning as utilizing students' own experience of learning through the process of reflection and transformation (Kolb, 1984; Johnson & Johnson, 2006; Moon, 2005; Prouty, Panicucci, & Collinson, 2006; Parry & Allison, 2020). All these authors stress the importance of cognitive elaboration

on the experience in debriefing sessions consisting of reflection, generalization, and application of the experience (Kolb, 1984; Johnson & Johnson, 2006; Moon, 2005; Prouty, Panicucci, & Collinson, 2006). Further, these authors highlight the infinite (cyclical) aspect of experiential learning, as the experience may be transformed into a new "action theory", be further tested, and become the source of a new experience (Johnson & Johnson, 2006) (see Figure 14). We have already discussed the influential role of framing experiences by teachers, leaders, or significant adults.

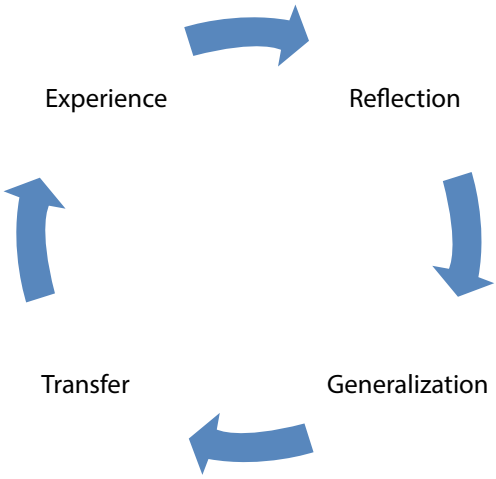

Figure 14 *The Experiential Learning Cycle.*

Additionally, Kolb (1984) and Kolb & Kolb (2017) outlined the concept of student learning styles, that is, the relative preferences of students to learn more easily in some parts of the learning process than in others.

When we take all the above-mentioned points into consideration, we can see that while the experience itself provides an opportunity for learning, this opportunity needs to be further built upon. From

this perspective, we may interpret experiential education as a group of theories analyzing the ways used for such building upon the learning opportunity to direct the effect the experience will have on students. We can also see that our effort to direct students' experience opens further questions of power and control: should it be the students or the adults who decides what is going to be experienced and what meaning the experience should have?

In this chapter, we will focus on the perspective of outdoor program leaders. Specifically, we will try to answer these questions: How do program leaders interpret what experiential learning is? What are their personal theories of experiential learning? How do they implement this interpretation and the related theories in their practice?

But first, we will consider more generally some aspects of the relationship between teachers' beliefs and their practice.

6.2 WHAT MATTERS IS WHAT THE TEACHERS BELIEVE

What teachers believe about teaching forms the basis of their practice. Teachers' beliefs about teaching practice have been studied and analyzed repeatedly (Flogaitis, Daskolia, & Agelidou, 2006; Moseley & Utley, 2008; Kyung-Ran Kim & Buchanan, 2009; OECD, 2009, Fives & Gill, 2014).

As such studies have shown, the relationship between teachers' beliefs and their practice is not always straightforward. Fang (1996) identified two competing theses. Consistency, when the practice is based on the teachers' beliefs, and inconsistency, when the relationship between the practice and the teachers' beliefs is more complicated. Surprisingly, inconsistency has been more commonly found in research. Similarly, teachers' beliefs may or may not be consistent with existing educational theories.

In the context of environmental and sustainability education, teachers' beliefs regarding the content area, self-efficacy, and the learning environment have received considerable attention from researchers (Moseley & Utley, 2008; Haney et al., 2007; Yang, Lang, & Wong, 2010; Forbes & Zint, 2011; Nikel, 2007). The interconnections

between environmental educational theories on one side and teachers' beliefs and practice on the other side tend to be dynamic, influenced by the teachers' current practice, previous teacher training, and their established beliefs about teaching (Clayton, Smith, & Dyment, 2014; Cincera, 2013b), which are often established long before teachers become teachers, mostly due to their own formative school experiences (Wideen, Mayer-Smith, & Moon, 1998; Begum, 2012; Taylor & Caldarelli, 2004). Moreover, teachers' actual environmental education practice may further deviate from their beliefs due to perceived constraints and barriers (Grace & Sharp, 2000). Teachers' beliefs regarding outdoor environmental education and experiential learning are particularly important for us in this chapter as we analyze the various personal theories of the outdoor leaders in the programs under our investigation.

Grimwood, Gordon, and Stevens (2018) found three narratives that are applied by outdoor environmental education leaders in cultivating students' connectedness to nature. The narrative of "creating the space for nature connection" expresses the program leaders' belief in the importance of creating an opportunity for students to learn and explore on their own. The narrative of "engaging the space of nature connection" expresses the program leaders' belief in effective strategies promoting the student-nature connection, such as providing enough time for outdoor activities, motivating students toward independent investigation, including art-based activities, and offering regular opportunities for students to share their feelings in community circles and to enjoy the feeling of solitude in nature. Finally, the narrative of "broadening the space of nature connection" emphasizes the importance of going beyond students' comfort zones, that is, motivating them to stretch their boundaries and get dirty from direct contact with nature, or engaging them with uncertainty and the opportunity to make mistakes. As a result, students perceive a transformative impact effectively promoting their connection to nature (Grimwood, Gordon, & Stevens, 2018).

In what follows, we will look at the personal theories of outdoor experiential learning held by the leaders in the Orange, Blue, White, Green, and Yellow Programs.

6.3 EXPERIENTIAL LEARNING AS REFLECTED IN OUTDOOR PROGRAM LEADERS' PERSONAL THEORIES AND IN THEIR PRACTICE

6.3.1 The Theory of Authentic Learning

> In society, all things are somehow pre-prepared, and we only buy the experience and we know how it will go (…), but if it is somehow unpredictable, and we just experience it with the children, then I would say, this authenticity is a value that moves the children (…) much more than (…) a fictitious story. (Marek, leader, White Program)

In the previous chapters, we could see how important the authenticity of the students' experience was for Marek and Petra, two leaders in the White Program. The belief that the students' learning experience cannot be pre-determined, that no educational theory can replace the power of unplanned events and circumstances, is widely shared in the field of outdoor environmental education (Činčera, 2013b).

When Boris, one of the programs' observers, visited the Yellow Program, he experienced first-hand the power of the unplanned, authentic moment. While out on a field trip, the group was caught in heavy rain. After that, the students struggled to make a fire to get warm and make their meal. The moment when they succeeded was so full of emotion that Boris had no doubt the students would remember it for the rest of their lives.

According to the theory of authentic learning, learning emerges in the process of students' direct interaction with nature, preferably as a result of the interplay among students, time, and space. Such a learning experience may be partially prepared by the program leaders, but mostly, it emerges from the specificity of the here and now. The heavy rain was, naturally, unplanned, and still it became the strongest experience for the participating students. Similarly, a cute kitten accidentally found by the students may steal all their attention and become more important to them than an elaborate game prepared by a program leader.

The idea of learning from one's direct contact with nature, with limited guidance, and the benefits of providing opportunities for students' independent, nature-based investigation, can be associated

with Sobel (1993, 2008) or Louv (2005). Such experience, together with the students' cultural background, is supposed to shape their intuitive understanding of nature (Ross et al., 2003). In the Czech context, this is further supported by the work of the Czech outdoor educator Jaroslav Foglar (Jirásek & Turcova, 2017; 2020).

The program leaders in our study who believe in this theory assume that experiential learning should be highly authentic. As Petra puts it,

> It is strong in that it is real, authentic, in that in this part of the program, it is no game, these are just real situations the children may learn from. (Petra, leader, White Program)

Students learn in situations when they need to achieve certain goals, like building a tent or preparing food. The learning experience should not be artificially made strong or extraordinary but should be rather common. As Marek sees it, the goal of experiential learning is not to transform students but rather to expand the set of activities they are comfortable with. And as Alena thinks, the learning experience should also not be simulated, as any real experience is better than a game:

> When we simulate reality, by this or that method, it is just a supplement. But (it is in) real life – so that they find a nest, pet an animal – that (they feel), I am in touch with real nature. (Alena, leader, Orange Program)

While most scholars have emphasized the importance of elaborating on the authentic experience (Kolb, 1984; Johnson & Johnson, 2006; Moon, 2005; Prouty, Panicucci, & Collinson, 2006), the program leaders in our study who employ the theory of authentic learning in practice are somewhat reserved in this respect. They believe that while debriefing sessions should be held when needed, they should not be organized regularly, after every activity, or too often. According to them, the process of elaborating on the experience is a potentially artificial element disturbing the flow of the students' authentic experience. When these program leaders do decide to hold a debriefing session, they prefer to use a facilitative style allowing the students to make their meaning of the experience rather than providing a straightforward explanation of what happened and what needs to be done.

The theory of authentic learning resonated within all the programs in our study, but it was mainly used in the White Program. As we could see, the leaders and designers of this program tried to allow students to participate in decision-making (planning the route and the food for the field trip), and they respected the students' decision not to participate in activities ("the challenge-by-choice principle") they were not comfortable with (caving, roping) (Priest & Gass, 2005). However, the White Program leaders also applied a set of prepared activities with a presumed emotional impact on the students (caving, a diary presenting adventure stories of a fictitious youth club) (see Figure 15).

Figure 15 *Barefooting in Nature. However Spontaneous This Experience May Look, It Is a Regular Part of the Program. Photo: David Kavan.*

Moreover, while the leaders in the White Program wanted to make the students' experience authentic, they also found it important to provide them with a source of external motivation by using a fictitious story as a surface frame of the whole program.

This leads us to the complex question of how much authenticity is manageable in relatively short programs that last only a few days, are held in a setting new for the students, and have educational aims defined by the adults.

6.3.2 The Theory of Transformative Experiences

> We say that the experience does not need to be positive, the main thing is for it to be strong. (Veronika, leader, Yellow Program)
>
> Only a strong experience moves us forward. (Irena, leader, Yellow Program)

As we discussed above, for the leaders in the White Program, it was not important how strong the students' experience is as long as it is authentic. However, many of the program leaders in our study would disagree with this view. According to them, learning is the outcome of exposing students to a strong, emotionally loaded, extraordinary experience. This experience may emerge as the unexpected result of being outdoors, but often it may also be prepared by the program leaders. For example, in the Yellow Program, the students were encouraged to participate in an adventure-based game in a night-time forest; in the Orange Program, the students enjoyed a night-time ceremony, experienced solitude in nature, etc. As we could see, such a strategy was applied also in the White Program (see Figure 16).

Some authors have found that students often perceive a strong and attractive experience as one containing the elements of adventure or magic (Van Matre, 1990; Sobel, 2008; Jirásek & Turcova, 2017; 2020). This experience allows students to interpret the outdoor program as significant, and they remember it long after they have participated in the program (Wohlers & Johnson, 2003; Cincera & Johnson, 2013; Johnson & Cincera, 2015). As a result, this type of strong experience may also increase students' immediate satisfaction with the program.

Figure 16 *The Magic Spot. The Experience of Solitude Is Often Recalled as One of the Strongest Memories from an Outdoor Program. Photo: Marta Veselá.*

The formative effect of significant life experiences on shaping people's pro-environmental professional careers has been discussed by Chawla (1999) and others.

The program leaders' belief that strength is an important quality of a learning experience is based on their interpretation of the theory of comfort zones. According to this theory, only situations in which students do something they are not used to and not quite comfortable with bring the potential for learning (Priest & Gass, 2005; Prouty, Panicucci & Collinson, 2006). Therefore, as seen through the lens of the theory of comfort zones, another central quality of a learning experience is unusualness.

Saša, an experiential program leader and the director of the Orange Program center, supports this theory. According to her,

> (a learning) experience is something that does not happen every day, it is something extraordinary, like a night-time trip in the forest, making a fire somewhere, or simply something unusual. (Saša, leader and director, Orange Program)

As this group of program leaders believes, a strong, unusual experience has transformative potential. Such an experience has a long-lasting impact, and it may deeply change the students' competences or attitudes.

Nevertheless, these program leaders have some doubts regarding the need for regular elaboration on the students' experience. As they see it, the debriefing sessions are usually helpful only after emotionally loaded activities. When they choose to hold a debriefing session, they tend to explain the meaning of the experience to the students or lead them to its particular interpretation. For example, after a night-time activity in the Yellow Program, Marianna, a young leader, organized a group of students and provided her explanation of what their experience was about:

> Raise your hands, who was worried when you entered the forest? Well, I also do not particularly enjoy going to the forest at night, but we are usually scared of things that are not there. The forest is the same at night as in the daytime. So, perhaps next time you don't need to be afraid to go there. (Marianna, leader, Yellow Program)

Therefore, it appears that "the theory of transformative experiences", as it is employed in the programs in our study, is more aligned with concentrating control over the program in the hands of its designers who can include opportunities for such strong experiences directly in the program design. From this perspective, we can better understand the reason for some of the methods applied in the observed programs, including the night-time rituals (Orange), rafting (Green), sleeping outdoors (Yellow), or caving (White). At the same time, some of the program leaders who hold a different personal experiential learning theory did not feel comfortable with these methods and expressed their reservations.

For example, Alena questioned the Orange Program's designer's level of control over the implementation of the program. According to her, when the program is too strictly prepared, it lacks flexibility:

> Because the environment always offers something different, and the environment changes. When you can immediately react so that you can change the activity or use another one, you will have much more freedom in how to communicate it to the children. (Alena, leader, Orange Program)

In light of the discussion in the previous section, we can see that what Alena was missing was an opportunity for the authentic experience. From another perspective, Peter, a young leader in the Green Program, expressed his doubts about the meaning of strong, experiential activities in his program. According to him, while these activities (like rafting) are attractive to students, they overshadow the other, more learning-oriented activities (like watching invertebrate organisms in a stream), and so compromise their potential.

Peter's and Alena's personal theories of experiential learning are not completely consistent, and they also reflect some incongruity with the ways their programs are implemented. This reality reflects the tension between the program designers and program leaders. Moreover, on a deeper level, it exposes the differences in the leaders' beliefs about what experiential learning means.

6.3.3 The Theory of Supportive Experiences

> This block with rafting and barbecue is a strong experience that takes up the whole afternoon, and sometimes I have a feeling it could overshadow the previous days. (Peter, leader, Green Program)

Let us go back to Peter's opinion. As we could see earlier, Peter differentiates between two types of students' experiences that emerge in the Green Program. The first type is a strong one-time experience corresponding with the Czech word "zážitek". Interestingly, Peter assumes that experiential learning is connected with this type of experience, at the cost of the other, educational type of experience. According to Peter, the Green Program as a whole is not experiential

because it does not focus on providing strong, emotional experiences ("zážitek") but rather on learning-oriented experiences ("zkušenost").[1]

Clearly, Peter is struggling with balancing two competing experiential learning theories. He perceives the difference between them and feels that different parts of his leading practice are based on different theories.

Peter is not the only program leader who perceives such difference in these two learning theories, even though other program leaders may approach it more positively. We have already introduced Hugo, a young leader in the Blue Program. Like Peter, Hugo believes in the importance of transformative experiences, but unlike Peter, he also believes that these experiences are supportive of students' learning:

> (I am for the) emotional (interpretation of experiential learning), that it will impact them (the students) somehow. That they would learn from it (…), but there is also some information (…) that you are supposed to add, and you will learn it and link it with (the experience). But the experience should simply evoke an emotion to help people remember it for a long time. (Hugo, leader, Blue Program)

Therefore, while Peter assumes that the supportive experience should not be too strong so as not to overshadow the learning, Hugo believes the opposite, i.e., that the strong experience helps students to

[1] In Czech, the English word "experience" can be translated in different ways, as what is being experienced ("prožitek"), what has been experienced ("zážitek"), and what has been experienced and used for learning ("zkušenost"). The word "zážitek" is also used as an expression for an emotionally loaded experience, while the word "prožitek" is rather neutral, and "zkušenost" implies a cognitive benefit (Jirásek, 2016). The outdoor environmental educational tradition in the Czech Republic highlights the role of an emotionally strong experience ("zážitek") in personal development and transformation, an experience that is often facilitated by directive leaders (Martin, 2011; Jirásek, 2016; 2020; Jirásek & Turcova, 2017). However, other Czech authors have questioned this view and emphasized the importance of cognitive elaboration on the experience ("zkušenost") rather than the moment of the experience ("zážitek") itself (Docekal, 2012; Kolář, 2013).

better remember what they have learned. Nevertheless, both Hugo and Peter believe that experience is supportive of conceptual learning and that learners may obtain new knowledge or understanding through experience (see Figure 17).

Figure 17 *An Inquiry-Based Activity. The Experience of Engaging with Nature Helps Students Recall the Studied Concepts. Photo: David Kavan.*

According to the theory of supportive experiences, experiential learning mainly plays a supportive role in conceptual learning. Experience supports learning by providing a comfortable, positive learning environment and opportunities for multi-sensory learning, and by helping to make the learned content long-lasting. In light of this, such experience should be comfortable and moderate rather than strong. The experientially based activities should be pre-determined to maximize their benefit for students, and students should not have many opportunities to shape the program. Reflection on the experience

in debriefing sessions is perceived as an important part of the program, and it is regularly conducted.

The theory of supportive experiences resonates with the approaches that highlight the use of prepared activities to facilitate the learning process (Kolb, 1984; Johnson & Johnson, 2006; Moon, 2005; Prouty, Panicucci, & Collinson, 2006). However, the observed practice often deviated from the leaders' personal theory. For example, when the leaders in the Green Program led the debriefing sessions, they mostly focused on the emotional aspects of the students' experience, or on their own findings. The full process of debriefing, including reflection, generalization, and transfer (Prouty, Panicucci, & Collinson, 2006), emerged occasionally, mostly after skills-focused activities (making a fire). When an activity focused on developing the students' conceptual understanding, the leaders tended to use an experiential activity as the basis for a follow-up, leader-led explanation of the concept rather than as a way to facilitate the students' elaboration on the experience. As a result, while the "experience" played a supportive role, the leaders' presentation remained the main source of learning.

6.4 CONCLUSION

Experiential learning has been recommended for outdoor environmental education programs by many authors. However, the meaning of experiential learning for practice is partially obscured by various personal interpretations and beliefs. Outdoor environmental education practice seems to be rather eclectic instead of based on particular approaches. Moreover, while the leaders' personal theories may be considered complementary in practice, they are also contradictory in some of their elements.

The identified incongruities between the program leaders' personal theories and their leading practice highlight the need for further discussion of how outdoor environmental education should be shaped and what approaches to supporting experiential learning may work best given the limitations imposed by the time constraints, perceived expectations, and educational aims of the programs. It is likely that

several different educational theories may provide sound support for program leaders' practice. Program leaders may greatly benefit if they can identify the theories and their possible contradictions, incongruities, and implications for other elements of program leadership and program design.

In light of the questions regarding the experiential learning methods applied in outdoor environmental education programs, we should ask what the students learn in these programs. This is what we will focus on in the following chapters.

7 CONCEPTUAL LEARNING IN OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS

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Chapter Abstract

In this chapter, we summarize the relevant literature on conceptual development and link it with the practice of the programs we analyzed in our study. While we found many examples of good practice, we also identified certain limitations. Based on these findings, we discuss potential opportunities for connecting outdoor environmental education programs more closely with school curricula and for sharing some level of control over the programs between program leaders and school teachers.

7.1 INTRODUCTION

> Jan: And how do you think the program changes children?
> Eliška (leader, Green Program): Perhaps they start looking at common things differently, as if it were something amazing. Or they can notice that the common things are something that contains a story, that it is part of a story, I mean, it may become an opening for them.

The teaching of ecological concepts has been a frequently cited reason for organizing outdoor environmental education programs. The development of ecological conceptual understanding is considered an important goal in both environmental education (Hungerford, Peyton, & Wilke, 1980; NAAEE, 1999; 2000) and science education (Next Generation Science Standards for States, 2014; Quinn, 2012).

However widely accepted may the teaching of ecological concepts in the outdoors be, there are many issues that such teaching needs to address. The novelty effect, the lack of program leaders' prior knowledge of the participating students, and the limited length of outdoor programs, for example, may all inhibit the complex process of conceptual learning.

In this chapter, we will examine in more detail these challenges related to conceptual learning in outdoor environmental education programs. Unlike in the previous chapters, we cannot draw here so intensively from all the five programs observed in our study because two of them (the White and Yellow Programs) did not focus on developing students' conceptual understanding and another one (the Blue Program) especially emphasized local-specific knowledge. To overcome this, we used data from several previous studies we conducted that are relevant to our aims here. Specifically, we present data collected in analyses of the process of students' conceptual development facilitated by participation in three interlinked outdoor environmental education programs (including a version of the Orange Program) in the United States.

In addition, we briefly describe two new programs, the Light Blue Program, which is closely related to the Blue Program, and the Violet Program, which is run by another outdoor environmental education center. Based on our observations and interviews, we analyze how conceptual learning is facilitated in these programs and what the programs' limitations and strengths are in this area.

7.2 THE ROLE OF CONCEPTUAL LEARNING

Students are not passive learners; they are active constructors of their conceptual understanding of the world. In the process, they develop their personal naïve theories which often contradict scientific knowledge. From this constructivist perspective, learning may be interpreted as a process of conceptual changes (Posner et al., 1982; Duit & Treagust, 2003; Hallden, Scheja, & Haglund, 2013; Pine, Messer, & John, 2016; Butler, Mooney Simmie, & O'Grady, 2015; Zhang, Chen, & Ennis, 2017).

There are various theories about how these conceptual changes take place (Vosniadou, 2013; Chi, 2013; diSessa, 2014; diSessa, 2017). Earlier studies assumed that the initial understanding can be radically replaced by new ideas. In contrast, more recent approaches highlight that the process of conceptual change is gradual and not always linear. When students are exposed to new experiences, they do not completely abandon their alternative frameworks. Rather, they modify their existing beliefs, often changing some parts while retaining others (Duit & Treagust, 2003; Vosniadou, 2013; Abdullah, 2015; Saglam & Ozbeg, 2016).

Many open questions remain and need to be investigated further. One such question is how coherent or fragmented students' alternative theories are. According to Vosniadou (2013), students tend to make "synthetic models", mixing the "old" with the "new" into one framework theory. While synthetic models may be able to provide good explanations of some phenomena, they fail for others, and as a result, they create misconceptions (Vosniadou, 2013; Hallden, Scheja, & Haglund, 2013). Actually, some of the program leaders' concepts of experiential learning we analyzed in the previous chapter could be described as synthetic models.

According to diSessa (2013; 2014, 2017), students' knowledge consists of a set of very elemental beliefs based mainly on experience and common sense. He calls them phenomenological primitives or p-prims. P-prims are not necessarily wrong; they may provide a plausible explanation in a particular context but are inadequate beyond that context. In light of this, sound instructional strategies are not those that force students to alter their mental models completely,

but those that start with identifying students' current p-prims and develop the ones relevant to a particular learning concept while challenging the others.

The nature of students' misconceptions presents another issue. According to Chi (2008, 2013), there are several types of misconceptions. Some inaccurate misconceptions can be easily refuted, but others originate from students' flawed mental models, incorrect categorizations of the concept, or a missing mental category (schema). Consequently, dealing with each type of misconception calls for a different educational strategy.

7.3 CONCEPTUAL LEARNING IN OUTDOOR ENVIRONMENTAL EDUCATION: WHAT DO STUDENTS LEARN?

Numerous studies show positive effects of outdoor environmental education programs on students' ecological knowledge (for example, see Bogner, 1998; Bogner & Wiseman, 2004; Bogner & Wiseman, 2006; Manoli et al., 2014; Cincera & Johnson, 2013; Stern, Powel, & Ardoin, 2008; Rickinson et al., 2004). There is a great deal of evidence that these programs have the potential to teach students new knowledge and develop their conceptual understanding. However, all the studies cited above evaluated the effects of outdoor programs a relatively short time (usually a few weeks) after the students participated in them. In light of the gradual nature of conceptual change, caution is reasonable here: were the reported effects evidence of a long-term conceptual change or were they just short-term effects? Are students able to change their ecological concepts as a result of their participation in new experiences offered by these programs?

We researched these questions using a sample of students who participated in three outdoor environmental education programs in the United States over the course of four years (Johnson & Cincera, 2019). Let us consider how one of the students (we will call him John) answered the following interview question:

> Imagine a box with soil at the bottom and an apple resting upon the soil. Nothing can get in or out of the box. I weigh the box with the soil and the apple, leave it for two years, and then weigh it again. What will have happened to the apple? After two years, will the box weigh more, the same, or less than it did at the start?

John is a clever boy. He likes all kinds of games: board games, soccer, video-games. He likes having fun, reading adventure books, investigating new things. John's mother is a scientist, and his parents motivate and support him in positive environmental behaviors. They often take outdoor trips, and sometimes they speak about environmental problems. To sum up, John is a normal child with good potential to learn about nature outdoors.

At nine years old, John's understanding of the concept of matter (related to the interview question) was a mixture of scientifically correct and incorrect ideas. John believed that everything is made of recycled material, made of atoms that may further split up. In his opinion, atoms were a kind of living thing – they died when an animal died, then they came back. He did not grasp the concept behind the interview question, and he believed that the box could be heavier or lighter; he was not sure.

A year later, after John participated in an outdoor environmental education program in which the concept of matter was taught, he demonstrated a basic understanding of molecules and atoms, and he knew they are small and that they make up all living things. However, he was not sure if they were alive or not. He believed that some molecules recycled, but thought that some others might not. He correctly guessed that the box would be the same weight.

When interviewed another year later, after participating in a second program, some changes in John's conceptions were obvious. According to him, everything was recycled and shared. He was even able to realize the consequences ("we eat poop"). Still, he retained some uncertainty about living things, and he thought that the apple box might be lighter than before.

And another year later, John raised many questions. Is everything recycled? Perhaps something may be created out of nothing? When a body grows, may the atoms grow, too? Is it possible that the box would be lighter than before? The old alternative concepts came back into play as John reasoned through the possibilities.

The last interview occurred after John participated in a third outdoor environmental education program. John was sure that all matter was recycled and that everything was made of molecules and atoms. The question of the apple in the box, however, remained a mystery, and John concluded that it would likely be lighter than before.

We can see that while John learned about the concept of matter in the three outdoor programs, his journey toward more sophisticated understanding was not straightforward. John created synthetic models containing elements of his previous concepts and of the new ones as well. He rejected his initial ideas of atoms as living things and accepted that everything was made of atoms and molecules. Still, he was unable to apply his understanding of this concept to solve the question.

While it is clear that conceptual understanding can certainly be developed in outdoor programs, this example points to the need to recognize that growth in the understanding of complex abstract concepts is non-linear. Students arrive in the program with ideas which they are constantly applying to new experiences, and the old and new ideas mix together in fairly messy ways.

There is one more aspect to consider in this context. While the cognitive effects of outdoor environmental education programs have been repeatedly demonstrated, we need to examine what types of knowledge students acquired in these programs.

It is important to keep in mind that there are certain programs that do aim to facilitate deep conceptual change, but many programs focus on providing a potpourri of place- or nature-specific factual knowledge that can be relatively easy to transmit. In some cases, students learn general concepts but incorrect facts. Let us illustrate this situation with two examples.

The Blue Program in our study consists of a set of thematic field trips focused on different aspects of the local natural environment. The Light Blue Program is a similar program organized by the same outdoor center. Jan evaluated this program several years ago. The Light Blue Program includes short field trips in two different natural settings. On one of the trips, the program leader introduced the students to the importance of the local peat-bogs. When asked about what they learned, the group of 3rd graders (8-9 years old) presented a series of insights. Most of them were surprised that peat-bogs grow over time,

the older they are, the deeper they grow. However, while the students correctly learned the general concept (peat-bogs grow over time), they linked this with many incorrect details, such as setting the width of the newly grown peat-bog after one year at 1 cm, 1 mm, or 2 mm. From the other trip to the pond, the students recalled mostly place-specific facts about the place they visited ("beavers live there", "the pond is 2 m deep") and rather obvious findings ("there are many streams in a forest", "forests are dry or wet").

In another situation, Jan evaluated a residential five-day program, here called the Violet Program, organized for a group of 7th graders (12-13 years old). In this program, the students spent three hours investigating water invertebrates. When interviewed the next day, they interpreted the experience as a big, fun adventure. However, they were mostly unable to describe what they learned or what it was all about. They remembered that "this river was clean" or that "there were fish in this river". But they seemed unable to link this experience with any broader concepts beyond these rather obvious facts.

This takes us back to the question of how facilitating conceptual understanding in outdoor environmental programs should be done to maximize the programs' educational potential.

7.4 CONCEPTUAL LEARNING IN OUTDOOR ENVIRONMENTAL EDUCATION: HOW DO PROGRAM LEADERS TEACH?

7.4.1 Learning Models for Conceptual Change

The Orange, Green, and also, partially, the Blue Programs in our study aimed to provide students with new knowledge and, likely, to facilitate a change in the students' conceptual understanding. In the Orange Program, students learned four ecological concepts, i.e., material cycles, energy flow, relationships, and change (over time). The Green Program focused on the concepts of succession and adaptation. The Blue Program was centered primarily on the locality, but secondarily, it introduced several somewhat general concepts, such as understanding the role of peat-bogs in the landscape and the importance of natural forests.

Based on what we know about the challenges regarding the process of conceptual change, we assume that a variety of approaches may work well. However, program leaders should pay attention to certain important elements. Namely, the following ones seem to be crucial: identifying the students' alternative theories before introducing the concepts, adjusting the instruction according to the students' needs, and testing the students' conceptions after the lesson. Regular debriefing, providing feedback, and discussing the learned topics with the students are likely to play a key role as well.

Each of the programs under our investigation used a different strategy to facilitate students' conceptual learning. The Orange Program applied the Inform-Assimilate-Apply (I-A-A) Learning Model (Van Matre, 1990; Van Matre & Johnson, 1988). Before the program, the students were asked by their school teachers to recall what they knew about the selected ecological concepts. During the

Figure 18 *A Program Leader Informs the Students about the Concept of Material Cycles. Photo: Jan Činčera.*

program, the activities began with reading a brief description of the concepts in the student booklet (Inform) (see Figure 18). Next, the students participated in activities that helped them experience the main ideas associated with the concepts in concrete ways in the natural environment (Assimilate). Finally, they found an example of each concept in nature and drew/wrote it on the application page in the student booklet, and then they explained their example to one of the program leaders (Apply). Further application later in the program involved seeing the concepts in action both on-site at the center and later back at school and at home.

As we discussed in the previous chapter, the Green Program used an approach based on experiential learning which was interpreted differently by different program leaders. The concept of succession was gradually introduced by the central surface frame of the program, i.e., by reading a story about a volcanic island. Then the students were invited to do activities corresponding with a certain part of the story. For example, when the story described plants returning to the desolated surface, the students learned about the plants growing around the outdoor center. When the story came to invertebrates, the students observed and learned about earthworms. The lessons were based on the students' direct experience with nature through observation and identification. There were regular debriefings about what the students learned the previous day and how they felt about it.

The instructional strategy used in the Blue Program was inspired by the thematic interpretation approach (Ham, 1992; 2013). Each of the trips was organized around a central theme (While we cannot live in peat-bogs, they are still very important to us.). The trips consisted of a set of activities communicating various aspects of the central theme (While we cannot live in peat-bogs, they are a home to many precious species.). In the beginning, the program leaders attracted the students' attention and offered the students an activity corresponding with the particular subtheme (seeking protected plants in peat-bogs). Then the program leaders repeated the subtheme and linked it with the central theme of the trip.

We do not want to say that these approaches are not sound. However, we can also see their limitations. Of all the programs, only the Orange Program included some degree of identifying the

students' theories before the program. Nevertheless, what the accompanying teachers found during this phase had little influence on the way the program leaders presented the concepts – the leaders had to strictly follow the methodology as it was prepared by the program designers. Similarly, because the program leaders had only limited control over the program activities, they could not always properly respond to students' potential misconceptions, even though they are generally encouraged to do so (by providing reinforcements, examples, clarifications, etc.) (Duit & Treagust, 2003; Butler, Mooney Simmie, & O'Grady, 2015; Kang et al., 2016). While the Orange Program provided plenty of activities for reinforcing the learned concepts, it did not include many opportunities for students to reflect on what they had learned or how their understandings had changed.

Additional limitations were detected in the other programs. The Green Program was framed around the concept of succession, but this concept was never fully articulated and discussed with the students. The students were not asked what they thought would happen after the volcanic eruption or what surprised them about the process of succession emerging on the island. They did not learn to generalize the process and apply it in another context, which the students in the Orange Program were asked to do.

The limitations of the Blue Program were a combination of the limitations of the Orange and Green Programs. Even though the Blue Program leaders were supposed to tell the students what the overall theme of the trips was, they sometimes forgot to do so. Moreover, they did not work with students' misconceptions or alternative theories. Due to time constraints and the insufficient number of program leaders in the Blue Program, there were almost no opportunities for debriefing with students.

In summary, while the approaches we observed in the Orange, Blue, and Green Programs can be highly effective in some respects, they all have their clear limitations. Namely, none of them provides enough opportunities to respond effectively to students' tendency to keep their original preconceptions and make various synthetic models. Furthermore, in the Green and Blue Programs, students might have difficulty grasping the general concept behind the interesting experiential activities.

7.4.2 Supporting Conceptual Learning in Outdoor Programs

> When different areas of life are involved in the learning process, it increases the possibility that learners will then act concerning them. Positive emotions play a big part in learning. Transferring knowledge into different areas of life can connect learners more emotionally with a certain topic. If you feel that a principle is important in all areas of life because you know how it affects nature, the community in which you live, and yourself, it is more likely to be something you won't forget again and will try to keep in mind in your actions. (Real World Learning Model, 2020b)

All the programs we observed used a variety of methods recommended by different authors for supporting students' conceptual learning. The Orange, Green, and Blue Programs used well-received educational games (Al-Tarawneh, 2016). The Orange and Green Programs employed clear visual representations of the ecological concepts (Rizaki & Kokkotas, 2013). Both the Orange and Blue Programs included elements of drama education (Abed, 2016).

In the Orange Program in particular, we observed repeated instances of transferability, another recommendation described in the Real World Learning Model (see the quotation above). For example, the program leader linked what the students experienced in the outdoor center with their previous experience at home:

> Leader, Orange Program: Have you ever experienced that in a place where there was nothing, suddenly new grass emerged?
> Female student: We have a path at home and suddenly grass started to grow there.
> Male student: In our attic, grass grows there.

In the Green Program, the program leaders also used various linguistic tools to attract students' attention and make the studied topic more personal, including metaphors ("the beaver's scent is like its home address") or simulation ("Imagine we are a beaver family…") (Ham, 1992).

To a certain degree, the Green and Orange Programs tried to link the concepts with the school curriculum (Rickinson et al., 2004). The Orange Program asked the accompanying teachers to introduce

the concepts at school before the program and to assign tasks for follow-up work after the program. As the program leaders told us, the teachers often went back to how the program fit in with their science lessons. For the Orange Program, the accompanying teachers described how they referenced the program in their follow-up lessons, even though the program offered no specific guidance for that.

7.5 CONCLUSION

Students' conceptual learning is anything but straightforward. It is often hampered by persisting misconceptions that the students do not want to abandon.

At the same time, the short time span of these programs simply may not provide enough time for facilitating the process of conceptual change without continuing the learning back in the classroom. We recognize the good work that has gone into this. The designers of the Orange Program carefully defined the concepts and guided the program leaders on how to introduce them through the information-assimilation-application process. The leaders of the Green Program applied linguistic tools to create powerful metaphors and extensively linked the learned concepts with students' lives. The learning process in all three programs was based on students' direct experience and on active learning methods. Further, we could see evidence of students' learning in the studies cited above.

However, we also found that, in many cases, students' cognitive gains were limited to episodic knowledge, obvious facts, or even misconceptions. For deeper conceptual learning, the ability of program leaders to respond flexibly to students' learning, and close cooperation between the program leaders and the accompanying teachers seem to be necessary. Therefore, as we see it, among the most important ways that would help outdoor environmental education programs overcome the existing barriers and fulfill their true potential are: building mutual trust among the program designers, the program leaders, and the accompanying teachers, and improving everyone's conceptual learning expertise.

8 OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMS FROM THE PERSPECTIVE OF THE PARTICIPATING STUDENTS AND THE ACCOMPANYING TEACHERS

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Chapter Abstract

This chapter returns to some of the issues mentioned in the previous parts of the book, reflecting on them from the perspective of the participating students and accompanying teachers. We found that students' and teachers' perceptions of the programs sometimes differ from what program leaders and designers might expect. Regardless of the high level of students' and teachers' satisfaction with the programs, the chapter opens a discussion of how their expectations need to be balanced with the programs' aims.

8.1 INTRODUCTION

> It is so much needed, to do these weeks or programs. And it is a pity that not all children can experience it because there are so few of these centers. (…) A lot of teachers not focused on science will tell you, so you take the children for a week away, they will not do the subject they would have at school – but here it has a different benefit. (Klára, teacher, 18 years of practice)

Outdoor programs are an important part of environmental education centers' mission to protect nature for future generations. Strictly put, the effectiveness in achieving this mission is what matters. The impact of a program on students' environmental understanding, values, or behavior is what makes the program good or bad.

Throughout this book, we have discussed various perspectives on how to understand the quality of these programs. We have shown that no single approach establishes the programs' success. As we see it, the field for program designers is defined by a network of possible paths and crossroads.

By discussing these paths and crossroads, we have examined the programs from the perspectives of educational experts, program designers, and program leaders. While we did give a voice to the accompanying teachers and participating students in most of the preceding chapters, it often remained overshadowed.

However, these students and teachers see the programs through their own eyes. They may like or dislike aspects of the programs that program designers or academics may not be aware of. They have their unique perspective, and, fundamentally, it is the students and teachers who create the significance of the programs.

Therefore, the students' and the teachers' perspectives play a major role. Regardless of the outdoor centers' stated mission, the centers operate within a kind of market in which outdoor programs are services offered to customers – school teachers. The teachers select a particular program. The teachers link (or do not link) the program with their curricula. The teachers help to interpret the meaning of the program for the participating students.

Moreover, the programs are for and about students. It is the students who are supposed to be educated. The students are the target,

the core, the heart of a program. The way the students interpret the program may be very important for how the program influences them. No sound program can ignore how it is perceived by students and whether students like it or not. No sound program can ignore the accompanying teachers' needs and expectations, either. It is centrally important for program providers to understand these needs and expectations.

Thus, this chapter belongs to students and teachers. Here we give them a voice, and we also discuss what our findings mean for research as well as practice in the field of outdoor environmental education.

8.2 WHY TEACHERS CHOOSE PARTICULAR OUTDOOR PROGRAMS AND WHAT STUDENTS LIKE ABOUT THEM

The reasons teachers choose particular programs are likely influenced by many factors. Some teachers have their own previous experience. Others get word-of-mouth recommendations from their colleagues. For most teachers, it is very important how much the program costs and how far from their school the nature center is located (Smith-Sebasto, 2006; Ballantyne & Packer, 2006; Cincera & Havlicek, 2016). These factors may lead teachers to choose shorter, less ambitious residential programs.

For students, different program qualities are important. In contrast to teachers, they prefer longer residential programs to shorter ones (Mullenbach, Andrejewski, & Mowen, 2019; Braun & Dierkes, 2017). They appreciate when a program is located in a beautiful natural setting, in a novel and attractive locality (James & Bixler, 2008; Cheeseman & Wright, 2019; Dale et al., 2020). As we have already discussed, severe weather conditions may strongly influence students' experience and learning outcomes (West, 2015; Talebpour et al., 2020).

One reason teachers choose outdoor programs is because the programs are outdoors. Most teachers see outdoor activities and field trips as important for environmental education. While they do not always employ such activities in their regular lessons, teachers are interested in including them in their curricula, and outdoor programs

offer them a chance to do so (Ko & Lee, 2003; Mosothwane, 2002; Smith-Sebasto, 2006).

Not only teachers but also students appreciate outdoor learning. Students like it when they spend most of the time in the outdoor program actually outdoors. They usually enjoy investigative methods, particularly if they are focused on real issues and connected with the locality. Most students also enjoy going on field trips during the program, whether just for a day or several days (Stern, Powell, & Hill, 2014; Smith-Sebasto & Obenchain, 2009; Dale et al., 2020).

Additionally, students generally appreciate that the outdoor program activities are "fun", "cool", and "exciting", and that they apply active methods of learning (Smith-Sebasto & Walker, 2005; Cheesman & Wright, 2019; Larson, Castleberry, & Green, 2010). Moreover, students like it when a program challenges them beyond their comfort zones, provided they experience success in overcoming the challenge (Roberts & Suren, 2010).

Among the most meaningful activities for students, several seem to be central. Students appreciate having an opportunity to do various social activities with their peers outdoors and so to shape their social identity and their relationships with others (Smith-Sebasto & Walker, 2005; James & Bixler, 2008; Smith-Sebasto & Obenchain, 2009; Cheesman & Wright, 2019; Sibthorp, Wilson, & Browne, 2020). As a result, they appreciate activities allowing these types of interaction, such as various cooperative or teambuilding games.

Finally, among the salient factors contributing to students' satisfaction are the outdoor program leaders (Sibthorp, Wilson, & Browne, 2020; Stern, Powell, & Hill, 2014; Mullenbach, Andrejewski, & Mowen, 2019; James & Bixler, 2008; Sibthorp, Wilson, & Browne, 2020) and the active involvement of the accompanying teachers or school counselors (Smith-Sebasto & Obenchain, 2009; Stern, Powell, & Hill, 2014). For students, the program leaders become role models, mentors, and supporters. Students appreciate the program leaders' concern for the students, their passion for their work, their expert knowledge, and their sincerity.

Besides the organized activities, students like it when they have an opportunity to shape a part of the program themselves, either by being provided with unstructured time for their own activities or by being

given some level of independence in decision-making in the organized activities (James & Bixler, 2008; Mullenbach, Andrejewski, & Mowen, 2019; Stern, Powell, & Hill, 2014).

Based on this overview, let us now look at what we found in the observed programs.

8.3 STUDENTS, TEACHERS, AND THE OUTDOOR PROGRAM

> I had a spider in my mouth! (Blanka, student, recalling the adventure night-time game, Yellow Program)

8.3.1 The Outdoor Program as Experiential Learning

All the teachers we interviewed in our study were highly satisfied with the outdoor programs they had chosen. Most of them were unable to identify any negative aspects, and, when asked, recommended only minor, mostly technical improvements, such as shortening the time allocated for reflections, lowering the intensity of the program, or including more field trips.

Most of the students liked their outdoor program and wished to spend more days in it. One of the aspects they enjoyed most was the experiential learning process applied in the programs. While they realized they were learning, they appreciated the distinctive features of experiential learning, including learning outdoors, playing games and having fun, and learning meaningful content. According to Sára, a 10-year-old student participating in the Green Program:

> At school, we would learn science, too, but here we learned and did not realize it, we played games and in some of them, we practiced math. However, we could not even realize it. (Sára, student, about Green Program)

The students' enthusiasm for experiential learning was shared by the accompanying teachers. Specifically, the teachers appreciated that the learning occurred in outdoor settings, was illustrative, was based on doing things and playing games, and encouraged student cooperation.

It is interesting to see how the students' and the teachers' perceptions were similar in this respect. Radka, an experienced teacher with 25 years of practice, expressed her opinion on the learning process facilitated in the Green Program in almost the same words as Sára:

> So, they learn, but they do not consider it learning. They get information, sure, they do not remember everything, but they sort it out in their little brains. And they are in the middle of nature activities, they touch everything, try, practice (…) what they need – you have no chance to do this at school. (Radka, teacher, 25 years of practice, about Green Program)

However, not all experiential learning activities were evaluated in the same way. Some of them, particularly inquiry-based learning activities, were perceived with a mixture of feelings. Some of the students did not like investigating earthworms (because of disgust), others questioned why they should learn to make food from natural sources or engage in some of the other activities. What the students liked very much was when an activity contained an element of novelty and adventure.

Let us look at an excerpt from an interview with a group of 10- to 11-year-old students after they participated in the Yellow Program where they learned to make a fire with a fire striker. When Jan observed this activity, he was surprised how immersed the students became in it and how hard they tried to succeed. This is how they reflected on their experience two weeks later:

> Interviewer: Have you ever made a fire?
> Female student: Yes…
> Interviewer: But with a fire striker, it was new, right?
> Male student: Yes, and it was good.
> Interviewer: And what was better about making it with a fire striker? That it was more difficult?
> Female student: No, because it is more fun. And it is not as quick.
> Male student: It is adrenaline. We must try to make lunch.
> Interviewer: And is it good, when someone must try?
> Female student: It is better, if you are out of matches, you have the fire striker. (students, about Yellow Program)

It is obvious that the "rational" explanation is not flawless. What chance is there that you will have a fire striker in your pocket when you are outdoors? Most likely, what really mattered here were the above-mentioned elements of the learning experience, the sense of adventure and novelty.

Although the accompanying teachers appreciated the process of learning in their outdoor program, they were less enthusiastic about the program's effect on environmental understanding, attitudes, or behavior, and they assessed this kind of effect as low. Some of the teachers questioned the impact of the program on learning science and ecological concepts, and assumed that this could be better done in the classroom.

Luděk is an experienced teacher with 21 years of practice. He is an authoritative and direct man, and he is interested in environmental education. The reason he regularly takes his classes to the Green Program is that he believes in the importance of strong, long-lasting experiences that students gain from spending time outdoors. These experiences have, according to him, their definite merit. In contrast, the effect of the program on students' conceptual learning is, as he sees it, relatively weak and short-term:

> OK, so they do a certain kind of learning (…), it is different for them, and enjoyable for some of them while others may struggle with it because they like frontal teaching. However, I think that the effect may be strong in terms of days, but not in the long term. (Luděk, teacher, 21 years of practice, about Green Program)

Nevertheless, this skepticism was not shared by all the teachers we interviewed in our study. Some of them believed that the program helped develop students' environmental attitudes, outdoor skills, and scientific knowledge. For example, Pavel, a teacher with 11 years of practice, saw great potential for the White Program to improve students' conceptual learning and develop their environmental beliefs and values:

> I find it quite useful (to show) the real impact of the individual activities. Like when we were dealing with the impact on the landscape and they saw the dry streams, they were quite scared. When one

> discusses it in the classroom, even if I show them a movie, it is still far away. But when they were walking through the landscape that means something to them, I think it was quite important to them. So that they can feel it themselves. (Pavel, teacher, 11 years of practice, about White Program)

However, other teachers questioned this type of effect, claiming that the students' behavior is developed by family values and the program could not change it.

Some of the teachers reported that to increase the effectiveness of the program, they used follow-up or reflection-type activities back at school. Nevertheless, the reflections seemed to be somewhat spontaneous, emerging from learning situations in the classroom rather than being carefully planned.

From this perspective, the students' and teachers' perceptions of their program are somewhat paradoxical. While both sides liked the process of learning, the teachers were not sure about its educational benefits. This leads us to the question of what students gain from the program, according to the teachers. Based on our findings, there are two main gains: group cohesion and strong long-term experiences.

8.3.2 The Outdoor Program as a Social Game

While all the programs in our study focused mainly on nature, for most of the teachers we interviewed, they were mainly about students. The strongest impact the teachers associated with the programs was on forming the student group or developing the students' confidence and ability to cooperate. These effects were usually in line with the teachers' expectations. Most of them reported that they chose the program for its expected benefit for the group atmosphere and because they wanted to get to know their students better.

This is also how the teachers perceived the programs' main benefits. Almost all the teachers reported the programs' positive effects on group atmosphere and the relationships among the students. Moreover, the programs helped develop students' intrapersonal competences, mainly by exposing them to unusual situations and challenges. The novelty of the situations encouraged students to play new roles

and so to change their position in the group. Finally, the experience helped the teachers learn more about their students and to feel more in touch with them. According to Jana, a teacher with nine years of practice, participation in the Green Program helped to improve the atmosphere in her class. The reflections of the other teachers in our study were more or less similar:

> Well, they are quieter now, and somehow, I feel better in the class, now that I have got to know them differently. And it made a very positive impact on the school atmosphere, even if I cannot say why it changed so immediately. That they left the school environment. (Jana, teacher, 9 years of practice, about Green Program)

From the students' perspective, it was somewhat different. As the students saw it, their social interactions during the program were often frustrating and sometimes negatively affected their experience in the program. They complained about quarrels with other students and about dysfunctional cooperation. The rivalry among the students also led them to interpret some of the program activities as a competition with the other groups even though the activities were not designed in this way.

Let us examine how Gábina, an 11-year-old girl participating in the Yellow Program, reflected on her experience. While Gábina liked the field trip, when the small groups were supposed to cooperate and find their way towards a given meeting point, her experience was spoiled by the tensions in her group:

> There was a boy and he was ugly to us, that we are not going the right way, or that we must be first, that we must compete, and so on. And this bothered us, we argued all the time with him, it was unbearable. (Gábina, student, about the field trip, Yellow Program)

Nevertheless, students also liked that they could interact with their peers, either in organized activities or in their free time. The ambivalence of students' feelings about the interactions was obvious. For example, part of the Blue Program was a series of cooperative activities, including a dramatic play meant to be about events from the history of the locality. While the students negatively reflected on

the cooperative games as a source of quarrels, they liked the drama, even though it called for a high level of cooperation (see Figure 19). Similarly, the students negatively commented on the clashes they had during their free-time activities, but for many of them, these activities with their peers were the best part of the program.

Figure 19 *Dramatic Play in the Blue Program. Photo: David Kavan.*

However difficult it may have been to get to this point, some of the students reported that their relationships slowly improved during the program. According to Gábina, the students' relationships started to get better during the Yellow Program, so that the change between before and after was visible:

> The whole A class hated the B class because they believed that B was always the best, but I think now it has, amazingly, changed, and they are OK together. (Gábina, student, about Yellow Program)

As we could see, the effect of the programs on improving the social atmosphere in student groups is complex. Likely, while the teachers see the changes from a longer-term perspective, the students are more immersed in the conflict-filled nature of the process. It is also clear that this process interfered with some students' experiences in the program.

8.3.3 The Outdoor Program as a Nature Experience

For the teachers in our study, the outdoor programs were mainly a source of strong, emotionally-loaded experiences for their students. They linked these experiences with adventure, students' excitement, and long-lasting memories. From the teachers' perspective, the programs offered something unusual and attractive, something that, for some of them, was the main reason they participate with their students in such programs.

Štěpánka, who has been teaching more than 30 years, is one of the most experienced teachers we interviewed. After participating in an introductory workshop, she took her class of 4th graders (9-10 years old) to the Orange Program and was excited about this opportunity. For her, the program was mostly about the strong experiences her students gained. Their novelty and emotional charge were the key factors why they were so important:

> When we worked in the night, when they walked with torches, and when they went to search for the keys. This is what I got from the feedback; this is what really captivated them.
> Interviewer: OK and why do you think it was the strongest experience for them?
> Because they are not used to being in the evening in nature. Plus, the living fire, it was a very strong emotional experience, I think. (Štěpánka, teacher, more than 30 years of practice, about Orange Program)

Most of the students expressed similar feelings. They were excited about the strong experiences they had in their programs, either in the planned program activities (field trips, sensory nature experiences, outdoor adventures) or during the spontaneous, unexpected events emerging in the program (see Figure 20).

Figure 20 *Experiencing Nature in the Orange Program. Photo: SEV Český Ráj.*

In all the programs we observed, the students told stories about admiration of natural beauty, about adventure and enjoyment of being in touch with nature:

> My strongest experience was when we were walking through the peat-bog. (Peter, student, about Blue Program)

> I liked it most when we could make a scented cocktail from flowers. Because it smelled so wonderful, and we could put in whatever we wanted, so we made a new scent. (Lucie, student, about Green Program)

Experiences connected with adventure activities had a special place in the students' memories. Regardless of what in particular the students did in their program (whether it was climbing, rafting, caving, or playing a night-time game), they reflected on these activities with

a mixture of excitement, pleasure, and pride. They were happy they overcame their fear and "made it" – crawled through a narrow tunnel in a cave, roped off a high cliff, or spent some time alone in the night.

Interestingly, while the students positively reflected on when they had to overcome their fear in these adventure activities, they complained about the discomfort when they had to endure less pleasant natural conditions, such as cold temperatures or rain. Generally, "bad weather" was one of the strongest "dislikes" we found. Similarly, while the students liked the outdoor activities and appreciated being outdoors, they tended to complain about the length of the field trips.

However, as we could see, the boundary between a negative and positive interpretation of "bad weather" is sometimes porous and can be influenced by unexpected changes in the natural conditions.

Furthermore, how the students reflected on the field trips was also influenced by the way the program leaders helped them interpret the meaning of these trips. The students sometimes evaluated a trip as boring if there was no additional input, or only limited input, from the program leaders. In contrast, they appreciated when the trips were somewhat organized by the program leaders, i.e., the program leaders offered them educational games and told them interesting facts or stories about the place. Particularly in the Blue Program, the stories about the localities visited on the field trip played an important role:

> M (female student): I liked about the trips when they told us the stories from the past. I liked I learned something more, and it was interesting. I liked to listen to it.
> Interviewer: What did you like about it?
> M (male student): They told us the beginning, and then later the end, so we were breathless how it would end.
> A (female student): And I liked the stories that happened in the (locality). About people who used to live there.
> N (female student): Or I liked how they started to tell a story, and then if we wanted to know how it ended, we had to go somewhere. So we went there, and then they told us the rest. (students, about Blue Program)

As we could see, the teachers' and students' interpretations of their program correspond with what we called "the theory of transformative experiences" in one of the previous chapters. In light of our findings, social interactions and strong experiences are what makes outdoor environmental education programs significant for students and teachers. Let us now discuss what implications this has for practice.

8.4 CONCLUSION

Students and teachers like the outdoor environmental education programs analyzed in our study. The almost completely uncontested positive evaluation of all the programs clearly showed that these programs have their merit and their place in school curricula.

However, students' and teachers' interpretations of these programs somewhat deviate from the programs' main mission. Simply put, while program designers want to shape students' environmental values, understanding, and behavior, teachers and students see the programs as a source of strong nature-based experiences and opportunities to improve group dynamics. While each view has its benefits, this deviation opens the question of what should be changed in program design and implementation, or in the communication between outdoor centers and schools.

9 DISCUSSION AND CONCLUSION: WEAVING THE THREADS TOGETHER

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Chapter Abstract

This chapter weaves together all the threads defined in the Real World Learning Model and discussed in this book. It goes back to some of the questions tackled in the previous chapters, highlighting the main crossroads. In particular, the chapter reviews how decisions made about outdoor environmental education programs' aims, distribution of power, framing of the learning experience, communication of values, and facilitation of experiential learning influence one another, and what impact they have on the other aspects of designing these programs.

9.1 INTRODUCTION

In this book, we have discussed the dilemmas connected with designing and implementing outdoor environmental education programs. We saw that some of the emerging themes return again and again to our attention. In this last chapter, we try to summarize them.

Throughout the book, we have used the metaphor of a crossroad. All the themes we discussed are crossroads of a certain kind; they present a choice but they assume following a specific direction when the choice is made.

In this chapter, we would like to build on this metaphor and think about the choices as threads in a large web. While each crossroad opens specific ways for shaping the program, it is also a result of the previous decisions made at the other crossroads. All decisions have their consequences and influence the whole web of the program.

9.2 THE CROSSROADS AND THE THREADS

9.2.1 The Question of Aims, the Question of Perspective

Among the central crossroads in the web of designing an environmental education program is clarification of the program's aims, of the change the program is expected to facilitate. However, an outdoor program is a social reality shaped by the interactions between program designers, program leaders, accompanying teachers, and participating students. While the original intent of the designers is what gives the program its face, the other stakeholders play their part in the power game. As a result, the question of the program's aims is interconnected with the question of the perspective of those involved in setting these aims, as each of the groups may have different expectations of what the program should achieve.

The expectations of teachers and students often differ from what the program designers and leaders regard as the program's main mission. Although the particular situation may be influenced by the students' age or the type of school they attend, it seems that while the

programs usually aspire to change students' environmental values, understanding, and behavior, the accompanying teachers expect the program's main benefits to be developing the relationships among the students and improving the social cohesion of the student groups. At the same time, the participating students expect to have fun, experience adventure, and enjoy some free time for interacting with their schoolmates. Therefore, the very first decision is whether or how to take these expectations into consideration in designing the program.

Based on our findings, there are three main processes that shape students' and teachers' perceptions of outdoor environmental education programs: experiential learning, social interactions, and strong experiences in the outdoors. Of them, the second and the third seem to be crucial for students' and teachers' interpretation of the significance of their program, while the first is rather something they appreciate but sometimes also question.

It is obvious that the social processes emerging in the student group are an unavoidable part of the students' experience in the outdoor program. Besides, what teachers likely expect is that the outdoor program will help remedy existing issues in the student group's dynamics and also improve the teachers' relationship with the students. As we already mentioned, only two of the observed programs (Green and Blue) applied a somewhat developed approach to this facilitation, while in the other programs the group-dynamics processes were either not reflected on at all (Orange), or were left up to a rather spontaneous development (Yellow and White). If the main mission of outdoor centers is protection of the environment, then the accompanying teachers, the program designers, and the program leaders must find a way to interweave both aspects, satisfy both of these expectations, group dynamics as well as nature protection, and avoid their potential negative interferences.

However, based on the students' satisfaction with all the observed programs, we do not want to say that the existing strategies for dealing with group dynamics are wrong or right *per se*. With respect to the frame of this book, we rather see a crossroad here. Each of the paths selected has its particular consequences. By including activities that focus mainly on group-dynamics issues, program designers reduce the time for environmental education but may avoid some tensions

in the group. Allowing the group-dynamics processes to develop spontaneously may make the program less cohesive, but it opens more opportunities for nature-related experiences.

Strong experiences are one of the main factors that make outdoor programs significant for both students and teachers. Our observations showed that all the programs in our study, even though they used different methods, were successful in providing such experiences. In light of this, we believe that various strategies for including this aspect of the programs are possible. Likely, intentionally pre-arranged outdoor experiences (like caving or night-time games) are perceived slightly differently than authentic, unplanned experiences (like encountering an animal in the forest or getting caught in heavy rain on a field trip). Based on this, it seems reasonable that programs should provide opportunities for both planned and authentic experiences. The ways in which students interpret these experiences seem to be mediated by how the experiences are framed by program leaders and by how they are enriched by other elements, such as storytelling or games. Both of these strategies, framing and enriching, seem to be important, especially for longer field trips when students have to deal with discomfort caused by the need "to endure". Interestingly, overcoming discomfort based on fear is more easily interpreted positively by students.

While both teachers and students liked the process of experiential learning facilitated in the outdoor programs, for some of the teachers this learning had a limited merit. There are various possible explanations for this. It is possible that the centers do not properly communicate to the schools what students may learn in the program. As we could see, none of our programs involved the accompanying teachers in the planning of the educational content, and the way the teachers linked the program with their curricula seemed random rather than well-planned. The teachers' perception of the programs is likely based on their personal views regarding what outdoor environmental education programs are about, and these views may underestimate the programs' real potential.

However, the leaders' perspective on what their program should achieve and what methods should be used is not always consistent with their practice, either. Clearly, some of the discrepancies between

"what we should do" and "what we do" are not intentional, and the leaders do not realize that sometimes their practice differs from what they believe is good. Moreover, not all the leaders of the same program share the same understanding of how their program should be shaped. As a result, they may differ in how they implement the program and what elements they highlight.

Finally, the leaders' perception of the differences between what they want to achieve through their program and what the teachers and students expect may lead to a perceived clash between the centers' mission (environmental education) and their need to establish and maintain users of their services. This mission versus market dilemma is another social process (and another crossroad) shaping the programs.

This dilemma is obvious in situations when a center has to choose design strategies supporting the expectations of some stakeholders but clashing with the expectations of others. A clear example is the issue of the program's length.

For practical reasons, the teachers prefer shorter programs to longer ones. However, longer programs are likely to be more effective in achieving their (environmental education-related) goals, and they are more attractive for students (Rickinson et al., 2004). To keep their position in the market, the centers may find it necessary to offer shorter versions of their programs or to eliminate some of their parts, even if the centers feel it compromises the programs' potential to achieve their goals.

However, the issue of different perspectives causing the mission versus market dilemma opens the question of another, somehow hidden assumption posing an even more fundamental crossroad: What is the nature of the school-outdoor center cooperation? Is it a striving for a partnership, as we identified in the White Program, or an implicitly market-based relationship, as we observed in the other programs? It is likely that the market-based philosophy that frames the centers as providers of a (usually paid) service leads to a distinctive constellation of beliefs with a significant effect on the programs. Within this framing, the accompanying teachers are not supposed to be engaged, but only to observe. Moreover, the program, when seen as a product, tends to be offered in the most economical way possible regardless of the impact on the program's effectiveness.

This market-based framing sharply contrasts with the emphasis the program leaders place on the ethos of their profession highlighting the concepts of authenticity, their love for their work, and their willingness to do it despite a low salary. This kind of framing also establishes a particular dynamic in the distribution of power among the program stakeholders, as we are going to discuss in more detail in the following section.

9.2.2 The Distribution of Power in Outdoor Programs

From the perspective of power distribution, outdoor environmental education programs can be interpreted as an interplay of several stakeholders negotiating for control over the program. Let us summarize the tensions we identified in the relationships among the stakeholders:

- The program leaders of an externally designed program regret that the program does not allow them to be more flexible;
- The program designers question the ability of the leaders to achieve the program goals without the externally provided guidance;
- The accompanying teachers want more control over the students' free time;
- The participating students would appreciate less control from the accompanying teachers and more free time from the program leaders;
- The program leaders and the accompanying teachers question the competence of the students to meaningfully participate in decision-making about the program activities; and
- The participating students' families have substantial control over the long-term effects of the program on the students.

Based on our research, we do not think there is only one way that is the best way to deal with power distribution in outdoor environmental education programs. However, this question is another important crossroad; the direction chosen at this point has significant implications.

Choosing one way means not giving a chance to the others, and preferring certain program qualities or intentional outcomes over the others. Peter had a clear idea of where the Green Program should go

and what effect it should have. If the effectiveness of the program is the value that matters most, it likely does make sense to have it expertly prepared and distribute most of the power among the program designers and leaders.

On the other hand, Marek believed in the importance of the authenticity of the students' experience and in developing their sense of responsibility and competence. If these are the values that matter most, then the power should be shared with the students.

Although some authors strongly recommend a participative approach in environmental education (Daniel et al., 2014; Povilaitis & Hodge, 2019; Sibthorp & Arthur-Banning, 2004; Kohn, 1991; Sibthorp et al., 2008; Thomas, 2010), we do not think that any one way is necessarily better than the others. Obviously, outdoor programs which usually last only a few hours or a handful of days and which are often situated in an unfamiliar environment do not provide the same conditions for developing students' capacity to exercise control over their learning as their regular school work. However, this does not mean that creating favorable conditions for student empowerment is beyond reach if it is valued by all the stakeholders involved in the outdoor program.

Both the Orange Program and the White Program were successful, each in its own way, in applying different models of power distribution. At the same time, we can imagine many programs attempting such an approach and failing to fulfill this ambition. We suppose that the crossroad itself does not imply the quality of the program. However, the decision brings up specific challenges that need to be faced.

If power is concentrated among program designers, how sound is the program theory that is applied in the program? What level of flexibility does the program allow the program leaders to meet specific conditions regarding the weather, the place, and the student group? What methods are used to keep students motivated to participate in a program they cannot influence?

If power is shared with students, what does such a program do to develop students' competence to provide meaningful decisions? How is this program able to react to differences among various student groups? If the accompanying teachers are to be empowered, how does the program develop their capacity to link their curriculum with

outdoor settings and to teach outdoors? And if the program is shaped mainly by the program leaders, how does it help them bridge their daily experience and the theory behind the practice? These questions seem to be essential.

Power in outdoor environmental education programs can be distributed in various ways among the program designers, program leaders, accompanying teachers, and participating students. However, the specific constellation of power distribution can be regarded as a result of other choices, and simultaneously, it will also affect the other parts of the program's web.

If outdoor centers want to fulfil the expectations of their partners, they should share considerable amount of power within the programs with teachers and students. Therefore, the accompanying teachers' and participating students' agendas become important, which means the program would need to pay special attention to improving student group dynamics and promoting the intra- and inter-personal

Figure 21 *Trust-Building and Team-Building Activities Are Part of Some of the Outdoor Environmental Education Programs in Our Study. Photo: Jakub Pejcal. Used with Permission from SEV Kaprálův Mlýn.*

competences of the students (see Figure 21). While these aims definitely have their merit, the centers would have to find a way to integrate them with the other aims that are more directly related to environmental education. The question of the program's length and the time available seems to be crucial here, again.

On the other hand, keeping most of the power on the side of program designers and leaders makes it possible to put the environmental agenda first. However, this choice has its consequences. To support students' motivation to learn, the program should develop certain motivational tools. For young students, this may mean an attractive surface frame, well-prepared learning activities with an element of fun, or opportunities for strong, memorable experiences.

9.2.3 The Significance of Strong Experiences in Outdoor Programs

While all the program leaders in our study believe in the importance of experiential learning in outdoor environmental programs, their specific personal theories of "how it works" and "how it should be done" differ. These differences are partially reflected by the different approaches applied in each program. We could see how the attempt to provide authentic experiences corresponded with the attempt not to prepare all the program activities in advance but rather share some level of control over the program with the students, as is done in the White Program. We could also see how the belief in strong, memorable experiences shaped the Orange Program and the Yellow Program.

At the same time, we found interesting inconsistencies between some of the leaders' personal theories and their leadership practice. These theories became a source of doubts, for instance Peter's questioning of the role of emotionally strong activities in a learning-focused program, or Alena's dissatisfaction with the lack of opportunities for learning from authentic experiences in a prepared program.

There are two perspectives we may use to evaluate these inconsistencies. The first is to see them as limitations. Alena and Peter are gifted leaders. Could they be even better if they did not feel a tension between their theoretical beliefs and their practice? Likely, yes, they could. Their practice is a playground of different beliefs loosely

connected to research-supported educational theories. More consistency could bring more confidence and, therefore, better results.

From the other perspective, none of the leaders' personal theories seemed to lack grounding in scholarly theoretical studies. As a result, by keeping more than one theory at play at the same time, the leaders maximize the potential for utilization of experiences for students' learning.

However, the program leaders' personal theories also deviated from established educational theories in some of their elements. The leaders' personal theory of transformative experiences could be associated with both the concept of transformative learning (Mezirow, 1997; Kitchenham, 2008) and with the principles of adventure education (Priest & Gass, 2005; Prouty, Panicucci, & Collinson, 2006). In both of these theories, we can find theoretical support for providing strong, memorable experiences with a transformative potential. However, both of these theories also highlight the significance of cognitive elaboration on the experience that is perceived as an important part of the transformation process or learning (Mezirow, 1997).

In light of the rather skeptical approach to debriefing sessions expressed by some of the program leaders, the theory of transformative experiences should be linked to the interpretation of experiential learning as formulated by the Czech scholar Jirásek (2016). The theory of transformative experiences held by some of the program leaders in our study corresponds with Jirásek's view in their shared belief that the experience should be strong (and even unpleasant) and that it has a transformative potential even without its further reflective processing. However, while Jirásek has drawn his theory from the practice of non-formal outdoor education programs focusing on personal development and targeting mainly adolescents and adults, outdoor environmental education program leaders must adjust their practice to different aims, participants, and educational contexts. Thus, even though some of the program leaders believe in the importance of providing strong and potentially uncomfortable experiences, they have to provide mostly pleasant and moderate experiences to avoid frustrating their target students and the teachers accompanying them.

The program leaders' personal theory of supportive experiences likely reflects their rather narrow perspective on experiential learning.

It is interesting that while the approach observed in the Green Program (investigation in nature with follow-up reflection) aligns with the principles of experiential learning (Kolb, 1984; Johnson & Johnson, 2006; Moon, 2005; Prouty, Panicucci, & Collinson, 2006), the program leaders do not associate the one with the other. The program leaders' lack of understanding of the basis of their work may, in the long term, undermine their practice.

We noticed this issue in most of the observed programs. Among the most striking findings was the program leaders' skeptical (or hesitating) approach towards debriefing sessions, which, in most of the observed programs, was accompanied by rather inadequate debriefing methods based on simple "learning by doing" or "learning by telling" approaches (Priest & Gass, 2005). A possible explanation of why some of the leaders questioned the importance of regular debriefing or why a directive mode of debriefing was applied in some of the observed programs may be traced to the prevailing teacher-directed tradition of the Czech educational practice. The program leaders may have been influenced by the educational environment in which they grew up (Wideen, Mayer-Smith, & Moon, 1998), and because of this, they unintentionally prefer strategies highlighting teacher-directed experiential activities to student-directed processes of elaborating on the experiences.

The significance of strong experiences in the learning process seems to be connected with both program aims and power distribution in the program. Based on our findings, strong, memorable outdoor experiences may not be directly connected with outdoor programs' environmental aims, but they correspond with the teachers' and students' expectations. When they need some level of preparation, these types of experiences may work better within carefully prepared programs.

On the other hand, providing authentic experiences requires a flexible program format that allows program leaders, students, and teachers to shape the program activities according to their needs and contextual factors.

Furthermore, the call for learning from authentic experiences faces another kind of issue. As we could see, students tend to like strong outdoor experiences consisting of a mixture of fear and safety ensured

by the program leaders, but they do not enjoy these experiences when they are confronted with a rather "mundane" challenge, such as bad weather or a long hike. From this perspective, too much authenticity in being outdoors may spoil the program for inexperienced students and compromise the program's aims.

The last important aspect we identified was how the experiential learning theory applied in the program corresponded with the other crossroads discussed in this book. As we have said, we do not think that some of these decisions regarding program design are correct and others are wrong *per se*. Rather, some of them work as crossroads – they open a path that presupposes the following steps that need to be taken. While some of the steps may become other crossroads, others can be expected as the outcome of previous decisions.

9.2.4 Framing the Learning Experience in Outdoor Programs

Applying framing theory in outdoor environmental education may appear tricky. While it seemed obvious to the program leaders to use elaborated frames to motivate students and to organize program activities, using surface frames to grasp the deeper metaphorical meaning of the program as a whole was rarely fully implemented in practice.

Several questions have emerged. The first question refers to the relationship between frames and values. As we could see in the Yellow Program, different frames (Survival versus Woodcraft) are associated with different values communicated to students. In light of this, it may be hypothesized that the choice of a frame plays a role in the effect that an outdoor environmental education program has on both students' values and behavior. However, our findings do not support this hypothesis. It is possible that, regardless of some level of confusion in the communicated frames, there are other factors that are instrumental in helping students interpret their experience. Students are aware that they are going to an outdoor environmental education center. They can see that their program leaders are keen on nature and that they provide a model of responsible and caring behavior. Further, students can see that the center is concerned about its ecological footprint. It is likely that all of this together communicates

a frame more powerful than what the program leaders say. If this is true, then the frames applied in a program are just one of many factors influencing the way students interpret their experience – not an unimportant one, but one that can be overshadowed by the authenticity of the program leaders and of the facility housing the environmental education center.

The second question refers to how the frames that are used are connected with the distribution of power in a particular program. In the White Program, the program leaders tried to share their power with the students to make the students' experience more authentic. At the same time, they felt it was important to create a surface frame to motivate the students. As we could see, the leaders of the White Program devoted considerable attention to making the program participative. They asked themselves whether or why to use such a motivational tool. Moreover, if the students are allowed to make their own choices in the program, would it be reasonable to also give them the chance to interpret the program on their own, without any externally suggested frame? It is possible that here we can see some of the aspects of the crossroad we discussed earlier: while elaborated frames seem to be important for programs controlled by adults, they may become disruptive in programs where the power is shared with the students. While we could see the importance of elaborated frames for programs like the Orange or Green Programs, it is possible that other types of programs would work better without such frames.

Based on the example of the Blue Program, we may ask whether an outdoor environmental education program may exist without any central surface or deep frame. However, using this strategy likely led to disintegration in the Blue Program. Frames keep the elements of a program together. From this perspective, frames seem to be an important part of program design and should be, in some way, taken into consideration.

Our research regarding the importance of careful framing of the learning experience remained somewhat open-ended. We found that students tended to frame the program on their own, based on what they expected from an outdoor environmental education program.

At the same time, the surface frames turned out to be a useful tool for organizing the program activities into a meaningful whole and for motivating the young students to participate in activities directed by someone else. In light of this, it seems that having an attractive and integrating surface frame is a reasonable strategy, provided power in the program is distributed among the adults, that is, the program designers, program leaders, and accompanying teachers.

However, this brings up further issues. As we have discussed, it seems that elaborated surface frames based on fictitious scenarios do not work well for these programs, which highlights the importance of authenticity and students' role in decision-making. However, the absence of any surface frame may compromise the integrity of the program. To avoid this, the leaders should probably find an alternative way of framing their program. It is possible that the solution calls for consistency in the program's approach to students. As Hovelynck (1998) suggested, it is not the adult program leaders who should apply the framing metaphors, it should be the student participants themselves who develop their own metaphors for what they experience. By inviting students into the process of designing the surface frame of the program, the leaders would share even more power with the participants. This approach could open new opportunities for outdoor environmental education, opportunities accompanied with specific new challenges that would need to be tackled.

Additionally, the relationship between the surface frames and deep frames presents another issue. As it is the deep frame that is the main message the program wants to communicate, program designers should try to find an effective way of communicating the deep frame through the surface frame, i.e., linking the two types of frames together. Especially, the surface frame and deep frame of the same program should express the same values to avoid a potential confusion in what the program promotes. While all the programs in our study used elaborated surface frames, the deep frames often remained rather implicit, and various problems emerged because of that. Finding a successful framing strategy is clearly one of the trickiest aspects of designing outdoor environmental education programs.

9.2.5 Values Education in Outdoor Programs

The journey toward influencing students' environmental behavior in outdoor programs goes hand in hand with promoting students' environmental values. If an outdoor center wants to influence behavior, it should likely also find effective ways for its programs to promote the values of nature protection and appreciation. Based on our findings, this requires a strategy that combines encouraging students toward pro-environmental behavior, developing a strong deep frame communicating a message related to nature protection, and inculcating and modelling pro-environmental values in the program.

It may be difficult to apply such a strategy when power in the program is shared with students whose agenda is different from the shaping of their environmental values. It seems that this learning aim may be better associated with programs that are directed by program designers and leaders, provided both are consistent in their interpretation of the program's goals and tools. As we have already discussed, this decision calls for further steps to establish the program's effectiveness and students' motivation.

At the same time, shaping environmental values and behavior does not necessarily have to be the main aim of an outdoor environmental education program. An outdoor program may focus on developing students' inquiry or investigation competences, conceptual environmental understanding, connectedness to a specific nature locality, etc. For those aims, power may be reasonably shared with students and teachers.

Furthermore, as our study is limited to young students, we may assume that for older students, a higher level of power sharing is needed (see Figure 22). More likely than not, it is the age of the students that is the main entry point into the network of decisions about program design.

Regardless of what various program leaders may believe, their outdoor programs follow a normative approach, i.e., they promote particular values and, implicitly, suppress others. It seems that outdoor programs are a form of education that is rooted in values fundamental to environmental education (Jickling, 2003; Jickling & Wals, 2012; Jickling & Spork, 1998; Disinger, 2001; Holsman, 2001; Kopnina, 2012).

Therefore, any attempt to avoid communicating values such as protection of nature, natural beauty, or unity with nature would contradict the very reason why these programs are conducted.

However, applying a normative approach has its clear consequences. Although this approach likely fits with the attitudes of most young students, it may be in conflict with the attitudes of those who are inclined toward the values of utilization of nature, achievement, power, or other values. Given the young age of the students in the programs we observed, it is likely that the programs may potentially clash with the values promoted by the students' parents and other family members. As we could see, program participants with weaker pro-environmental values tended to see their program less positively and the program did not have a strong impact on them. Therefore, the clash within the students' families may further lower the long-term effects of the program because the students may be confronted with lack of interest or support when they return home (Johnson & Cincera, 2015). In addition, the normative approach may be seen as indoctrination by some of the teachers and parents and, as a result, it may become a reason for not allowing the students to participate in the program. This resistance to possible indoctrination may be strengthened by the program leaders' intentional encouragement of the students to change something in their environmentally relevant behavior.

In light of this, program designers need to choose one of the options possible in this respect. The first option is to minimize the normative aspects of their program. Such program would still promote nature protection, but rather implicitly. The leaders would provide enough time for the students to discuss their values and perspectives, and they would curb directly encouraging students to change their behavior. The program would likely give students some level of autonomy in shaping the program. Thus, the program would avoid the above-mentioned conflicts, but it would likely have no impact on the students' values. Nevertheless, it could still positively affect the students in other areas.

Another option is to intentionally focus on promoting students' pro-environmental values. Such program would use a variety of tools, including inculcation, modelling, framing the experience, and encouragement toward responsible behavior. In this case, the program would have a chance to affect the students' values and behavior, but it could be negatively perceived by some of the students, teachers, and parents.

This choice should be reflected on by program leaders as well as all the other parties involved in designing and conducting outdoor environmental education programs. However, as we could see in our research study, sharing the same concept by all the leaders in the program is often not the case. This fact may cause that the program does not follow any of the options outlined above and remains somewhere in-between.

Figure 22 *Older Students Can Shape Their Investigation on Their Own. Photo: Jakub Pejcal. Used with Permission from SEV Kaprálův Mlýn.*

9.2.6 Learning in Outdoor Environmental Education

While all the programs we observed in our study focused on developing students' environmental values, they differed in their other aims. The Orange and Green Programs wanted to increase students' conceptual environmental understanding; the Blue Program emphasized place-specific knowledge; and the Yellow and White Programs promoted competences and skills for spending time outdoors. Different goals call for different means. We realized how difficult it could be to challenge some of the students' initial scientific concepts and how persistent some of their misconceptions could be.

We are far from questioning the potential of outdoor environmental education to develop students' knowledge and understanding of various ecological phenomena. The evidence is quite strong for this. However, there are clear limitations in this area.

Whatever strategy is used, outdoor environmental education programs are likely too short to alter students' misconceptions, if these are strong and persistent, without paying close attention to what we know about conceptual development. Such an approach would call for:

a) strong cooperation between outdoor centers and the accompanying teachers to connect the program with school curricula, introducing the concepts at school before the program and following up on them at school after the program;
b) program leaders' ability to respond to students' alternative theories by providing additional clarifications and examples, and even additional new or modified experiences;
c) the program's clear focus on a limited number of concepts;
d) the program's central frame supporting the conceptual learning; and
e) guidelines or lessons for the accompanying teachers to use in the classroom for further elaborating on the concepts.

To achieve this, the program should provide opportunities for the accompanying teachers and program leaders to work together, to have joint ownership of the program. This approach also assumes a high level of expertise and cooperation on both sides. While this corresponds with the existing recommendations (Rickinson et al., 2004; Kendall

& Rodger, 2015; Menzies, Bowen-Viner, & Shaw, 2017), it also presents considerable challenges in practice.

Finding the time for such collaboration is very difficult. Moreover, as we saw, program leaders sometimes questioned the expertise of the accompanying teachers or their motivation to be actively engaged in the program. The level of cooperation required for the above-outlined scenario assumes a high level of mutual trust, including program designers' trust in program leaders. Both of these prerequisites, expertise and trust, would have to be fulfilled.

This opens up further areas for consideration. The instructional strategies, like those applied in the Orange or Green Programs, are very pragmatic. They are tailored for the context of relatively short programs. They do not assume that all the accompanying teachers and program leaders are experienced in facilitating conceptual development in outdoor settings. They do not require a high level of cooperation between the program leaders and the accompanying teachers. In light of this, they are quite effective within the given constraints.

However, from a broader perspective, these constraints need to be reduced. If an outdoor environmental education program aims to facilitate conceptual change in students, it will be much more likely to succeed if it includes the accompanying teachers' active engagement. It may be that many outdoor environmental education programs are designed for students only, not for their teachers. In the White Program, we saw a careful attempt to actively involve the accompanying teachers in the program. Probably, more programs should pursue this format. Of course, if deep conceptual learning is not the primary goal, then programs could focus instead on other goals, such as values and behavior.

9.3 CONCLUSION

Based on our analysis, the program on Harakka Island that Jan visited years ago applied a mixture of some very effective and some not so effective choices regarding program design and implementation. The same can probably be said about most outdoor environmental education practice.

However, as we have argued throughout this book, there are no clear "dos" and "don'ts" in this practice. The web of a program is woven from the interplay of decisions on the questions we have analyzed. Therefore, our goal was not to define what good practice is, but rather to show how we can think about it, what we should take into consideration, and what are the likely results of the decisions we make.

The ambition of this book was to build a bridge between theory and practice. Nevertheless, it is obvious that it has been written by university teachers. We hope that this does not compromise the book's usefulness, not only for shaping environmental education debates at universities but also for shaping the practice in this field.

In the difficult times of a pandemic and climate change, no field can remain the same. We believe that openness and critical reflection can help environmental education play a role in the social transition towards sustainability. We believe that outdoor programs that offer students direct experience with nature will continue to be an essential part of this transition.

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Some parts of the book elaborate on our findings originally published in peer-reviewed journals. In all cases, the chapters were substantially modified and mutually interlinked. As a result, the book summarizes, develops, and brings together what was originally published separately. However, it also adds new content and new perspectives.

The following chapters are based on previously published articles:

- Chapter 3 is partly based on an article by Cincera, J., Simonova, P., Kroufek, R., & Johnson, B. (2020). Empowerment in Outdoor Environmental Education: Who Shapes the Programs? *Environmental Education Research*, DOI: 10.1080/13504622.2020.1814205.
- Chapter 4 elaborates on a paper by Činčera, J., Johnson, B., Kroufek, R., Kolenatý, M., & Šimonová, P. (2020). Frames in Outdoor Environmental Education Programs: What We Communicate and Why We Think It Matters. *Sustainability, 12*(11), 4451.
- Chapter 5 deals with a topic published in Činčera, J., Johnson, B., Kroufek, R., & Šimonová, P. (2020). Values Education in Outdoor Environmental Education Programs from the Perspective of Practitioners. *Sustainability, 12*(11), 4700, https://www.mdpi.com/2071-1050/12/11/4700.

- Chapter 6 is partly based on Cincera, J., Johnson, B., & Kroufek, R. (2020). Outdoor Environmental Education Programme Leaders' Theories of Experiential Learning. *Cambridge Journal of Education*, DOI: 10.1080/0305764X.2020.1770693.
- Chapter 7 presents new data from research published in Johnson, B., & Cincera, J. (2019). Development of the Ecological Concepts of Energy Flow and Materials Cycling in Middle School Students Participating in Earth Education Programs. *Studies in Educational Evaluation, 63*(August), 94–101. https://doi.org/10.1016/j.stueduc.2019.08.003.

All the names, people, and organizations in this book (excluding the authors) are anonymized. However, all the observations and findings are real, based on the research and the professional experience of the authors.

It is possible that readers familiar with the field of environmental education in the Czech Republic will be able to identify the programs and the people behind the made-up names. We do not think that such identification is worth trying to achieve. Let us think about the programs as about paintings, and the viewing experience as more important than the painters' personal details. Last but not least, our program observations reflect the situation as it was at the time we conducted them; as time has passed, the programs may have evolved and the paintings described here may not represent how the programs are being offered today.

While our team tried to be as fair as possible, we must admit some of the authors' connections to the observed programs. Bruce and Jan have a strong relationship with the Orange Program, and Jan with the Blue Program. In addition, as Jan observed all the programs, he started to like all of them.

We appreciate the work of all the people associated with these programs and we must say a big "Thank you" for their courage to cooperate with us, researchers. We wish the Blue, Green, Orange, Yellow, and White Programs all the best for their future journeys of implementing, developing, and looking for the best ways of doing sound outdoor environmental education.

APPENDIX 1
THE RESEARCH METHODOLOGY APPLIED IN THE PROJECT: AN OVERVIEW OF THE INSTRUMENTS

RESEARCH QUESTION 1:
WHAT INSTRUCTIONAL STRATEGIES DO DIFFERENT OEEP'S USE TO ADDRESS EACH OF THE RWL-MODEL ELEMENTS?

Data Collection Method: Observation. Each program was observed twice, each time by a different observer.

Guidelines for the Observers

Part A: Frames
Does the program have a connecting story that ties all of the elements of the program together and that is related to sustainability?

Definitely No (0)	Somewhat No (1)	Somewhat Yes (2)	Definitely Yes (3)
A connecting frame cannot be identified. The program consists mainly of a set of disconnected activities, there is no overarching story defining the meaning of the whole program. The meaning of the activities is not clear, so the participants do something but have no clue for getting the meaning of the activities.	Several different and unconnected frames can be identified for various parts of the program, no central frame for the whole program is identified, or the central frame is very general and obvious, i.e., "protect nature", etc.	The program has a central frame connecting most of the activities. However, the frame is rather implicit and it is not clearly communicated to the participants.	There is a strong connecting frame that communicates the meaning of all the program activities. The story is explicitly and repeatedly communicated during the program.

- What frame(s) did you identify in the program?
- How were they communicated in the program activities?
- Did the students pay attention when the frame was introduced or recalled? What did you see/hear?
- Did the students discuss the frame spontaneously? Did they ask questions about it? What did you see/hear?

Part B: Values

Does the program support altruistic (transcendent) values?

- Provide examples (what you read/heard) of how the program promoted values of preservation of nature (e.g., that nature should be protected because of its intrinsic qualities, because life is precious and beautiful, because it is fair, etc.):
- Provide examples (what you read/heard) of how the program promoted values of utilization of nature (e.g., nature should be protected to satisfy people's current and future needs):
- Provide examples (what you read/heard) of how the program promoted values of appreciation of nature (e.g., it is good to spend time in nature and enjoy it):

Definitely No (0)	Somewhat No (1)	Somewhat Yes (2)	Definitely Yes (3)
Most often communicated were values from group 0. Values from group 3 were practically not communicated at all.	Most often communicated were values from group 1. A mixture of values from the other groups were also communicated.	Most often communicated were values from group 2. A mixture of values from the other groups were also communicated.	Most often communicated were values from group 3. Values from group 0 were practically not communicated at all.

Group	Core Values	Specific Values (Identify which of them you noticed.)	How were the values communicated in the program? Provide examples.
3	Universalism	Broadminded, Equality, Unity with the World, Protecting the Environment, World of Beauty, Inner Harmony, World Peace, Social Justice, Wisdom	
2	Self-Direction	Freedom, Independent, Curious, Creativity, Choosing Own Goals, Privacy, Self-Respect	
2	Benevolence	Mature Love, Spiritual Life, Helpful, Forgiving, True Friendship, Meaning of Life, Honest, Responsible, Loyal	
1	Stimulation	Daring, Variation in Life, Excitement in Life	
1	Hedonism	Enjoying Life, Self-Indulgent, Pleasure	
1	Conformity	Self-Discipline, Politeness, Honoring the Elders, Obedient	
1	Tradition	Humble, Detachment, Respect for Tradition, Devout, Moderate, Accepting My Portion in Life	
0	Achievement	Intelligent, Capable, Successful, Influential, Ambitious	
0	Power	Social Recognition, Social Power, Wealth, Authority, Preserving My Public Image	
0	Security	Healthy, Family Security, Social Order, Clean, Sense of Belonging, Reciprocation of Favors, National Security	

- Provide more comments or further examples:

Part C: Transferability

Does the program promote transferability between local and immediate events on one side and broader contexts and consequences on the other side?

Definitely No (0)	Somewhat No (1)	Somewhat Yes (2)	Definitely Yes (3)
0x yes	1x yes	2x yes	3–4x yes

- Does the program communicate the following types of interconnections?

	No	Yes	Provide examples from the program.
Past Dimension (now—before). How the present situation has been caused by events and decisions in the past.			
Future Dimension (now—later). How the present situation and decisions may influence the situation in the future.			
Personal Dimension (here—at home). How the local situation resembles or is connected with the students' personal lives and their home region.			
Global Dimension (here—the world). How the local situation resembles or is connected with the situation in the students' country, in Europe or the world.			

Part D: Experience

Does the program apply experiential methods to help students connect with outdoor settings?

Definitely No (0)	Somewhat No (1)	Somewhat Yes (2)	Definitely Yes (3)
0x yes	1x yes	2x yes	3–4x yes

	No	Yes	Provide examples from the program.
Outdoor Settings. Is most of the program conducted in outdoor settings?			
Direct Interaction. Are the students motivated to interact directly with nature (nature as a partner vs. nature as a playground for social interaction)			
Reflection. Does the program provide an opportunity to reflect on the students' experience in nature?			
Transfer. Does the program provide an opportunity to transfer the students' learning into their future activities (application) or their personal life?			

- Did you see students' lack of involvement during the program activities? (Describe what activity/part of activities, how many students did something else and what, what measures the program leaders used to engage the students in the activity again):
- Did you see students' high level of involvement during the program activities (what activity/part of activities, what did the students do)?
- What feelings did the students express and share during the debriefing sessions or during the activities? (Describe the context, the activity, and what you saw/heard about the students' feelings):
- What findings did the students report and share during the debriefing sessions or during the activities? (Describe the context, the activity, and what you saw/heard about the students' findings; put special emphasis on cases of cognitive dissonance – expression of surprise, change of opinion, etc.):

Part E: Empowerment

Does the program help students become empowered to shape a sustainable future?

E.1 The Emancipatory Approach

Definitely No (0)	Somewhat No (1)	Somewhat Yes (2)	Definitely Yes (3)
Students have no opportunity to shape the program activities through their own decisions.	Students have only a limited opportunity to shape the program activities through their own decisions, e.g., they have a limited choice regarding what to do in some of the activities, most of these chosen activities require simple, individual behavior with a limited opportunity to strengthen students' competence.	The program provides a mixture of pre-determined activities and activities shaped through students' own decisions, the independent activities are complex, require cooperation among students, provide an opportunity for decision-making, assessing various options, predicting potential results, etc.	The program provides just a loose framework for students' decisions about the activities, students are supposed to make their own decisions, to choose from several options, and to reflect on the results of their work.

E.2 Encouragement toward Responsible Behavior

- Provide examples (what you read/heard) of how the program encouraged students to change something in their environmentally relevant behavior (e.g., did it motivate them to start and maintain new habits):
- Provide examples (what you read/heard) of how the program instructed students about what they could do to help the environment and how (e.g., was it clear, did it offer guidance or just vague ideas about what they can do):
- Provide examples (what you read/heard) of how the program persuaded students that they are able to help the environment through their own effort (e.g., how did it develop students' internal locus of control, their self-efficacy):

- Provide examples (what you read/heard) of how the program leaders and the eco-center facility modelled responsible environmental behavior (e.g., how did they save energy, materials, model interest in nature, etc.):

Part F: Satisfaction

Informal interviews with the students during program observation. Write down the name, gender, and age. Record the interview.

- How did you like it today? How was (a particular activity)? Did anything surprise you today?
- Is there something you would like to change?

RESEARCH QUESTION 2: HOW DO STUDENTS INTERPRET THEIR EXPERIENCE REGARDING THE PROGRAM AND THE PROGRAM'S ACTIVITIES?

Part A: Qualitative Analyses

Data Collection Method: Focus groups with students approximately two weeks after their participation in the program. Six to eight students selected for each of the observed groups.

Guidelines for the Interviewers

Procedure:

1. Two weeks ago, you participated in the XY program. If you had to select just one, the strongest, experience for you, what would it be?
    a. What did you like about this experience? / What was unique about your experience?
    b. Is there anyone else with the same experience? What?
    c. Would anyone choose something different? What?
2. Usually, some children like some activities but dislike others. What activities in the program did you dislike?
    a. What exactly did you dislike about this activity?
    b. Is there anyone else with the same activity? What?
    c. Would anyone choose something different? What?

3. Now think about the program as a whole.
    a. In what ways was the program different from the way you learn at school?
    b. What did you like about the way the program was conducted for you?
4. Imagine you could change anything in the program. What would you change?
5. In the program, you were motivated to do something for nature in your personal life. Usually, some students start doing something, and others do not. Is there anyone who has already tried to do something new after the program? What was it?
    a. What helped you start doing this activity?
    b. Did you run into any problems with it?
    c. Anyone else?
6. Do you have any other comments or impressions from the program that you would like to share with me?

Part B: Quantitative Analyses

Data Collection Method: A questionnaire collected approximately two weeks after the students' participation in the program.

List of Items

Frames

- If you were to describe the program to a younger schoolmate in one sentence, what would you say?
- Complete the following sentence: In the program, we learned …
- I always knew why it was important to do the activities we were doing.
- Some of the activities we were doing were pointless.

Transferability

- We learned in the program how everything around us is interconnected.
- We learned in the program that when I do something at home or at school, I can change things in other places or in other countries.

- We learned in the program that what nature looks like today has been influenced by the decisions people made in the past.
- We learned in the program that when people interfere with something in nature, they can change nature for many, many years.
- We learned in the program that the nature where the program took place is in some way connected with the nature where I live.

Experience

- Most of the activities we did in the program took place outdoors.
- We always had enough time in the program to explore the nature around us.
- When I experienced something important in the course of the program, I had time to think it over and share my feelings with others.
- When we learned something in the program, we later had a chance to apply it.
- During the program, we were motivated by the program leaders to use what we had learned at home or at school.

Empowerment

- I always had an opportunity to suggest what we could learn about nature during the program.
- When I wanted to explore something deeper in nature, I always got the time to do it during the program.
- I had a lot of opportunities for cooperation with my classmates during the program.
- In some activities in the program, we had an opportunity to make decisions on our own and then experience the consequences of our decisions.

Encouragement

- The program leaders clearly explained to us what we could do to help nature.
- I felt motivated by the program leaders to start doing something to help nature at home.
- It would be great if everyone treated nature the same way as the program leaders.

Satisfaction

- I would like to take part in a similar program again, if possible.
- I would recommend the program to all my friends.
- I really liked the program.

RESEARCH QUESTION 3: HOW DO THE ACCOMPANYING TEACHERS PERCEIVE AND INTERPRET THEIR EXPERIENCE IN THE OEEP'S THAT USE THE RWL-MODEL ELEMENTS?

Data Collection Method: Interviews with the accompanying teachers who have experience with one of the observed programs. At least two teachers for each of the observed programs were interviewed.

Guidelines for the Interviewers

Procedure:

- Program. What did you expect from the program? What was the story that led you to it?
  - Do you have experience with other OEEPs?
- What do you particularly like about this program?
  - If you compare it with the other programs you know, what are the strengths of this program?
- What do you think are the weaknesses of this program? What changes should be considered?

We want to investigate the meaning of specific instructional strategies applied in OEEPs. Our work is based on the RWL Model designed several years ago by a coalition of Czech and international EE centers and universities.

- Frames. Some people believe that an OEEP should communicate one central message or a story that connects all parts of the program together. Other people believe that it is better to avoid over-organizing the program and it is OK when the program

is composed of a set of activities that are not much interconnected.
  - What do you think about this?
  - How was it in this program?
  - (If respondents agree there is a frame) Could you summarize the message / story of this program, how do you perceive it?
  - (Same condition) How do you think this story worked in this program?
  - (If there is no frame) How do you think this strategy worked in this program?

- Values. According to some researchers, program leaders have an impact on the way the program influences the students through the values the leaders communicate. For example, if we say that nature should be well managed, we highlight values connected with power and achievement, which may decrease the chance for promoting pro-environmental behavior. Other people believe that this is unimportant or even reasonable – nature should be managed by humankind.
  - What do you think about this?
  - How was it in this program?
  - What do you think about the way the program leader worked with this aspect?

- Transferability. Another aspect of OEEPs that we are interested in is the way they connect local and immediate events on one side with broader contexts and consequences on the other side. Did you find this strategy in this program?
  - Do you think this aspect of the program should be more strongly promoted or is it OK as it is now? (Would you express your opinion, please?)

- Experience. Most program leaders agree that EE should be based on students' experience. However, how do you understand what experiential learning is?
  - How was this strategy applied in this program?
  - Is there anything you think should be corrected in this program to make it even more experiential?

- Empowerment. There is a big debate going on in the field of EE. According to one group, program leaders (or the eco-center) are experts and so they are responsible for preparing a well-designed set of learning activities aiming to achieve important goals of EE. In this approach, the students simply but actively participate in the prepared activities. According to the other group, a good program should be open enough to allow the students to make their own decisions about what to investigate, what to do, and what to achieve in the program. In this approach, the students are the decision-makers and the program leaders more or less just facilitate the learning process. According to you, which of these approaches in EE is better?
  - How was it in this program?
  - How would you say this approach worked in this program?

- Conclusion. Is there anything else you would like to share with me about this program?

RESEARCH QUESTION 4: HOW DO PROGRAM LEADERS INTERPRET THE INSTRUCTIONAL STRATEGIES INTENTIONALLY APPLIED IN THEIR PROGRAM?

Data Collection Method: Interviews with the program leaders who lead one of the observed programs or are responsible for the program's implementation. At least two leaders for each of the observed programs were interviewed.

Guidelines for the Interviewers

Procedure:

- Program. How did it happen that you started to lead this program? What was the story that led you to it?
  - How long ago was it?
  - Do you have experience with other programs?

- What do you particularly like about this program?
  - If you compare this program with the other programs you know, what are the strengths of this program?

- What do you think are the weaknesses of this program? What changes should be considered?

- There are certain aspects of OEEPs that we want to analyze in our research. They are based on the RWL Model designed several years ago by a coalition of Czech and international EE centers and universities. These aspects include frames, values, transferability, experience, and empowerment. I am going to ask you about them. Are you familiar with the RWL Model?

- Frames. Some people believe that an OEEP should communicate one central message or story that connects all parts of the program together. Other people believe that it is better to avoid over-organizing the program and it is OK when the program is composed of a set of activities that are not much interconnected. What do you think about this?
  - How is it in this program?
  - (If respondents agree there is a frame) Could you summarize the message / story of this program in one or more sentences?
  - (Same condition) How do you think this story works in this program?
  - (If there is no frame) How do you think this strategy works in this program?

- Values. According to some researchers, program leaders have an impact on the way the program influences the students through the values the leaders communicate. For example, if we say that nature should be well managed, we highlight values connected with power and achievement, which may decrease the chance for promoting pro-environmental behavior. Other people believe that this is unimportant or even reasonable – nature should be managed by humankind. What do you think about this?
  - How is it in this program?

- Transferability. Another aspect of OEEPs that we are interested in is the way they connect local and immediate events on one side with broader contexts and consequences on the other side. Could you give me examples of how these connections are communicated in this program?
  - Do you think this aspect of the program should be more strongly promoted or it is OK as it is now? (Would you express your opinion, please?)

- Experience. Most program leaders agree that EE should be based on students' experience. However, how do you understand what experiential learning is?
  - How do you apply this approach in this program?
  - How do you think it works? Is there anything you think should be corrected in this program to make it even more experiential?

- Empowerment. There is a big debate going on in the field of EE. According to one group, program leaders (or the eco-center) are experts and so they are responsible for preparing a well-designed set of learning activities aiming to achieve important goals of EE. In this approach, the students simply but actively participate in the prepared activities. According to the other group, a good program should be open enough to allow the students to make their own decisions about what to investigate, what to do, and what to achieve in the program. In this approach, the students are the decision-makers and the program leaders more or less just facilitate the learning process. According to you, which of these approaches in EE is better?
  – How is it in this program?
  – How would you say this approach works in this program?

- Conclusion. Is there anything else you would like to share with me about this program?

RESEARCH QUESTION 5: HOW DO EDUCATIONAL EXPERTS REFLECT ON THE MEANING AND THE KEY ELEMENTS OF HIGH-QUALITY OEEP'S?

Data Collection Method: Four focus groups with selected experts from the fields of outdoor education, environmental education, eco-psychology, and environmental ethics.

Discussion Topics

- The Role of Personal Experience with OEEPs
- The Opportunities, Meaning, and Limits of OEEPs
- The Preconditions of OEEPs' Effectiveness and the Quality Criteria for OEEPs
- The Issues and Controversies Related to OEEPs
- The Learning Process in OEEPs

RESEARCH QUESTION 6: WHAT IS THE IMPACT OF OEEP'S ON STUDENTS' ENVIRONMENTAL VALUES AND BEHAVIOR?

Data Collection Method: A questionnaire collected before, two weeks after, and then again four months after the students' participation in the program.

List of Items

Preservation of Nature

- Human interference in nature often leads to catastrophic or harmful effects.
- People mistreat nature.
- If things do not change, we will soon be facing a major environmental disaster.

Intention to Act

- If I had extra money, I would donate it toward nature protection.
- I would help raise money to protect nature.
- I am making an effort to tell others that nature is important.
- If I have a choice, I prefer drinking tap water to bottled water.
- If I have the opportunity, I will take part in an event organized by local environmentalists.
- I would be willing to buy environment-friendly food.

Utilization of Nature

- People have the right to change the environment for their benefit.
- Building new roads is so important that trees should be cut down.
- Because mosquitoes live in swamps, we should drain the swamps and use the land for farming.
- To feed people, the wilderness must be turned into farmland.
- People are supposed to rule over nature.
- Weeds should be killed because they take space from the plants we need.

Appreciation of Nature

- I like a grassy lawn more than a meadow where flowers grow on their own.
- I like to watch and listen to birds.
- Every now and then I take the time to watch clouds passing by.
- Sometimes I watch stars at night.
- Every now and then I take the time to smell flowers.
- Listening to the sounds of nature always makes me relax.

Behavior

- I recycle paper at home or at school.
- When I am the last to leave a room, I always switch off the lights.
- If I see people acting badly toward nature, I immediately tell them.
- In my free time, I watch nature shows on the Internet or on television.
- I speak with my parents about how it may be possible to help with solving environmental problems.

- I try to help the environment at our school.
- In my free time, I participate in events to help the environment.
- I often read about nature and the environment.
- When I am deciding what to take out of the refrigerator, I keep the doors closed.
- I place birdhouses or feeders near my home.

Source:
Bogner, F. (2018). Environmental Values (2-MEV) and Appreciation of Nature. *Sustainability, 10*(2), 350. https://doi.org/10.3390/su10020350.

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FIGURES AND TABLES

FIGURES

TABLES

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Real World Learning in Outdoor Environmental Education Programs

The Practice from the Perspective of Educational Research

Jan Činčera (Ed.)

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This book analyzes the theoretical frameworks shaping the practice of outdoor environmental education programs. For the analyses, the authors applied the Real World Learning Model that defines the quality criteria for this kind of practice. They also further examined the Model from the perspectives of relevant theory and research, as well as from the perspectives of program leaders, accompanying teachers, and participating students. Specifically, the authors selected five programs, all three to five days long, offered by Czech outdoor environmental education centers for students in the 3rd to 7th grades and focused on shaping students' environmental values and behavior.

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