




Article

Frames in Outdoor Environmental Education Programs: What We Communicate and Why We Think It Matters

Jan Činčera ^{1,*} , Bruce Johnson ² , Roman Kroufek ³ , Miloslav Kolenatý ⁴  and Petra Šimonová ¹

¹ Department of Environmental Studies, Faculty of Social Studies, Masaryk University, 60200 Brno, Czech Republic; simonova.tereza@gmail.com

² College of Education, University of Arizona, 1430 E. Second Street, Tucson, AZ 85721, USA; brucej@arizona.edu

³ Department of Preschool and Primary Education, Faculty of Education, Jan Evangelista Purkyně University in Ústí nad Labem, 40096 Ústí nad Labem, Czech Republic; kroufek@gmail.com

⁴ Department of Environmental Studies, Faculty of Environment, Jan Evangelista Purkyně University in Ústí nad Labem, 40096 Ústí nad Labem, Czech Republic; miloslav.kolenaty@ujep.cz

* Correspondence: honzacincera@gmail.com

Received: 14 April 2020; Accepted: 28 May 2020; Published: 30 May 2020



Abstract: This paper discusses the application of frame analysis as a method of designing and evaluating outdoor environmental education programs. In particular, it investigates what frames are communicated in these programs, why and how program leaders focus on communicating particular frames, and how students interact with these frames. Five outdoor environmental education programs for elementary school students were analyzed. We used a qualitative approach that combined field observation, interviews with program leaders ($N = 15$), qualitative findings based on questionnaires collected from the participants after completing the programs ($N = 365$), and interviews with some of the students ($N = 10$). According to the results, while the leaders intensively applied various surface frames to attract student interest and organize the program activities, the deep frames aimed for in the main program messages connected with the program goals often remained implicit and were not recognized by the students.

Keywords: outdoor environmental education; frames; program evaluation; qualitative

1. Introduction

Outdoor environmental education programs (OEEPs) are often seen as an opportunity to shape student environmental values, attitudes, and behavior by exposing them to strong, memorable nature experiences [1–5]. However, the effect of nature experiences is co-created by the meaning that is attributed to them. As a result, the same type of experience may be pleasant and significant for some but unpleasant and meaningless for others. The way in which a particular nature experience is framed by significant adults (parents, teachers, educators) may have a major impact on students' environmental values or on their willingness to act pro-environmentally [2,6].

In light of this, the language used by educators or program leaders is important. As Bowers [7] pointed out, the language used to present environmental issues may unintentionally promote the very same values that have led to the ecological crisis. In the language we use, we may activate metaphors and associations that may portray nature as a resource for satisfying human needs [8]. This may happen even in well-intentioned OEEPs. Metaphors carry not only meanings, they can also carry associated attributes, feelings, and values. The process of building individual and collective associations around

a metaphorical sign (e.g., “forest”, “home”, “God”) can be very long and complex, but once the attributes have been implanted, it is usually very difficult to modify them, and they can become petrified [9,10]. According to Cachelin et al. [11], regarding the Leave No Trace Program—a set of guidelines for outdoor behavior and quite widespread in the United States—the metaphors used in it support an interpretation that portrays humans as apart from nature, rather than humans as part of nature. For example, the guidelines recommend being considerate toward other visitors so as to protect the quality of their experience. While this recommendation sounds reasonable, it is associated with the feeling that visitors are not part of nature and because of this, they should adjust their behavior. Therefore, the program may support the feeling of human exceptionalism and an anthropocentric worldview.

This issue can be fruitfully studied from the perspective of framing theory. The theory of cognitive frames first appeared during the 1970s [12,13], and since then, it has substantially influenced cognitive psychology and linguistics, social studies, and also strategies of mass communication, political campaigns, and marketing. According to Bateson [12], frames are cognitive models which allow a person to interpret and evaluate a message. Frames also motivate people’s reactions to messages. Like pictures, they include elements within their boundaries and exclude those that are outside of them [12]. Goffman [13] defined frames as shared perspectives which allow individuals to share social discourse and understand their experiences in a wider social context. McCombs [14] connected frames with the “agenda-setting theory”, which studies the ability of the media to influence the level of importance placed on public issues. Frames are connected with further associations, leading to narratives, metaphors, or themes that provide the deep meaning of the perceived message or reality [10,15–17]. Consequently, frames are crucial for the way people interpret, understand, and respond to events and information [11,18]. The framing theory also points out that the audience’s frames may overlap 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 own frames, and new information is made to fit into these frames or otherwise ignored, and the only way to overcome a frame is to reframe an issue in a different, more powerful and compelling way [13,19].

Within the framing theory, various methodologies and strategies have been developed (mainly for framing media and political messages), which include setting communication goals, selecting appropriate language items, developing suitable mental models, choosing effective framing tools (metaphors, catchphrases, narratives, rituals, etc.), avoiding mixed messages, building visions, and enhancing credibility and believability [20]. Obviously, these strategies and tools, and the power of frames which draw attention to certain details and attributes and activate desired feelings and values, have great potential for application in environmental education.

Frame analysis has been used in the field of environmental communication and interpretation quite often. Crompton [21] analyzed the frames used in the campaigns of environmental organizations in the United Kingdom. Sangkil et al. [22] compared the various frames used for the promotion of biofuels. Yocco et al. [23] compared the different kinds of frames used by selected zoological gardens to promote environmental concern, and Hart [24] analyzed the many ways of framing climate change in the media. Similarly, other researchers compared the frames used in interpretative signs aiming to control visitor behavior in protected areas [25–27].

The overall findings of this body of research show that frames matter. Different ways of framing an issue, i.e., positively (most people act responsibly) or negatively (people harm the environment) formulated frames have different types of impact on visitor behavior [25–27]. Moreover, messages evoking biospherically-focused frames have 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 evoke different associations from texts communicating humans-as-apart-from nature frames [28].

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. [8,11,16,28] through their analysis of ecology textbooks or the aforementioned Leave No Trace Program. However, the effort to intentionally

influence the way students interpret their outdoor experiences is not new at all and can be associated with many well-established educational approaches.

In some educational programs, the concept of framing is used as a way to create a metaphor for an activity or for the program as a whole. It is usually assumed that such a frame helps to make the activity or the program more attractive and provides an interpretation of its meaning to the participants. This concept is one of the basic methods applied in adventure education programs [29–32]. The theory of adventure education differentiates between various types of framing (metaphorical, isomorphic, etc.). Intentional use of framing is supposed to help students to get involved in the activity and then to transfer their experience. A single activity, such as the well-known Spider's Web activity [33], in which the participants go through small holes in an artificial web to the other side, can be framed as a fantasy-like story or as a metaphor for solving a difficult work problem. The fantastic frame of the Spider's Web may evoke associations leading to another, deeper frame of dealing with problems. Metaphorical frames can help us transcend the mechanistic and technocratic model of the world and bring us back to myths, legends, rituals, fairy tales, and archetypes which are an irreplaceable part of our human heritage and evolution.

Similar principles, while differently labeled, are used worldwide. In the earth education approach, individual activities (e.g., earth walks) are introduced by a fairytale-like story (for example, collection of rainbow chips), with the intention to promote student motivation to be in direct contact with nature. In addition, whole programs use elaborate frames combining the elements of mystery and adventure and leading to powerful frames (e.g., the Earth as a Sunship) associated with the intended educational outcomes (responsible environmental behavior) [34].

The symbolic framework used for framing activities, summer camps, or the on-going work of scout groups is one of the principles of the scout educational approach. The idea is again to motivate children to participate, while providing, through play, a deeper meaning to the activities [35,36].

In other educational approaches, the idea of framing an experience is part of an attempt to organize an educational program around a clearly communicated theme, e.g., a strong central concept of the main message that the participants should understand. This approach is essential for thematic interpretation, where all of the activities are designed to communicate one main message (the theme) that is crucial for understanding the importance of the interpreted phenomena [37,38]. This approach has been shown to be more effective than the disjointed transmission of phenomena-associated information [39]. Similar principles, e.g., organizing curricula around a central theme, are known also from formal educational settings [40,41].

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 and the outdoor experiential approach developed by the experiential learning center Lipnice. Particularly widespread are themes which use idealized portraits of Native Americans and which are associated with the frames of woodcraft, personal wisdom, and responsible life [42–45]. The symbolic framework, the central theme, or similar concepts are often used as an organizational principle applied in summer camps and in OEEPs.

In light of this, it may be argued that application of the frame theory in outdoor environmental education is not new because various approaches for framing experiences are widely used to promote student interest, to organize program activities into a meaningful whole, and to evoke associations connected with the intended educational outcomes. Recently, the idea of intentional framing of OEEPs was included in the Real-World Learning Model [10], an output of an international project aiming to define the principles of quality for OEEPs.

According to this model [46], programs should be organized around a frame that provides a connecting story. These stories 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 [47,48], like “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). The model describes surface frames as providing a story context for the learning experience that, through transfer, leads learners to grasp the deep frames associated with sustainability values. Crompton [21] defines surface frames as introductory frames which get the attention of the audience through careful wording and phrasing, and deep frames as general concepts (activated by careful wording) which are embedded in our mind structures and carry certain feelings and values based on our experience.

The concept of deep frames is connected with George Lakoff’s [9] “conceptual metaphors”, i.e., the deep, central metaphors which organize the way we view and interpret the world. These “conceptual metaphors” structure human experience in spatial, ontological, cultural, and personal domains. They can be used to project a familiar frame onto vague, uncertain, and maybe controversial terms; for example, when projecting the deeply embedded metaphor family onto living organisms [21].

The idea of going from a surface frame to a deep frame again reflects well-known educational practice. In particular, the concepts of the symbolic framework or metaphorical framing, often used to attract student interest and provide meaning to an activity, seem to correspond with the concept of surface frames. Additionally, the concept of themes as central messages communicating the main, value-based meaning of a program seems to correspond with the concept of deep frames. However, the application of framing in the practice of outdoor environmental education has never been investigated, even though it could be clearly connected with the effectiveness of this type of program. It is also not known how outdoor program leaders understand the meaning of framing, i.e., if they are able to connect their practice with an understanding of the underlying theories.

In this study, we analyze the application of framing methods in five different OEEPs aimed at elementary school students in the Czech Republic. In particular, we want to find answers to the following questions:

- What frames are communicated in the observed OEEPs? What strategies are used for communicating these frames? How effectively do the programs communicate the concepts and values connected with sustainability?
- How do the program leaders understand and use framing in the observed OEEPs?
- How well are the students able to make sense of the surface frames and deep frames used in the OEEP they participate in?

2. Materials and Methods

2.1. Terminology

Several concepts based on the framing theory and the Real-World Learning Model were used in the presentation and interpretation of the results. A ‘surface frame’ is a basic frame that provides the learning context of the program. Based on the sources available, we interpreted the concept of a ‘symbolic frame’, often used by the respondents, as equivalent to the concept of a ‘surface frame’ as used in our research. A ‘deep frame’ is a general concept associated with sustainability values. Another expression of a ‘deep frame’ is the concept of the ‘theme’ of the program.

In our study, we also used the term an ‘alternative frame’ for any frames communicated by a program that are not defined as frames in the program documentation or explicitly mentioned as the main frames by the program leaders.

2.2. Data Collection

To obtain data, we selected five different OEEPs that focus on shaping environmental values and behavior and that are aimed at elementary school students (9–14 years of age). To check the programs’ focus on sustainability, we briefly interviewed the responsible staff from the environmental education centers and analyzed the internal documents describing the programs’ goals and activities.

Because the providers of one of the analyzed programs asked for anonymity regarding the program name, we replaced the names for all of the examined programs with color codes. While all of the programs aim to develop students' environmental values, attitudes, and behavior, each also has other, more specific learning goals. Further, there are some differences in the length of the programs (from three to five days) and in the types of the natural areas in which they are situated.

The "Blue" program is a two-and-half-day residential program focusing on developing an affinity toward nature and on the interpretation of a pristine environment in a mountainous area. In addition to the effort to develop students' environmental values, it aims to improve their knowledge about the protected mountainous area. The "Green" program is a five-day residential program focusing on understanding the concept of succession, situated in a wetland area. The concept of "succession" is accompanied by other cognitive goals, such as the identification of plants and of the specific features of a flood-plain forest. The "Yellow" and "White" programs are five-day residential programs situated in a forest and focused on the development of outdoor skills (such as orienteering in the countryside, making a campfire, and identifying plants) and environmental sensitivity. The "Orange" program is a two-and-a-half-day residential program focused on changing student environmental attitudes, understanding, and behavior (understanding of the concepts of energy flow, material cycles, interconnectedness, and change); it is situated in a sandstone area.

Each of the programs was observed twice by two different observers. The task of the observers was to: (a) identify whether the program has a connecting story that ties all of its elements together and is linked with sustainability, (b) to record all the frames identified and the ways in which they were communicated by the program leaders, and (c) to record how the students reacted to or referred to these frames.

For all of the programs, we obtained internal documents provided by the environmental centers that described the program goals and activities. While the level of description of the programs varied, they were helpful for getting a clearer picture of the frames that the program intended to communicate. In particular, we were able to identify the surface frames for all of the programs and the deep frames for some of them. In the descriptions of some of the programs, the deep frames were not clearly stated and we relied on interviews with the program leaders to better understand them.

To obtain an in-depth qualitative perspective, we interviewed 15 program leaders altogether, with each of the selected programs being represented. In the interviews, the respondents were asked their opinions on how OEEPs should be designed and how they assessed the strong and weak points of their particular program. Further, they were asked their opinions on whether or how the program activities should be interconnected, on the idea of using interconnected stories to frame OEEPs, and on how this worked in their particular program. The interviewers used a flexible, semi-structured approach that included accepting a plurality of possible opinions, for example:

I can see two possible approaches to outdoor environmental education programs. The first is that a program is designed to consist of distinct parts and has no unifying framework. The other is that a program should have a unifying framework, such as an underlying idea that it communicates. What do you prefer for these kinds of programs?

Some of the respondents brought up the topic of frames spontaneously after their initial assessment of the strong and weak points of the programs. In this case, the interviewers asked questions to get more elaboration, for example

You mentioned that you liked the frame used for program X. How do you understand this, what is that frame to you?

Based on the responses, the interviewers asked follow-up questions about specific aspects of framing, especially about using frames to communicate a sustainability-focused message, or more generally, about the reason for using the frames in the programs ("... if you said you prefer ... , so what advantages can you see in that?"). After obtaining the respondents' general opinion on using

frames, we asked for their reflection on how and what frames are applied in the observed programs and on their experience and satisfaction with how these frames work.

In addition, all of the participants in the programs that ran in 2018-2019 were asked to complete a post-program survey which was collected two weeks after completing the program. The survey included two questions focused on frames:

- If you were to tell a younger friend what this program was about, what would you say?
- Please complete the following sentence. In the program, we learned that . . .

While some of the programs were offered repeatedly during this time period, others were offered less often. As a result, the number of respondents differed among the programs. Altogether, we obtained data from 105 students from the Green program, 37 students from the Orange program, 102 students from the Blue program, 105 students from the Yellow program, and 14 students from the White program.

This study was conducted as part of a larger project focusing on various instructional strategies applied in the five selected OEEPs. This larger project included organizing 9 focus groups with 68 selected students two to three weeks after their participation in the programs. While the focus groups concentrated mainly on student satisfaction, some of the responses episodically touched upon the communicated frames. Altogether, frame-relevant responses from 10 students (8 girls, 2 boys) were included in this study.

2.3. Analysis

All of the responses from the interviews and focus groups were audio-recorded, transcribed, and thematically analyzed, matching general codes, i.e., “definition of frames”, “function of frames”, “features of frames”, or “working with frames”, with segments from the responses.

For the follow-up analysis, we merged the data from the observations and the interviews, and we used a more advanced set of codes describing various aspects of framing. In these codes, we differentiated between two types of frames: (a) surface frames (when the respondents spoke about “the symbolic framework”, “the red line going through the whole program”, or some other means directly presented to the students), and (b) deep frames (when the respondents spoke about the main themes or messages communicated to the students).

While the identification of the surface frames was rather intuitive, the identification of the deep frames turned out to be challenging. To verify our field observations, we used the data from the program descriptions and from the interviews. In some cases, we realized that more than one surface frame or deep frame may be communicated by a single program. For the analysis, we differentiated between the main (surface or deep) frame and alternative frames that referred to a framing different from that of the intentionally communicated frames.

Further, we focused on the distinctive features of the two main types of frames, surface and deep, and on the various functions they played in the programs. In particular, we analyzed the ways in which the surface frames and deep frames were communicated by the program leaders, how they were interconnected, and what challenges emerged in the process of their communication.

In the data obtained from the post-program surveys, we identified whether the students mentioned any of the frames associated with their program. Episodic data obtained in the focus groups were used for verification of the previously identified findings.

3. Results

3.1. Surface Frames

All of the programs used explicitly elaborated surface frames: an apprentice training obtained from a mystery person (Orange), a story of life returning on a destroyed volcanic island (Green), a mystery tree with cut-off roots (Blue), the wisdom of Native Americans (Yellow), or the adventures of

a youth club in the outdoors 50 years ago (White). In some of the programs, we identified alternative surface frames. For example, while the Blue program used the metaphor of an anthropomorphized tree with cut-off roots as the surface frame, the program was also clearly connected with the pristine locality where it was situated. In light of this, the locality should also be interpreted as a surface frame, e.g., as a cognitive structure evoking related associations. In the Yellow program, two competing surface frames were observed and communicated by the program leaders: “woodcraft” and “survival in the outdoors”. The reason for this was historical, as we learned. According to the program leaders, the program was originally named “Survival in the Outdoors”, but, because this name frightened most schools, it was later changed to the current name. However, the program activities changed only slightly after this, and the program leaders now communicate both frames. Some of them stressed the frame of “wisdom”, others stressed the frame of “survival”, and still others tried to balance these two frames:

Well, this woodcraft and survival are, I think, connected. If I were to explain it to someone, I’d say these are simply outdoor skills, where both, survival and woodcraft, can be included. I see it as interconnected, there must be some woodcraft for a human to survive. (I13, leader, 5 years of practice, the Yellow program)

Similarly, while the leaders of the White program highlighted the frame of “adventures of a youth club”, they also sometimes emphasized the importance of “survival in the outdoors”. For an overview, see Table 1.

Table 1. Overview of the surface frames in the analyzed programs.

Program		Main Surface Frame	Alternative Surface Frames
Blue	Frame title	Lost roots	Locality
	Message	The mystery tree has had its roots cut off	The locality is a unique place
Green	Frame title	Life on an island	-
	Message	Life has come back to the destroyed island	-
Yellow	Frame title	Woodcraft	Survival in the outdoors
	Message	Native Americans lived wisely on Earth	A skilled person survives in the outdoors
White	Frame title	Adventures of a youth club	Survival in the outdoors
	Message	A youth club in the past had adventures in the local countryside	A skilled person survives in the outdoors
Orange	Frame title	A mysterious character, E.M., wants to help the students live more lightly on Earth	-
	Message	Learning from E.M. to become Earthkeepers	-

The surface frames were communicated by various tools. Most of the programs used visual expressions (a picture of the island, the mystery person’s lab, long sticks with feathers, etc.), songs, diaries, or rituals to communicate the frames. While the surface frames were explicitly mentioned at the beginning and during most of the programs, in the Blue program the surface frame was only implicit because the program leaders did not clearly explain its meaning to the students. The most common general principles used in the communication of the surface frames seemed to be adventure and mystery, which were presented in most of the programs.

According to the respondents, communication of the surface frames is connected with mystery. By creating the frame, the program leaders want to attract the students. To achieve this, they try to make the frame mysterious, using elaborate props and tools, such as creating a fictitious lab of an imaginary person (Orange), a “found” diary of an imaginary youth club (White), or an idealized portrait of Native American culture (Yellow).

At the same time, some of the program leaders commented on the tension between this effort and the need for authenticity in their program. One leader described her feeling about providing the students with the fabricated diary of the imaginary youth club as follows:

We came to this point quite late in the process of designing the program that, yes, we lie to these children. But (. . .) we tell them we found the diary, 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. (I6, leader, 4 years of practice, the 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, some of them 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. (A, 10 years, the White program)

According to the leaders, the main functions of surface frames are to attract the students and motivate them toward the program activities, to organize the program into one whole, and to explain the meaning of the individual activities:

I like about the program that it is motivated by a story, and whether it is something that really happened is a little bit mysterious for the children. And this fascinates them . . . (I10, 7 years of practice, the Green program).

It is easier for the children because they move in a frame, and do not jump from one thing to another. (I14, 8 years of practice, the Yellow program).

The way the students reacted to the presentation of the symbolic frames differed among the programs. In the Orange program, the students paid attention during the presentation of the mystery person's messages, and during the program activities, they sometimes spontaneously asked about who this "E.M." character was. In the Green program, the students spontaneously sang the song presented every morning, but they did not ask about any other details regarding the presented frame. No interaction with the surface frame emerged in the Blue program, and just a limited amount of interaction in the White program. In the Yellow program, the students were motivated by a collection of "eagle" feathers representing their achievements, but they did not ask for more information about Native Americans:

It was competitive, but then kind of boring, because everyone got the feathers. (B, student, 11 years, the Yellow program)

In the post-test, the main surface frames were rarely mentioned, with the exception of the Green frame, which was mentioned by 11 out of the 105 respondents participating in this program. In some of the programs, the students were influenced more by the alternative surface frames, like "survival in the outdoors", than by the main surface frame.

3.2. Deep Frames

(. . .) what I take as the main message of the program and what I try to pass on to the children at the very end of the program. And this is, we are not here alone, we must be more careful (. . .) this is not about earning the keys, but about how we will act on this planet. (I3, leader, 11 years of practice, the Orange program)

With the exception of the Orange program, the deep frames remained rather implicit, even though most of the leaders claimed they try to communicate them (for an overview, see Table 2). In some of the programs, not all of the leaders were able to formulate the main message that their program wants to communicate. In other programs, the respondents noted that their understanding of the deep frame of their program was not shared by all the leaders:

Table 2. Overview of the deep frames in the analyzed programs

Program		Main Deep Frame	Alternative Deep Frames
Blue	Frame title	Place attachment	Nature protection
	Message	We belong to the place we live in	It is important to protect nature
Green	Frame title	Succession	Nature protection
	Message	Life always comes back	It is important to protect nature
Yellow	Frame title	Responsible life	Utilization of nature
	Message	Wise people care about nature	We can use things in nature
White	Frame title	Adventure in nature	Nature protection
	Message	Spending free time in nature is fun	It is important to protect nature
Orange	Frame title	Understanding and appreciation of nature	-
	Message	Understanding and appreciation of nature lead to responsible behavior	-

But this is about people, someone may have another message, may feel it differently (. . .) we are all unique, I can speak for myself, I cannot take it that everybody feels the same. (I12, leader, 20 years of practice, the Yellow program)

Only in the Orange program was the deep frame communicated by a set of communication tools, including revealing of secrets, repetition, visualization, a diary, etc. In the other programs, the deep frames remained implicit even though the program leaders claimed that they communicated them to the students:

In the beginning, we tell them what woodcraft is, so it should be said. What is woodcraft, that this is not only about skills and knowledge, but that it is about wisdom, philosophy, one's approach to the world, to life. (I12, 20 years of practice, the Yellow program)

Most of the respondents from the Orange and Yellow programs mentioned the deep frame of the program in the post-program survey. For the other programs (Green, Blue, White), the students described instead the alternative deep frames connected with nature protection. On the whole, the students tended to mention frames connected to the importance of nature and its protection, while omitting other, more specific, deep frames (e.g., succession):

In the program, we learned that nature is vitally important for us and for animals and for all living things. (9 years, the Orange program)

I think they told us it is better to behave toward nature better and that it makes sense. (C, 11 years, the Blue program)

These alternative frames were intentionally or unintentionally communicated by the program leaders. For example, in some of the programs, the leaders indirectly communicated the frame of utilization of nature. This was supported by presenting nature as something that can be used for human needs (like eating berries).

Some of the leaders assumed that the deep frames were communicated through the surface frames. For example, the leaders of the Green program supposed that the deep frame would emerge as a result of generalizing the specific story described by the surface frame:

The story that the program is about is not a fabricated story, but it describes the returning of life, succession on a specific example, so it makes sense to me. (I10, 7 years of practice, the Green program)

During the program activities, the observers did not notice that the students would be asked to realize the general principle behind the specific story. However, one of the leaders described the effort to make this generalization with the students:

This is important to me that when the motivation is strong (volcano and eruption), it can be easily related to our environment, our countryside (. . .) we speak about the returning of life somewhere and gradually we investigate it, and this is how it works here, not only on an island (. . .) the first day we ask if the children have experienced such a place . . . (I11, 2 years of practice, the Green program)

The link between the surface frames and deep frames in the White program was based on providing the students with a mirror of what children of their age did in the past and what the students can do now. However, the students were not encouraged to discuss this comparison in the program and so the deep frame (adventure in nature) remained implicit. In the Blue program, the program leaders seemed to give 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. (I1, 14 years of practice, the Blue program)

In this program, the relationship between the surface frames and deep frames was based on allegory (a tree without roots). However, this allegory was not discussed with the students who seemed to enjoy the program activities, but did not reflect on their deeper meaning.

The Yellow and Orange programs tried to link the surface frames and deep frames by an apprentice-master relationship. In the Orange program, this relationship was clearly elaborated because the students (explicitly labeled as apprentices) were guided to discover their masters' (the mystery person's) secrets; the secrets communicated the deep frame of the program. In the Yellow program, this link remained untouched: the role of the master was dispersed into non-specific Native Americans. The students were not motivated to learn their wisdom but instead to achieve success in the program activities and collect "eagle" feathers.

4. Discussion

The applied methodology had clear limitations. As we have already mentioned, the identification of the deep frames was not easy for some of the programs. To increase the credibility of our analysis, we discussed our findings with the leaders or designers of some of the analyzed programs, and they supported the findings. Another issue emerged in the data collected from the students in the post-tests. Most of the answers were rather short, and in some cases, there was a risk of misinterpreting them. Given this situation, we decided to focus on the main features rather than on calculating the saturation of the analyzed categories. Further, because the uneven number of respondents from each program did not allow us to make comparisons between the programs, we focused on the main features in the responses, i.e., on what frames were mentioned most often.

As for the observations, we tried to avoid potential misinterpretation due to the observers' failures or the differences in the practice of the different program leaders by observing each program twice, each time by a different observer (the first author observed each of the five programs).

The findings described above open further questions: Is it worth trying to communicate alternative deep frames in OEEPs? Is it possible that the frame of environmental values and nature

protection resulted from the students' preconception about the type of program they participated in? (Thus, they interpreted the communicated frame accordingly and ignored other, more subtle messages.)

The differentiation between surface frames and deep frames appears to be highly important for the analysis of OEEPs [21,46]. Overall, we found that OEEPs may communicate more than one, and, in some cases, contradictory deep frames. This was apparent in the Yellow program, when nature was presented as a source of wisdom transmitted by idealized Native Americans (the woodcraft frame) and also a challenge that needs to be overcome (the survival frame). While most of the students reported that this program communicated the value of nature and nature protection, some interpreted the program as competitive or as learning how to use nature wisely. This shows that a program may communicate confusing messages, supporting both environmentally and non-environmentally focused values [8,11,16,28].

Moreover, our findings highlight the importance of linking the surface frames with the deep frames. As we could see, this calls for various linking methods helping the students to connect the specific with the general—whether it be presenting the mystery-apprentice link as an attractive and trustworthy model to follow or allocating sufficient time to discuss the mirror-like link and guiding the students to compare it with their lives. While we could see that such linking methods were at least partially applied in some of the programs (Orange, Green), in others they remained underdeveloped.

All of these strategies open a large area of questions. In the present study, we identified the issue of authenticity that emerged from the leaders' reflections. This brings up deep, ethical questions connected with the very foundations of program design. As we could see, the explicitly elaborated surface frames were intended mainly to attract students and engage them in the programs. The idea of attracting students to participate in an educational program prepared by adults by this method has a long tradition [34,45]. However, the importance of applying an explicitly elaborated surface frame may also mean that a program is not based on the students' internal motivation, and so the students need to be motivated by something other than the program activities themselves. In light of this, some authors have recommended providing students with more autonomy in shaping the program according to their own interests [49–53]. This issue presents a critical crossroads for designers of OEEPs: should programs be designed to effectively communicate particular frames connected with sustainability, or should they provide students with an opportunity to shape the programs on their own, even if this may compromise the effectiveness of the programs?

Finally, frame analysis provides an interesting opportunity to investigate OEEPs from a new perspective. Based on the discussions we had with the program leaders about our findings, examining the relationship between what a program wants to communicate and what it actually communicates, between its surface frames and deep frames, inspires new ways for both program leaders and researchers to think about the program. In light of this, frame analysis may find its place in evaluation practice that is rooted particularly in the discourse of utilization-focused evaluation [54].

5. Conclusions

Analyzing the frames communicated by OEEPs brings an interesting and important perspective on the ways these programs work. This perspective can be particularly useful for interpreting the impact these programs have on their participants. It can be argued that what the program activities actually communicate might be of higher importance than what their intended purpose is.

In this study, we found that in some cases, OEEPs may communicate confusing messages to their participants. Clarifying what the program wants to say and how can be one of the ways of improving the program's effectiveness. At the same time, our findings show that, regardless of their potential weaknesses, the programs are for the most part interpreted by the participants as encouraging valuing and protecting nature. In light of this, we assume that clarifying the programs' frames is particularly important when they differ from what the program participants expect to be communicated. While the lack of clarity may not compromise the ambition of a program to support students' environmental values and attitudes, it may reduce its effectiveness in communicating other, more specific, messages

connected with sustainability. As a result, we might say that frames do matter, even though they matter more for some OEEPs than others.

Frame analysis provides a new opportunity for evaluating OEEPs. This opportunity still needs to be further investigated.

Author Contributions: Conceptualization, J.Č., P.Š., B.J.; methodology, J.Č., P.Š., B.J.; formal analysis, J.Č.; investigation, J.Č., P.Š.; literature review and discussion, J.Č., P.Š., M.K., B.J., R.K.; writing—original draft preparation, J.Č.; writing—review and editing, B.J., M.K., R.K. All authors have read and agreed to the published version of the manuscript.

Funding: This article is one of the outputs of the project Promoting Behavioral and Value Change through Outdoor Environmental Education which is supported by grant no. GA18-15374S provided by the Czech Science Foundation.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Palmer, J.A. Development of concern for the environment and formative experiences of educators. *J. Environ. Educ.* **1993**, *24*, 26–30. [CrossRef]
- Chawla, L. Life paths into effective environmental action. *J. Environ. Educ.* **1999**, *31*, 15–26. [CrossRef]
- Palmberg, I.E.; Kuru, J. Outdoor Activities as a Basis for Environmental Responsibility. *J. Environ. Educ.* **2000**, *31*, 32–36. [CrossRef]
- Bögeholz, S. Nature experience and its importance for environmental knowledge, values and action: Recent German empirical contributions. *Environ. Educ. Res.* **2006**, *12*, 65–84. [CrossRef]
- Otto, S.; Pensini, P. Nature-based environmental education of children: Environmental knowledge and connectedness to nature, together, are related to ecological behavior. *Glob. Environ. Chang.* **2017**, *47*, 88–94. [CrossRef]
- Carson, R. *The Sense of Wonder*; Harper Perennial: New York, NY, USA, 2017.
- Bowers, C. How Language Limits Our Understanding of Environmental Education. *Environ. Educ. Res.* **2001**, *7*, 141–151. [CrossRef]
- Cachelin, A.; Norvell, R.; Darling, A. Language Fouls in Teaching Ecology: Why Traditional Metaphors Undermine Conservation Literacy. *Conserv. Biol.* **2010**, *24*, 669–674. [CrossRef]
- Lakoff, G.; Johnson, M. *Metaphors We Live By*; University of Chicago Press: Chicago, IL, USA, 1980.
- The Real World Learning. Available online: https://www.rwlnetwork.org/media/66672/frames_-_full_text.pdf (accessed on 9 April 2020).
- Cachelin, A.; Rose, J.; Dustin, D.; Shooter, W. Sustainability in outdoor education: Rethinking root metaphor. *J. Sustain. Educ.* **2011**, *2*, 22–44.
- Bateson, G. *Steps to an Ecology of Mind*; University of Chicago Press: Chicago, IL, USA, 1972.
- Goffman, E. *Frame Analysis: An Essay on the Organization of Experience*; Harper & Row: New York, NY, USA, 1974.
- McCombs, M.E.; Shaw, D.L. The Agenda-Setting Function of Mass Media. *Public Opin. Q.* **1972**, *36*, 176–187. [CrossRef]
- Cox, R. *Environmental Communication and the Public Sphere*; Sage Publications: Thousand Oaks, CA, USA, 2010.
- Cachelin, A.; Ruddell, E. Framing for sustainability: The impact of language choice on educational outcomes. *J. Environ. Stud. Sci.* **2013**, *3*, 306–315. [CrossRef]
- Arowolo, O. *Understanding Framing Theory*; Lagos State University: Lagos, Nigeria, 2017.
- Adlong, W.; Dietsch, E. Environmental education and the health professions: Framing climate change as a health issue. *Environ. Educ. Res.* **2015**, *21*, 687–709. [CrossRef]
- Framing Theory. Available online: <http://www.communicationstudies.com/communication-theories/framing-theory> (accessed on 13 March 2020).
- Fairhurst, G.T.; Sarr, R.A. *The Art of Framing: Managing the Language of Leadership*; Jossey-Bass Publishers: San Francisco, CA, USA, 1996.
- Crompton, T. Common Cause: The case for working with our cultural values. Available online: http://assets.wwf.org.uk/downloads/common_cause_report.pdf (accessed on 13 March 2020).

22. Sangkil, M.; Bergey, P.K.; Bove, L.L.; Robinson, S. Message framing and individual traits in adopting innovative, sustainable products (ISPs): Evidence from biofuel adoption. *J. Bus. Res.* **2016**, *69*, 3553–3560. [[CrossRef](#)]
23. Yocco, V.S.; Bruskotter, J.; Wilson, R.; Heimlich, J.E. Why Should I Care? Exploring the Use of Environmental Concern as a Frame of Communication in Zoos. *J. Environ. Educ.* **2015**, *46*, 56–71. [[CrossRef](#)]
24. Hart, P.S. One or Many? The Influence of Episodic and Thematic Climate Change Frames on Policy Preferences and Individual Behavior Change. *Sci. Commun.* **2010**, *33*, 28–51. [[CrossRef](#)]
25. Cialdini, R.B.; Demaine, L.J.; Sagarin, B.J.; Barrett, D.W.; Rhoads, K.; Winter, P.L. Managing social norms for persuasive impact. *Soc. Infl.* **2006**, *1*, 3–15. [[CrossRef](#)]
26. Winter, P.L. The Impact of Normative Message Types on Off-Trail Hiking. *J. Interpret. Res.* **2006**, *11*, 34–52.
27. Winter, P.L.; Cialdini, R.B. An analysis of normative messages in signs at recreation settings. *J. Interpret. Res.* **1998**, *3*, 39–47.
28. Cachelin, A.; Rosse, J.; Paisley, K. Disrupting neoliberal discourse in critical sustainability education: A qualitative analysis of intentional language framing. *Environ. Educ. Res.* **2015**, *21*, 1127–1142. [[CrossRef](#)]
29. Gass, M.A.; Priest, S. Using metaphors and isomorphs to transfer learning in adventure education. *J. Adventure Outdoor Learn.* **1993**, *10*, 18–23.
30. Schoel, J.; Maizell, R. *Exploring Islands of Healing: New Perspectives on Adventure Based Counseling*; Kendall Hunt Publishing Company: Dubuque, IA, USA, 2002.
31. Priest, S.; Gass, M.A. *Effective Leadership in Adventure Programming*; Human Kinetics: Champaign, IL, USA, 2005.
32. Gass, M.A.; Priest, S. Effectiveness of metaphoric facilitation styles in corporate adventure training (CAT) programs. *J. Exp. Educ.* **2006**, *29*, 18–24. [[CrossRef](#)]
33. Rohnke, K. *Cowstails and Cobras II: A Guide to Games, Initiatives, Ropes Courses & Adventure Curriculum*; Kendall/Hunt: Dubuque, IA, USA, 1989.
34. Van Matre, S. *Earth Education: A New Beginning*; Institute for Earth Education: Greenville, WV, USA, 1990.
35. Hořavová, K.; Klápště, P. *Symbolicky Ramec Podle 3.B. (=Symbolic Framework According to the 3B Class.)*; Junak-svaz skautu a skautek: Praha, Czech Republic, 2006.
36. The Scout Method Review (World Scout Committee). Available online: https://www.scout.org/sites/default/files/media-files/ConfDoc8_Baku2017_ScoutMethodReview_en_20170627.pdf (accessed on 9 April 2020).
37. Ham, S.H. *Environmental Interpretation: A Practical Guide for People with Big Ideas and Small Budgets*; North American Press: Golden, CO, USA, 1992.
38. Ham, S.H. *Interpretation—Making a Difference on Purpose*; Fulcrum Publishing: Golden, CO, USA, 2013.
39. Tarlton, J.L.; Ward, C.J. The Effect of Thematic Interpretation on a Child’s Knowledge of an Interpretive Program. *J. Interpret. Res.* **2006**, *11*, 7–33.
40. McCarthy, B. Using the 4MAT System to Bring Learning Styles to Schools. *Educ. Leadersh.* **1990**, *48*, 31–37.
41. Kovalik, S.; Olsen, K. *ITI: The Model. Integrated Thematic Instruction*; Susan Kovalik & Associates: Kent, WA, USA, 1994.
42. Pecha, Libor. *Woodcraft. Lesní Moudrost a Lesní Bratrstvo (=Woodcraft: Forest Wisdom and Forest Brotherhood)*; Votobia: Olomouc, Czech Republic, 1999.
43. Martin, A.; Leberman, S.; Neill, J. Dramaturgy as a method for experiential program design. *J. Exp. Educ.* **2002**, *25*, 196–206. [[CrossRef](#)]
44. Martin, A.J. The dramaturgy approach to education in nature: Reflections of a decade of International Vacation School Lipnice courses, Czech Republic, 1997–2007. *J. Adventure Educ. Outdoor Learn.* **2011**, *11*, 67–82. [[CrossRef](#)]
45. Jirásek, I.; Turcova, I. The Czech approach to outdoor adventure and experiential education: The influence of Jaroslav Foglar’s work. *J. Adventure Educ. Outdoor Learn.* **2017**, *17*, 321–337. [[CrossRef](#)]
46. The Real World Learning. Available online: <https://www.rwl-network.org/rwl-model/frames.aspx> (accessed on 9 April 2020).
47. Schwartz, S.H. An Overview of the Schwartz Theory of Basic Values. *Online Read. Psychol. Cult.* **2012**, *2*, 1–20. [[CrossRef](#)]
48. Schwartz, S.H. Functional theories of human values: Comment on Gouveia, Milfont, and Guerra. *Personal Individ. Differ.* **2014**, *68*, 247–249. [[CrossRef](#)]
49. Daniel, B.; Bobilya, A.J.; Kalisch, K.R.; Mcavoy, L.H. Autonomous Student Experiences in Outdoor and Adventure Education. *J. Exp. Educ.* **2014**, *37*, 4–17. [[CrossRef](#)]

50. Sibthorp, J.; Arthur-Banning, S. Developing Life Effectiveness through Adventure Education: The Roles of Participant Expectations, Perceptions of Empowerment, and Learning Relevance. *J. Exp. Educ.* **2004**, *27*, 32–50. [[CrossRef](#)]
51. Sibthorp, J.; Paisley, K.; Gookin, J.; Furman, N. The Pedagogic Value of Student Autonomy in Adventure Education. *J. Exp. Educ.* **2008**, *31*, 136–151. [[CrossRef](#)]
52. Thomas, G. Facilitator, Teacher, or Leader? Managing Conflicting Roles in Outdoor Education. *J. Exp. Educ.* **2010**, *32*, 239–254. [[CrossRef](#)]
53. Kendall, S.; Rodger, J. *Evaluation of Learning Away: Final Report*; York Consulting: Leeds, UK, 2015.
54. Patton, M.Q. *Utilization-Focused Evaluation*; Sage Publications: Thousand Oaks, CA, USA, 2008.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).