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Outdoor Adventure Education

Trends and New Directions

Edited by

Nina S. Roberts

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Editor

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Editorial

Outdoor Adventure Education: Trends and New Directions—Introduction to a Special Collection of Research

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1. The Origins of Outdoor Adventure Education: From the Field to the Classroom

This special issue on "outdoor adventure education" contains seven articles focused on varied topics in outdoor adventure education (OAE) from the impact of COVID-19, creating a mobile App and girls outdoors to urban programming, systems of privilege and more. Outdoor adventure education is characterized by a wide range of features such as outcome uncertainty, compelling tasks (e.g., involving relationship building), state of mind and completion of a journey, the search for excellence, and the expression of human dignity, all of which encompass action and intensity [1].

OAE has a rich and rewarding history and has played a vital part in human development. The roots of our current OAE date back to the philosophical work and scholarship of John Dewey, Aldo Leopold, John Muir, Henry David Thoreau, Kurt Hahn, Willi Unsoeld and others. Plato in the 1920s, for example, spoke about how physical skills have a higher educational value yet embracing moral values far outweighs those physical skills [2]. Although women have often gone unnoticed and unrecognized, they have also contributed to the philosophy, theory and program implementation of OAE for many decades [3]

Furthermore, while elements of real or perceived risks are an essential ingredient, OAE has moved beyond the concept of personal survival to one of thriving and contributing to quality of life and providing extraordinary opportunities for growth [1]. While Ewert and Sibthorp define OAE using an integrated approach, others have described this field simply as people with or without disabilities sharing the rewards of experiencing nature and meeting challenges with a group of supportive peers [4].

With experiential learning at its core, there has been an extraordinary increase in the number and type of OAE programs during the past 70+ years and research has followed with a broad spectrum of topics and studies. The origins of OAE are evident as early as the late nineteenth century when opportunities such as organized camping, and scouting became available and the first Outward Bound center was established in Wales during World War II. Fast forward to the 1990s, when Schleien noted that this is "a discipline in which the participants develop an understanding and appreciation of the natural environment and a recognition that such an understanding contributes greatly to one's quality of life. It is education in, about, and for the outdoors. It may be a process, a place, a purpose, or a topic" [4], p. 20. Subsequently, "high adventure" became an additional feature of organized excursions in urban environments and wilderness areas, leading participants through a series of often risky activities and ultimately leading to personal growth, satisfaction, self-fulfillment, locus of control, leadership development, and other assets. It is beyond the scope of this brief introduction to offer a more in-depth history or discuss the more modern facets of OAE. Interested readers are encouraged to explore the plethora of literature available on this topic.

2. Contributions to This Special Issue: Overview

Contributors to this collection of seven essays reflect on outdoor adventure education using case studies originating from the United States, Italy, Greece, and the United Kingdom. Their articles address the following questions: What is the socio-economic impact of COVID-19 on Italian nature-based programs in the educational, therapeutic, training, and leisure areas? How can a mobile app (complemented by a web application and a database) establish a system that enables teachers to create educational treasure hunt activities for their students and monitor their performance? How can a recreation intervention created with a focus on introducing middle school girls to outdoor recreation increase participants' self-efficacy and self-empowerment? What are the challenges and opportunities for urban outdoor education centers with regard to partnership and programming? Can outdoor adventure education really play a role in learning to see and affect systems of privilege? How are the different purposes of school-based OAE approached internationally regarding earning might best be supported to achieve particular outcomes, and what are the most frequently reported forms of outdoor learning practiced in schools across different countries? Additionally, what are typical outdoor adventure education instructors' inclusive praxis and the conditions that influence their praxis on their courses and in their instructing experiences?

The discussions on outdoor adventure education in this collection contribute to our understanding of how complex variables such as gender, privilege, school-based programs, operating under a pandemic, technology literacy for students, enhancing programming through partnerships, and fostering inclusive group cultures on courses can support the intersection of environmental sustainability and human relationships. This research is an international collection of studies focusing on the connection between education, the natural environment, use of technology, instructor/teacher abilities, power dynamics, and the challenges of partnerships. The contributors examine how a wide range of OAE programs and services have influenced participants' worldview and enhanced their quality of life through reflection, personal growth, social and physical challenges, and beyond.

3. What's Next for Outdoor Adventure Education?

The future is ours to create so what will it be like? As the Earth is on the edge of ecological devastation, the future of outdoor adventure education must contribute to greater sustainability for the ecosystem as a whole, including the human dimension as an integral part; we cannot separate us from nature. OAE must respond to the challenges we are experiencing. As noted by Mitten, "Through thoughtfully designed programs that support, encourage, and model healthy relationships with the nature, participants experience healthier ways of relating with themselves, others, and the environment." [5]. Maybe we need a new model of outdoor learning to spark a cultural revolution in educational philosophy, connecting children to nature in new ways, and promoting community action on a level currently unimaginable so we can build the sustainable future we all desire?

One thing is for sure. Outdoor adventure education is a perfect channel for transforming young people into well-informed and globally responsible citizens. We need to develop inhabitants who are more ecologically literate with well-rounded values and a change-maker mindset on nature-based sustainability issues; this must be coupled with a wide range of dynamic skills that are useful for supporting youth and adults in creating social, environmental, political, and cultural change for an optimistic future.

In conclusion, this leaves us—academics, educators, and learners—with a daunting challenge. This special issue, although just a few select studies, is a call to action for teachers, youth and their parents, outdoor educators, and even software developers to make all this possible. Once we build the momentum to move beyond our current status, changes in environmental stewardship and sustainability are more conceivable; schools, governments, institutions, nonprofit organizations, and even corporations around the globe will be forced to become more "woke" and act.

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Article

The Impact of COVID-19 Pandemic on Italian Nature-Based Programs in the Educational, Therapeutic, Training and Leisure Areas

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Abstract: In these times of global crisis caused by COVID-19, there is an urgent need to address the topic of nature-based experiences in education: the pandemic has strongly highlighted both the interdependence between human beings and nature, and the need for mending the dichotomic vision that keeps them separate. Experiential education in natural contexts within an ecological framework might have a strategic role in this crucial period to develop anthropologic, civic, and dialogic conscience (Morin, 2001). Through this study, CEFEO Research Center had the objective of investigating the socio-economic impact of COVID-19 on Italian nature-based programs in the educational, therapeutic, training, and leisure areas. From 28 May to 19 June 2020, an online questionnaire was distributed with the purpose of understanding the socio-economic impact of the pandemic on nature-based programs during the lockdown period and during the period of first reopening, and the related needs and new opportunities for the future. The results highlight a paradox: the COVID-19 crisis has caused more problems for a sector which was already suffering from a lack of funding and of social and institutional acknowledgment. Many agencies working in the field lost months of income and numerous working days, and they are uncertain about the future: they are having difficulties surviving in a moment when we need them more.

Keywords: nature-based programs; ecological framework; COVID-19 impact

1. Introduction

The aim of this study is to investigate the socio-economic impact of the COVID-19 pandemic on Italian nature-based programs in the educational, therapeutic, training and leisure areas. Since the pandemic is a recent and ongoing phenomenon, very few studies have investigated this specific topic to date: some reports from the UK and the US have shown the situation of outdoor education during the pandemic, affirming the important role of the outdoors for young people's recovery, resilience and wellbeing [1–4]. Less specific studies have also examined the strong negative impact of the pandemic generically on social work [5], and others have studied the psychosocial effects of COVID-19 on different sections of society [6].

The urgent need to address the topic not only is due to the paucity of specific studies thus far, but also to the relevance of nature-based experiences in this global and multidimensional challenge that the world is facing, since the pandemic seems to be linked to the lack of connectedness between humans and nature. More and more scientific studies are showing that air pollution caused by human activities has had a huge role in the diffusion of the virus [7–10]. It looks like the dysfunctional relationship between nature and human beings has contributed to this global crisis. Ever since the cartesian division that "might be considered the fundamental cause of all current social, ecological and cultural crisis. It has grown us apart from nature and from other human beings" [11] (p. 25), we are

used to thinking of ourselves as being outside of nature, far from it and dominating it. We are immersed in this strong and deep dichotomy that keeps humans and nature separate, a vision mainly due to our anthropocentrism and delirium of omnipotence. Therefore, a fundamental way for surviving to the present crisis (and avoid future ones?) is to rethink and reposition ourselves and the world around us within a unique system, which is a "dance of interacting parts" (Bateson, 1987 [12]), influencing one another. Since experiential nature-based educational and therapeutic programs were proved to have important effects on personal and social wellbeing and on ecological sensitivity [13–22], they might play—if provided with the necessary conditions—a crucial role in helping us reconnect with the natural environment, contributing to exit from this social emergency, and preventing future crises.

Some characteristics of the Italian context need to be explained in order to better understand the results of the present work. The Italian situation of the nature-based sector (this term meant to include different types of programs in the following fields: environmental education, therapy/rehabilitation in nature, socio-educational outdoor/adventure programs, outdoor sport/leisure/tourism, outdoor training [23]) is not homogeneous. Under the experiential point of view, Italy has an interesting and rich history: nature-based experiences in the educational and therapeutic fields started in the early 1950s, spread especially in the 1970s, and are still expanding nowadays [24]. On the other side, it is just in the last decade that universities and educational contexts are giving some attention to the topic; furthermore, there is not national legislation regulating the nature-based sector and professionals yet, but just some local norms that differ from region to region. Most nature-based workers are in the private sector and lack a stable contract and public funding. Despite the fact that the field lacks institutional, social, and financial recognition and support, in recent years there has been a growing interest for nature-based activities, both from beneficiaries asking for experiences in nature and from researchers increasing their studies in the field. Before the COVID-19 pandemic, the sector was actually expanding. Then, each country has tried to find a way to cope with the COVID-19 emergency by alternating different types of norms and restrictions over time. This research took place in June 2020 and it refers to the period from March to May 2020, with some previsions for the summer. In Italy, nature-based programs, as well as the majority of working fields, were subjected to numerous norms and restrictions. From the beginning of March to the beginning of June, the so-called "lockdown phase", all activities were stopped (except for hospitals and grocery shops or other activities considered absolutely essential). From the beginning of June, the so-called "Phase 2" started; in this phase, many activities could start again, but with consistent restrictions due to many sanitary prevention norms.

This study is exploratory and descriptive in nature: an online questionnaire was used in order to collect information on the socio-economic impact of the pandemic on Italian nature-based programs. The results of the survey show that the lockdown phase has worsened the economic and structural situation of a sector which already had some difficulties in surviving. Regarding future perspectives, uncertainty but also hope and determination are the most spread feelings expressed by practitioners. The main conclusions regard the urgency of social and institutional acknowledgment of nature-based programs and of systemic funding to the sector.

2. Materials and Methods

Since this is one of the first studies on this specific topic, we could not rely on previously applied and approved methodologies. For this exploratory and descriptive study, an online questionnaire (made through Google Forms) was used in order to collect information on the socio-economic impact of the pandemic on the Italian nature-based sector. We chose the online survey as it allows us to reach huge samples in limited time, since the research purpose was to collect updated information on an ongoing and continuously changing situation. The convenience sampling started from the results of previous research which had mapped the Italian organizations working in the field in 2018 [24]; in addition, we tried to reach other people and institutions employed in the sector by searching for them online. The questionnaire was sent to 500 people, and 100 of them (belonging to different organizations, or working individually in the field) answered.

The questionnaire was made of multiple-choice questions, some rating scales, and a few open questions. It was structured in four areas: the characteristics of the organizations/agencies (11 questions), the socio-economic effects of the COVID-19 pandemic during the lockdown period (18 questions), the situation during the phase of first reopening (13 questions), possible future perspectives and connected needs (7 questions).

The data were collected from 28 May to 19 June 2020. The analyses were carried out using SPSS software. Frequency percentage and contingency tables were used to organize and understand the responses. The answers to the open questions were categorized and grouped by topic.

3. Results

3.1. Characteristics of the Organizations/Agencies

We collected a total of 100 valid responses, coming especially from the North and the Center of the Italian peninsula. Ninety-five out of 100 participants work in the private sector (cooperatives, associations of social promotion, nonprofit organization, individual agencies, societies . . .), while 5 work in public institutions. The customers related to these institutions/agencies are more private (94) than public (86) (it was possible to choose more than one answer).

A total of 72 participants stated that the institution they work for is of small size (1–6 workers), 19 said it is of middle size (7–20 workers), and 9 said that it is large (more than 20 workers). We tried to calculate the total number of workers of the responding organizations and it is higher than 635, comprehensive of different professionals (guides, educators, social workers, trainers, outdoor sports instructors . . .). Since the institutions answering the questionnaire were around 1/5 of those who were found and asked to participate, we estimate that the number of workers in the nature-based area in the Italian peninsula is much higher than 3175. It was not possible to obtain official data regarding the number of nature-based institutions in Italy.

The nature-based programs proposed by the respondents involve people of different ages (Table 1).

Table 1. Beneficiaries: age.

N. of Answers [1]	Age of Beneficiaries
34	Children 0–6
70	Children 6–11
84	Teenagers
86	Young adults
87	Adults

[1] It was allowed to choose more than one answer.

The respondents work in diverse areas of the nature-based sector: 78 organize programs in the socio-educational area, 28 in the therapy/rehabilitation one, 83 in leisure, 85 in training (it was possible to choose more than one answer).

The natural environments where the programs take place are different (Table 2), but the majority are in forests.

Table 2. Natural environments where the programs take place.

N. of Answers [1]	Natural Environment
19	Urban private green areas
35	Urban public green areas
21	Vegetable gardens
38	Farms (or similar)
57	Forests close to urban areas

Table 2. *Cont.*

N. of Answers [1]	Natural Environment
79	Forests distant from urban areas
39	Cliffs
27	Caverns
42	Sea
50	Lakes
62	Rivers/torrents
50	Centers for environmental education
58	Accommodation facilities in nature
4	Other

[1] It was allowed to choose more than one answer.

3.2. Socio-Economic Effects of the Lockdown

A total of 67 out of 100 participants said they had to stop their activity completely during the lockdown period (March–May 2020), while the remaining said they could continue some of their activities but not those related to nature-based experiences.

Seventy-six affirmed they lost 100% of their working days. Globally, the nature-based sector lost 100% of their income if compared with the same period of the previous year.

From the answers of the participants, we estimate that more than 36.000 people could not benefit from the nature-based activities proposed by these institutions in the considered period. Since the institutions answering the questionnaire were around 1/5 of those who were found and asked to participate, we estimate that more than 180.000 people could not benefit from nature-based activities.

Many workers in this period had a salary reduction or lost their job; some of them received public funds, and just a few had stable working conditions (Table 3).

Table 3. Workers' situations during the lockdown phase.

N. of Workers [1,2]	Situation
367	Lost their job or the chance of having a new contract
471	Had a salary reduction
186	Received public funds or help
99	Had a stable working condition

[1] Out of approximately 635 workers. [2] It was allowed to choose more than one answer.

Workers feelings at the end of the lockdown period were various (Table 4). Positive and hopeful feelings are prevalent, but many of them do feel worried.

Table 4. Workers' feelings (Likert scale: 1 = "Not at all"; 5 = "Very much").

Feeling	Mean	St. Dv.
Active and ready for job reorganization	3.94	1.06
Still searching for new solutions to restart	3.34	1.25
Worried not to be able to restart like before	3.33	1.36
Trustful about reopening	2.97	1.10
More conscious about myself	2.93	1.28
Stressed	2.83	1.17
Worried about losing my job	2.55	1.34
Rested	2.53	1.18
Nervous	2.47	1.24
Regenerated	2.24	1.27
Angry	2.06	1.41
Depressed	1.62	0.93

During the considered period, many respondents tried to keep in touch with the beneficiaries of their activities in different ways: videoconferences, video calls, phone calls, webinars, emails, social networks ... (Table 5).

Table 5. Types of contact with beneficiaries during the lockdown period.

N. [1]	Type of Contact
29	Did not keep in touch
18	Tried to keep in touch, but did not succeed
14	Kept seeing the beneficiaries in different activities (not the nature-based ones)
53	Kept in touch through online events or proposals (webinar, articles, reflections, videos, suggestions ...)
53	Kept in touch through email exchanges
69	Kept in touch through social network or messages
29	Kept in touch through video calls

[1] It was allowed to choose more than one answer.

One-third of the respondents kept in touch with other people working in the nature-based sector in order to discuss the emergency situation, its consequences, and hypothesis for the future.

3.3. Situation during the Phase of First Reopening

The question regarding the chance of restarting nature-based activities during summer received positive responses: only 6 participants answered that they could not, while 22 did not know yet if they were able to reopen, and 72 affirmed they could. The uncertain answers were probably due to the moment of the survey, in which the new sanitary norms were still being defined and were not clear yet.

Almost 1/3 of the respondents (28 out of 100) then affirmed that they would need to modify completely their proposals due to the new norms; 67 said they had to modify them just partly. The main changes needed had to do with the number of participants in order to keep the physical distancing, and with the organization of some of the activities because of the new restrictions to transportations and accommodation facilities.

Almost 1/3 of the sample (30 out of 100) was not able to make predictions about the loss of working days during summer because of the limited information they had about the new regulations in that moment; 1/3 affirmed they would probably lose 70% or more of their working days (Table 6).

Table 6. The loss of working days from June to August 2020: predictions.

N. of Respondents	Percentage of Working Days They Will Lose during Summer
4	0%
2	10%
3	20%
7	30%
5	40%
9	50%
7	60%
11	70%
9	80%
6	90%
7	100%
30	With the information we have now, we cannot make previsions

Concerning the economic loss, around 1/3 of the sample (35 out of 100) was not able to make predictions; regarding the remaining respondents, we compared their total income of summer 2019 to their prevision for summer 2020 and the alarming result was that they would probably lose around 90% of their income.

The prediction regarding the number of people that will not benefit from nature-based activities from June to August 2020 is at least of 14.000 people, considering that more than 1/3 of the sample (34 out of 100) could not make predictions and considering also that the institutions responding to our questionnaire are only 1/5 of those who were asked to participate, so probably the number of lost beneficiaries is much higher.

Furthermore, with the new norms and restrictions, workers in the nature-based area are afraid that some educational aspects related to the relationship with the beneficiaries might be negatively influenced, especially by social distancing and protection masks (Tables 7–9).

Table 7. How much might social distancing affect the relationship with the beneficiaries under a pedagogical point of view?

N. of Respondents	Educational Consequences of Social Distancing on Relationship
10	1—Not at all
13	2—Only a little
16	3—To some extent
29	4—Rather much
32	5—Very much

Table 8. How much might the sanitation of environments and tools affect the relationship with the beneficiaries under a pedagogical point of view?

N. of Respondents	Educational Consequences of Sanitation on Relationship
26	1—Not at all
30	2—Only a little
20	3—To some extent
18	4—Rather much
6	5—Very much

Table 9. How much might the use of personal protective equipment affect the relationship with the beneficiaries under a pedagogical point of view?

N. of Respondents	Educational Consequences of Personal Protective Equipment on Relationship
9	1—Not at all
28	2—Only a little
29	3—To some extent
19	4—Rather much
15	5—Very much

Summarizing the answers to the open question regarding the type of impact that the new sanitary norms might have under the pedagogical point of view, participants believe there is a risk of affecting: sociality, relationship, trust, communication, body perception, corporeality, collaboration, sharing, group dynamics.

3.4. Future Perspectives and Needs

Around 1/3 of participants (35 out of 100) affirmed that the present situation has opened new possibilities in the nature-based sector.

The multiple-choice question regarding the participants' perception of the long-term effects on their chance to continue their activities reveal different opinions, hopes and fears (Table 10).

It is really interesting that most participants (69 out of 100 answered "very much", and 22 "rather much") believe that nature-based activities in the educational, therapeutic, training and leisure areas might have a very important role for the general restart after the lockdown period. In the following short answer question, they also explained how:

- Attending natural environments is fundamental to go back to normal everyday life and reduce the risk of social withdrawal
- The lockdown period encouraged many people to reorientate their lifestyle towards biophilia and sustainability
- In nature it is easier to keep distance, so it is the most suitable environment in which to start social contacts again
- Contact with nature is relaxing and restorative both under the physical and psychological point of view
- Natural environments stimulate growth and learning holistically.

Table 10. The long-term effects on nature-based activities.

N. of Respondents	Opinion on the Possibility to Continue Their Nature Based-Activities
21	Will reorganize and will reopen at full capacity
48	Don't know yet: it depends on future chances
30	Will have to modify or reduce the proposals
0	Will have to close the institution
0	Won't be able to propose nature-based activities
1	Other

Many participants also believe that after the pandemic there will be new working opportunities for the nature-based sector (14 = "Very much"; 32 = "Rather much"; 39 = "To some extent"; 12 = "Only a little"; 3 = "Not at all"). Some examples of new nature-based opportunities after the pandemic according to the participants:

- Schools (and other educational institutions) could finally understand the importance of nature-based education, both for didactics and relationship purposes
- Local tourism could flourish as well as the re-discovery of geographical areas previously ignored
- Open spaces reduce the risk of infection, therefore people will prefer them
- During the pandemic people felt an increasing need for spending time outdoors, as they became aware of how healthy it is. There is a higher and growing desire for recontacting Nature.

The final questions regarded workers' opinions on the short-term and long-term needs of the sector. The main ones are about the social and official recognition of nature-based activities, and financial help (Table 11).

Table 11. Nature-based workers' needs (Likert scale: 1 = "Not at all"; 5 = "Very much").

Needs	Short-Term		Long-Term	
	Mean	St. Dv.	Mean	St. Dv.
National guidelines promoting nature-based activities	4.5	0.98	4.27	0.99
Social recognition of our job	4.18	1.07	4.33	0.96
Tax relieves	3.81	1.26	3.64	1.37
Government financial aid	3.77	1.21	3.35	1.39
Financial help for beneficiaries to foster their participation	3.72	1.33	3.75	1.34
Opportunities for discussion with other workers in the sector	3.6	0.99	3.68	1.03
Opportunities for discussion with specialists	3.57	1.07	3.74	1.02
Opportunities for discussion with politicians	3.5	1.23	3.56	1.27
Support for planning and designing activities withing the new norms	3.16	1.16	3.2	1.24
Help in access to credit	2.95	1.42	3	1.38
Mortgages suspension	2.8	1.54	2.69	1.47
Psychological support for beneficiaries	2.21	1.17	2.16	1.13
Psychological support for workers	2.18	1.11	2.22	1.16

4. Discussion

With the COVID-19 pandemic and the related restrictions, the Italian nature-based sector suffered from a sudden stop, both under the economical and the organization/planning points of view: the data we collected through the present research—although partial—show the huge economic loss that was caused both by the lockdown period and by the uncertainties and restrictions during the first reopening phase. During the lockdown period, 76% of the institutions belonging to the sample lost 100% of their working days, and just a small amount of them could benefit from financial aid, probably due to the fact that this working sector is often uncertain and season dependent. The majority of workers in the nature-based area lost their job or the chance of renewing their contract, and the rest suffered from salary reductions.

Without specific aids and without certainties regarding how to apply the sanitary norms, the first reopening phase appeared to be quite critical. Our sample's answers (collected within the first half of June) show strong uncertainty for the future: more than 1/3 are not able to make predictions on their possibility to work in the next months; on the other side, those who think they can go back to work are afraid to lose more than 70% of their working days. On one side, the major obstacles are related to the physical distancing norms, and to the restrictions concerning the transportation and accommodation facilities; on the other side, the main difficulties regard the fear that these restrictions might affect the core characteristics of nature-based activities: interpersonal relationship, trust, body perception, collaboration, sharing, group dynamics . . .

It is a paradox: on one side, nature-based potential is becoming more evident and acknowledged; on the other side, the difficulties of the nature-based sector are considerably increasing, putting this important social capital at risk. In this emergency situation, the workers who answered our questionnaire state two important needs: on one side, they ask for social recognition of their job; on the other side, they require national effective guidelines promoting nature-based activities in the educational, therapeutic, and leisure areas.

5. Conclusions

The Italian "nature-based sector" is made of different institutions/agencies that work in the following areas: environmental education; nature therapy/rehabilitation; socio-educational programs; outdoor sport, leisure and tourism; outdoor and experiential training [23]. People working in this sector (guides, educators, trainers, psychologists, social workers, education specialists . . .) operate "in nature" with different roles and multiple purposes: educational programs for schools, therapeutic programs, training, touristic accommodation, environmental education. They work in small- and medium-sized institutions/agencies and they simultaneously cover multiple roles: workers, coordinators, managers, project planners, etc.

In Italy, there are no official data on the size of the "nature-based sector", but we know that some of these institutions were founded decades ago, while others have been recently created. Before COVID-19, this sector appeared to be growing throughout Italy because of a new interest towards the natural environment, its benefits, and its need for protection: there was an increasing request for nature-based activities both from private citizens, and from some public institutions (schools, medical services, social services . . .).

With the COVID-19 pandemic and the related restrictions, the need for contact with nature has increased. The natural environment is known to provide multiple benefits [13–22], so it might meet many needs, both during the emergency and in a long-term perspective:

- the need for distancing and open spaces in order to reduce the risk of infection;
- the need for vitamin-D and for movement, in order to strengthen physical health;
- the need for relaxation and for mental stress reduction
- the need for ecological consciousness in order to reduce environmental damages (e.g., air pollution) and reduce the risk of future pandemics or other global problems;

- the need for solving the dichotomy between Humans and Nature, but also between mind and body.

This is why we need to give legitimacy to a sector that, despite its important history in Italy, is still little recognized and promoted here. It is a lively sector, rich in skilled and passionate professionals who are demonstrating their will to constantly reinvent their jobs, as this research shows. Despite being worried about the changes they need to make to their way of working due to the sanitary norms, and despite the alarming forecasts for the next working season, almost everyone is trying to reorganize their job and to find new creative solutions in order to face the challenges imposed by the emergency norms.

A suggestion aiming to support this sector could be the inclusion of outdoor activities in school programs, with purposes related to learning, connection with nature, interpersonal relationships, social skills; skills that have been dormant during the whole forced lockdown and distancing periods. Another example could be to promote local tourism through financial aid, with the purpose of rediscovering—in a sustainable way—unknown and precious natural locations.

Coherently with the results of the surveys conducted in other countries [1–4], the main conclusions emerging from this research regard the need for social and institutional acknowledgment of nature-based programs and the necessity of more systematic funding. Therefore, there are important implications for institutions and policy-makers who are strongly invited to consider the importance of nature-based experiences and to strengthen the support, acknowledgment, and financing to the sector. Implications for stakeholders are also significant. Since our Research Center is formed not only by researchers but also by practitioners, stakeholders were actually involved also in the construction of the questionnaire; thus, this research is from stakeholders and for stakeholders, trying to give legitimacy to their job and to the urgencies in the sector. We strongly believe that both the results and the implications of the present study are internationally relevant. Since the pandemic has spread worldwide and since other countries are experiencing similar difficulties in the nature-based sector (as shown in the cited UK and US reports [1–4]), we ought to collaborate in order to build a better future for the nature-based sector and consequently for people who will directly or indirectly benefit from it.

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The Development of an Educational Outdoor Adventure Mobile App

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Abstract: This article focuses on the development of an educational outdoor adventure mobile app while presenting findings that were derived from various case studies that we conducted using it. The mobile application, called RouteQuizer, is complemented by a web application and a database, forming a system that enables teachers to create educational treasure hunt activities for their students and monitor their performance. The aim of the research was to create a system that would exploit all possible Outdoor Adventure Education (OAE) and treasure hunt benefits while excluding possible smartphone use negative consequences. The development of the system took place in Greece and began in December 2017, by conducting a nation-wide research examining Greek secondary teachers' Information and Communication Technology (ICT) literacy and perceptions on smartphone use and outdoor activities. By June 2018, 700 questionnaires were collected. In order to test the system, in March 2018, we conducted a pilot case study in Lesvos island Greece and between July 2018 and February 2020, we conducted four additional case studies and a teacher training program, all of which took place in Lesvos island Greece. During the development process of the mobile application, we focused on the participatory aspect of the process, paying special attention to the teacher and student evaluation during the design and prototyping phases. Considering that the system is educational we research whether the mobile application provided effective learning outcomes and whether it benefited students' social and physical skills. The results that we collected suggest that the mobile application is an effective learning tool while mobile learning and treasure hunt benefits have been repeatedly confirmed during the case studies. Greek teachers and students also proved to be capable smartphone and computer users, and reported being willing to participate in similar activities in the future.

Keywords: treasure hunt; mobile learning; geocaching; smartphone; educational app; outdoor adventure education; Lesvos island; secondary education students; undergraduate students

1. Introduction

Outdoor adventure education (OAE) has the ability to contribute to the personal and social development (PSD) of the participants [1]. Increased self-efficacy, self-confidence, self-regulation, and problem-solving skills as well as group-related outcomes like social cohesion, communication, and team functioning [2] are the most common benefits that derive from OAE, according to our literature review, while similar social, physical and educational benefits have been observed in location-based games [3].

Conversely, social isolation, psychosomatic symptoms [4], and significant negative influence in daily lifestyle behaviors as well as physical and mental health problems [5,6] are attributed to extensive smartphone use.

Nevertheless, smartphones are closely linked to both mobile learning and location-based games. Most of the mobile devices that were used during m-learning interventions, such as PDAs (personal

digital assistants), mp3 players, flash drives and e-book readers, are now replaced by smartphones that can offer more than just being attractive to students. Activities that could benefit the students in many different ways, such as treasure hunt and geocaching that are greatly benefited by the GPS and touch screen capabilities of smartphones, can be implemented by teachers, while also training the students' social, physical, and learning skills. Maps, GPS devices, and photographs were the main means of conducting such activities, and teachers used to experiment with several different location-based games, a lot of which are reviewed in [7].

In this paper we present an effort to develop an educational outdoor adventure mobile application and study its effects on students' perceptions, performance, and skills. The research was conducted in Lesvos island, Greece, from December 2017 until March 2020.

In the rest of the introduction, we present an overview of location-based games and their benefits, smartphone use challenges as well as the aim of the research.

1.1. Location Based Games

Modern mobile devices and especially smartphones have provided a big boost in location-based games. The most recent and well-known example is "Pokemon GO", a game that holds five Guinness World Records because of its phenomenal appeal to players worldwide [8]. Indicative of how popular a mobile game can be is that 130 million people downloaded the application within one month of its launch, on 6 July 2016. "Pokemon GO" and other similar games require physical activity in order to be played, they take advantage of the cellular network connectivity and GPS features of the smartphones, and although their purpose is recreational rather than educational, they do prove that location-based games are very attractive to young people. An educational mobile game, based on the same basic principle (location awareness), could be a great way to implement mobile learning activities.

The popularity of treasure hunt led to many variations of the game some of which also require electronic mobile devices. Photo treasure hunt requires a camera, while participants must collect pictures of targets instead of finding the hidden treasure. Letterboxing, an activity that dates to 1854, combines puzzle and orienting in a search of a hidden small box that contains a rubber stamp and a notebook. Clues as to where the box is hidden are shared via the internet or mouth to mouth and letterboxers leave their personal signature on the boxes' logbook.

Another very popular modern variation is geocaching. On 1 May 2000, thousands of GPS receivers around the world were nearly ten times more accurate due to the abolition of "Selective Availability" [9], an intentional degradation of public GPS signals, which came as a very pleasant surprise, to everyone who worked with GPS technology. In order to celebrate that, on 3 May 2000, Dave Ulmer, a computer consultant and GPS enthusiast, placed a black bucket containing a logbook, a pencil, and various gift items in the woods of Beavercreek in Oregon. He called the game "GPS Stash Hunt", and shared its coordinates to the USENET newsgroup sci.geo.satellite-nav, encouraging people to discover it, and "take some stuff, leave some stuff". It only took a day for the first stash to be found, and within a month new stashes had been hidden around the world. As the game continued to grow, new websites emerged, containing lists of stashes worldwide, and soon, after replacing the word "stash" with "cache", due to negative connotations of the first, the game became known as geocaching. Until a few years ago, geocachers used GPS devices, maps, photographs, and compasses in order to locate the hidden caches, while nowadays the most popular geocaching device is the smartphone [10].

The benefits of treasure hunt games such as geocaching are multifaceted, and apart from the obvious associated with the natural state of the participant ones, they mostly favor young people that are still developing their social skills. Taylor [3] distinguished geocaching's benefits in three main categories; physical, social, and educational.

The physical benefits we can perceive are:

- The ability to adjust the level of fitness required, by carefully selecting the location of the treasure/geocache.
- Development of the sense of orientation.

- The process of exploration gives a high level of interest.
- The challenge and the subsequent feeling of success when a treasure is found, psychologically benefits the participant
  The social skills that can be acquired.
- The pleasant feeling of achieving a goal. In particular, students that are not very successful in sports can build in this way their self-esteem.
- When participants are separated in groups, the sense of togetherness, as a target of a group with a common purpose.
- Socialization with other participants.
- Develops the cohesion and the collaboration of a group, along with the encouragement of communication.

The educational benefits are multiple. The selection of the participants' targets can help them acquire information about the sounding area or the specific point. That information can be related either to the geography of the area or the history behind a plague or a statue, especially considering that the curiosity about an area that someone visits is a natural human tendency.

1.2. Smartphone Use Educational Challenges

The most popular list of using smartphones disadvantages in education mainly consists of device related characteristics such as small screen, limited storage capacity, limited battery life, robustness, no printing support, and the fact that mobile devices become out of date quickly [11,12].

Technology has solved many of the limitations described in older articles by constantly improving the devices. Most researchers tend to compare mobile devices with laptops and desktop computers, ignoring the fact that mobile devices are proposed as a means to conduct mobile learning activities and not to replace desktop computers and laptops. Mobile applications are designed to operate with mobile devices, e.g., smartphones, exploiting their hardware and software characteristics. These applications will not work as they should on a laptop, while computer applications will not work on smartphones. Based on the above, mobile devices and laptops/personal computers are not comparable, even though, a closer look to the technical characteristics of the last five years' smartphones and tablets would reveal that those devices have dealt with all the aforementioned limitations, while at the time, in some respects they end up being superior to laptops (e.g., battery life).

In contrast, excluding device limitation factors, mobile devices can negatively affect students. It is of prime importance to prevent irrational use of the mobile devices by the students as they can lead to unethical behavior [13] student distraction [14], and physical health compromise [15]. Tutors must implement mobile learning activities in a way that phenomena such as cyber bulling, distraction, and digital divide [16] issues will be excluded.

Teachers' digital skills are required. The most significant barrier to successful integration of Information and Communication Technologies (ICT) in education is teachers' lack of confidence, experience, and pedagogical understanding in mobilizing the potential of digital technologies [17]. Advanced knowledge on how to use mobile devices and application is required.

The lack of guidelines for appropriate use [18] can be a challenge for teachers that wish to implement mobile learning activities while affecting the method's effectiveness. While many countries such as Canada, Australia, Denmark, Sweden, Spain, Romania, and Estonia, encourage students to bring their own devices (BYOD system), smartphones are banned from schools in other countries such as Greece and many states of the U.S. [19,20].

Digital exclusion is also a big risk when introducing ICT in the educational process as not everywhere and not everyone can use smartphones and internet connectivity. Also, less advanced users may feel intimidated by the technology and stay out or feel isolated during an activity [21].

Not all mobile applications are ideal for learning. Poor design issues are existent in many educational mobile applications so teachers must be very careful on choosing an application.

1.3. Motivation and Research Aim

Smartphone use in outdoor recreation settings is controversial [22]. Smartphone use has been accused of increasing participant carelessness due to the false sense of security their smartphone provides [23]; discouraging the development of outdoor navigation, as participants rely on the device [24]; and distraction, as social media, games, music and movies are one tap away [25] and disturbance of fellow participants that want to completely disconnect form civilization [22]. Contrarywise, many instructors use mobile technologies in outdoor settings for multiple reasons [26,27]. Map, compass, location information, text, audio, video [25], but also more advanced features such as heart rate monitors that modern smartphones provide have been proven to be very useful during outdoor adventures.

The lack of a common attitude towards the subject is also reflected on bibliography. Most treasure hunt related applications in Google Play, are entertainment games not developed for educational purposes. After browsing the related bibliography, we identified only two mobile applications designed to enhance outdoor adventure education using smartphones. Kohen-Vacs et. al. [28] presented Treasure-HIT, a mobile treasure hunt game for outdoor learning. Treasure-HIT provides clues that students have to follow in order to reach a destination point. Upon arrival, they are asked to perform specific tasks on site. The application also provides activity results that refer to each activity. More specifically, Treasure-HIT informs the teacher that a group made a certain amount or mistakes while conducting the activity's tasks although it does not provide data about each question. Also, except clues, it does not provide information about the points visited, which in our opinion is essential to enhance the educational aspect of the activity. Mobilogue [29] is also a similar application but due to getting no response from its servers it has not been possible to further evaluate it.

Contradictory attitudes and views on smartphone use in OAE result in unclarity on whether smartphones can benefit outdoor adventure education. Also, the small number of educational outdoor activity mobile applications suggests that this sector is not particularly developed making the development of such software imperative for a detailed analysis of the subject.

2. Methodology

Considering the multiple potential benefits that location-based games can offer, we decided to develop a mobile learning system that would exploit all possible OAE and treasure hunt advantages, while excluding possible smartphone use negative consequences. The RouteQuizer system consists of a database, an Android application, and a web application and it enables teachers to create educational treasure hunt activities and monitor their students' progress.

The development of the system was based on the MADLC [30] and Agile [31] software development models, while we focused more on the participatory aspect of the process. During the first stage of the development, the assimilation of modern technology by teachers was investigated, as ICT literate teachers are an essential factor [17]. Specifically, in order to identify the ability and willingness of teachers to adopt such a learning tool in the educational process, we conducted a nationwide survey on the digital literacy and the perceptions on mobile learning and treasure hunting of teachers in secondary education, presented in Section 2.1.

The subsequent design and implementation stages led to the first RouteQuizer prototype, presented in Section 2.2. The prototype was further improved through an iterative testing and re-implementation process. Each iteration included an experimental use of the system in real conditions (case study). The feedback of these case studies determined the required modifications of the system. In more detail, the prototype was initially tested by conducting a pilot case study with students at a STEM school program (presented in Section 2.3) and by organizing a teacher training program (presented in Section 2.4). After improvements integration, the system was tested again in four different case studies with different objectives each, as presented in Section 2.5.

The observations deriving from conducting RouteQuizer activities would help us answer the following research questions:

Question 1: To what extent do students like treasure hunting using a smartphone for educational purposes?

Question 2: How distracting is the mobile application to participants during outdoor activities?

Question 3: How beneficial to student's social and physical skills is treasure hunting and m-learning?

Question 4: To what extent is knowledge acquisition possible using a mobile app?

2.1. Researching Teachers' Skills and Perceptions

Instead of relying on our hypotheses about the teachers' technology related skills and perceptions on mobile learning and geocaching, we conducted a nation-wide survey that was conducted from December 2017 until June 2018.

2.1.1. Participants

The collection of the questionnaires was based on random sampling and all responses were anonymous. Based on data we received from the Greek Ministry of Education, the total population of secondary education teachers in Greece (2017) was 68,139, across 75 directorates of secondary education throughout the country. In order to get a less than 2% error margin we calculated that the required sample of teachers was 544. Also, in order to ensure the representativeness of the research outcomes, we calculated the exact number of responses required by every region and continued accepting responses until all regions were equally represented.

The total sample of our research, excluding the responses that failed the consistency tests we conducted, as well as the ones that were mostly empty, consisted of 700 secondary school teachers teaching in 283 schools from every region of Greece [20]. Of these, 57.53% were aged between 36 and 50 years old, 37.16% more than 51 and only 5.31% of the participants were aged between 23 and 35. Most of the teachers, 33.8%, taught language and philological sciences, 28.2% mathematical and physical sciences, 18.4% information and computer science courses, 4.0% engineering, and 15.6% other courses. 51.8% of the participants taught in junior high schools, 32.7% in high schools, and 15.5% in vocational high schools.

2.1.2. Research Tools

The instrument used was a questionnaire that consisted of four parts. The first part recorded personal data. The second part was titled "familiarity with personal computers" and contained seven questions. Two multiple choice type questions recorded whether their school provides PC and internet access. The remaining five questions were four-scale Likert type, recording how often they use personal computers and the internet for personal use, whether and how often they use PCs for teaching, and how familiar they are with various web applications and PC use skills. The third part was titled "familiarity with smartphones and tablets" and contained five questions. Using four Likert four-scale questions, it recorded how often they use smartphones and various types of smartphone applications, whether and how often they use smartphones for their teaching needs and how willing they are to implement an educational mobile application during an educational activity. Another multiple-choice type question recorded the reasons why they would not in case they answered so. The fourth and last part of the questionnaire was titled "Geocaching" and contained five questions. Four out of five were multiple choice type questions and one was 1–10 scale. During this part, the teachers were asked whether they know what geocaching is and if not, whether they would like to be informed about a mobile treasure hunt application and under which conditions. They were also asked whether they would organize such an activity and which parameters affect the implementation of such an activity. Finally, in case they knew what geocaching is, in a scale of 1 to 10 they recorded whether they believe that geocaching and similar activities can benefit the students. The outcomes of the two middle parts of the questionnaire provided us with skill-specific data about various personal computer and smartphone tasks. Those findings enabled us to complete the design phase of the system's development process.

The internal consistency reliability of the questionnaire was measured by calculating the Cronbach's alpha value of all 28 items that were measured in a 4-point Likert scale (never, rarely, frequently, daily). The calculated value was 0.896 > 0.7.

Prior to deploying the questionnaire, we tested its content validity by conducting a pilot research. The questionnaire was completed by 51 teachers, teaching in secondary education schools in Lesvos island. The questionnaire was very similar to the one used in the nationwide survey but contained more open-ended questions. The teachers' responses in all open-ended questions, were analyzed and the most frequent responses were implemented in the final version of the questionnaire. In particular, open ended questions such as "which web applications do you use?", "which smartphone applications do you use?" and "what are the deterrents in using mobile apps in educational activities?", were transformed in multiple choice type questions in the final version of the questionnaire containing the most frequent answers the teachers provided.

We also used a criterion validity test. There were five set of questions used as validity switches. In case the responses to these questions were inconsistent the questionnaire was discarded. As a result of this test 2 questionnaires were rejected.

2.1.3. Results

The percentages of personal computer, internet and smartphone usage were very high. 84.2% of the participant use a computer daily, 13.2% frequently, and 89.1% of the computer users use the internet daily. Also, 62.75% use smartphones daily and 18.77% frequently. Those high usage percentages suggested that teachers would not face many difficulties in using the system but more specific data about their ICT skills were also collected.

More specifically, the participants among other questions were asked how frequently they use various web applications (containing some geocaching related applications as well) and how familiar they are with different types of web and mobile application skills. The most popular web applications were Google Drive (14.0% daily and 46.4% frequent use), Google Forms (31.2% frequent use), Google Earth (29.7% frequent use), and photodentro, a Greek learning object repository (54.4% frequent use). When asked how familiar they were with different web application skills, teachers reported being very familiar with all of them and the same applies to different smartphone application types, such as map and GPS using applications, as well as educational apps. In particular, regarding the skillset required in using the RouteQuizer system, the outcomes were encouraging: 82.5% reported fully or very familiar with register and login functions using web applications and 65.2% fully or very familiar with web applications using maps. Furthermore, 67.8% reported fully or very accustomed with mobile applications that use maps and 71.3% with educational smartphone apps.

When asked whether they would use a smartphone educational use in the context of an educational activity, 23.6% replied negatively, 27.8% would implement such activities 1 to 3 times per semester, 30.1% 3 to 10 times per semester and 18.4% more than 10 times per semester. At this point, it must be noted that 66.3% of the teachers that replied negatively, did so because "smartphone use is banned" (although this is not very accurate as smartphone use in Greece is allowed when the equipment used is available to students by the school they attend, during the teaching process and the educational process in general, and only under teacher's supervision).

Although geocaching proved to be not too popular, as only 31.9% of the participants knew what it is and only 8.1% of them had previously participated in such an activity, 68.6% were interested in being furtherly informed about mobile treasure hunt activities, and 16.7% possibly. Lastly, when teachers with previous geocaching experience were asked to rate in a scale of 1 to 10 how much geocaching benefits students, the average score was 6.93/10.

We used one-way analysis of variance (ANOVA) in order to determine whether there were any statistically significant differences between the means of different independent groups. Between the course the participants teach (independent variable, IV) and whether they use smartphones for teaching interventions (dependent variable, DV), there was a statistically significant difference between groups

as determined by one-way ANOVA (F(4.672) = 5.415, p = 0.000270). Post hoc comparisons using the Tukey HSD test indicated that the mean score for the "Information and Computer Sciences" condition (M = 2.00, SD = 0.871) was significantly different than the "Languages and Philological Sciences" condition (M = 1.61, SD = 0.797). The "Mathematical and Physical Sciences" (M = 1.70, SD = 0.745), "Engineering Sciences" (M = 1.79, SD = 0.738) and "Other courses" (M = 1.63, SD = 0.764) conditions did not significantly differ from the "Languages and Philological Sciences" condition. Taken together, these results suggest that Information and Computer science teachers are more frequent smartphone users for teaching purposes (Figure 1).

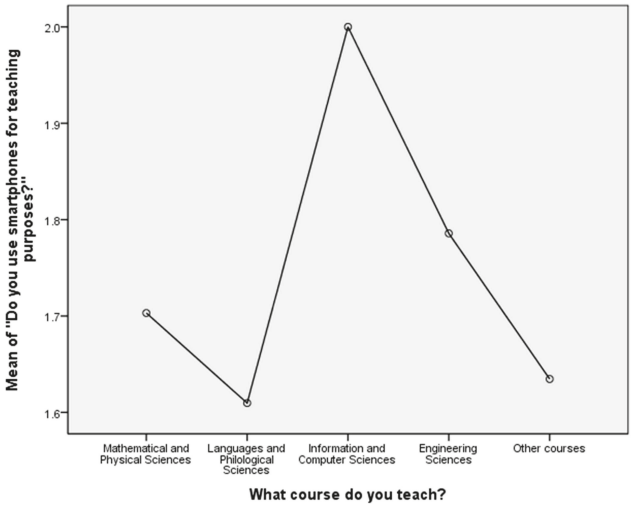

Figure 1. Means plot of Smartphone use for teaching purposes and teachers' specialty.

A one-way between subjects ANOVA was also conducted to compare the effect of teachers' age (IV) on how beneficial they believe geocaching is to students (DV) in 23 < teacher's age < 35, 36 < teacher's age < 50, and teacher's age < 51 conditions. There was a significant effect for the three conditions (F(2.217) = 3.389, p = 0.036). Younger teachers (M = 8.22, SD = 1.787) appear to evaluate geocaching benefits with higher score than age groups 36–50 (M = 7.06, SD = 2.008) and 51+ (M = 6.50, SD = 2.391) (Figure 2).

A multiple linear regression was calculated to predict whether teachers would use a mobile learning application during an educational activity (DV) based on how experienced smartphones users they are (IV1), and how often they use educational mobile apps for their teaching (IV2). A significant regression equation was found (F(2.685) = 82.726, $p = 6.5918 \times 10^{-33}$), with an R^2 of 0.195. The participants predicted that their willingness to adopt smartphone application in educational activities is equal to 1.134 + 0.507 (mobile educational app use) + 0.126 (smartphone experience), where mobile educational app use is measured as 1 = never, 2 = Rarely, 3 = Often, 4 = Daily, and smartphone experience is also measured as 1 = never, 2 = Rarely, 3 = Often, 4 = Daily.

A Spearman's rank-order correlation was run to determine the relationship between frequency of smartphone use and willingness to use smartphone applications in educational activities. There was a strong, positive correlation between the two variables, which was statistically significant (r_s = 0.241, $p = 1.4146 \times 10^{-10}$). Statistically significant Spearman's rank-order correlations were also identified between the "familiarity with mobile educational apps" and "willingness to use smartphone applications in educational activities" variables (r_s = 0.190, $p = 5.8614 \times 10^{-7}$).

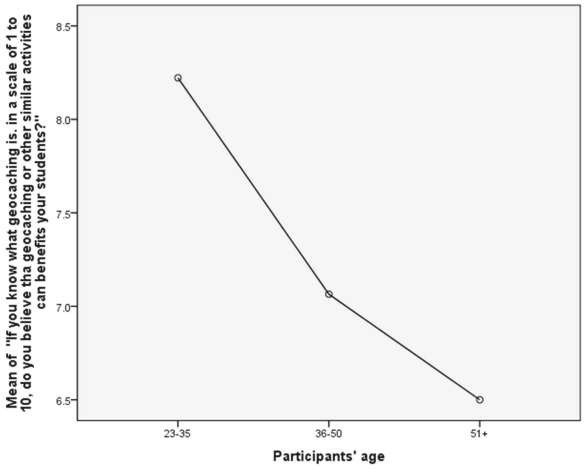

Figure 2. Means plot of "How beneficial geocaching and similar activities are to students" and teachers' age.

The above findings confirm studies suggesting that the higher the teachers' competence of using these technologies the higher is their willingness to adopt ICT for teaching and learning [32,33]. Also, the participants' age-related findings are in line with studies that show that "older teachers tend to regard the use of ICT for different purposes as less useful, and potential problems and obstacles for teaching and learning" [34,35].

Taking into account the high percentages of smartphone and PC familiarity and experience, the questionnaire's findings suggested that a system such as RouteQuizer would be welcomed by Greek secondary education teachers, as the participants proved willing and capable.

2.2. The RouteQuizer Prototype

The RouteQuizer system operates in three steps; teachers create activities using the system's web application, students participate in the activities using the mobile application on the field and finally teachers can check their students' performance using the web application.

During an activity, the students must visit certain locations one after the other. Without knowing the exact location of each destination, the students use hints provided in the application by the teacher, a google map with a compass that is loaded in the main screen, and a distance meter that indicates their current distance to the destination. A Help button is also existent in case the students get lost. By tapping it, a marker is displayed on the map showing them the exact location they must visit and the route they must follow to get there. Upon their arrival at each destination, the application automatically notifies them that they have arrived, and presents additional information about the location and a multiple-choice type question. All answers are recorded in the system's database and can be accessed by the teacher using the web application.

2.2.1. Requirements

In order to create a system that would satisfy the research objectives, during the design phase the following basic requirements where set:

- The mobile application should be Android OS compatible.

Between Apple's iOS and Android, we chose the second based on device cost. Android powered devices' cost ranges from 50 € to 1000 € while iPhones cost closer to the top end Android ones, making

the purchase of several devices much more costly. Another important factor was Android devices are much more widespread than iOS device, thus reducing possible digital exclusion phenomena.

- The system should be simple to use.

Both the smartphone and web applications' interface and design had to be as simple as possible. Complex menus and operational difficulties would discourage teachers and students from using the systems apps.

- The system should provide effective learning outcomes

Although the system is not designed to replace traditional formal teaching methods, as a supplementary tool it should also help students acquire knowledge effectively other than being a fun activity.

2.2.2. The Web Application

The system's web application (Figure 3) was developed using HTML5 and CSS language and is mobile friendly (easily browsed using mobile devices). During its development we paid a lot of attention in creating a simple user interface while also providing detailed instructions on how the website works.

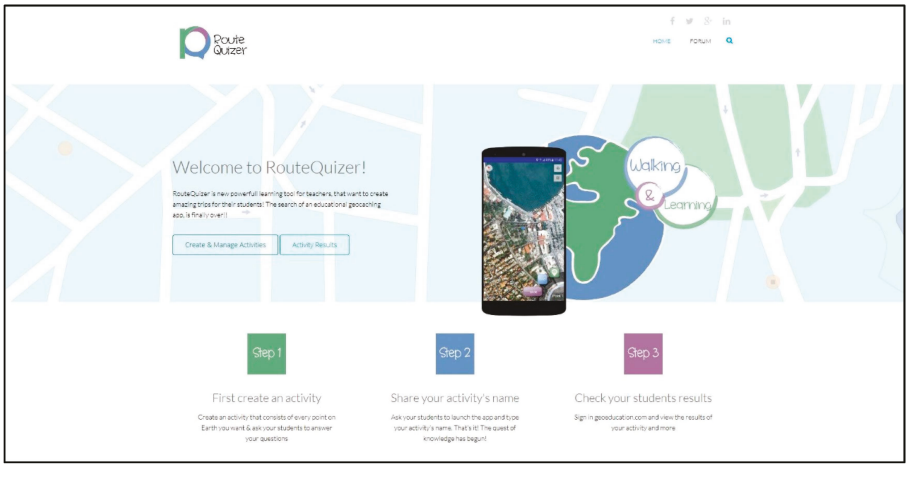

Figure 3. Web application—Home page.

2.2.3. Creating and Managing Activities

Teachers are the only users of our system that need to create a free account to be able to browse, edit or delete activities.

The creation of an activity is done by filling a simple form (Figure 4). In essence, an activity is a table that consists of the following fields.

- Code. The tutor defines the "Activity Name".
- Point Order. The tutor enters the order in which each point will appear to students. In each new activity that a tutor creates, the first point must have the point order value of 1, the second a value of 2, and so on. In this way the teacher can largely control the route that the students will follow, during the use of the activity.
- Latitude. In this field, he enters the first part of the coordinates, i.e., latitude.
- Longitude. In this field, he enters the second part of the coordinates, i.e., longitude.

- Information. Information about the point to be visited.
- Question. The question to be displayed to the students as soon as they arrive at the point.
- Answer 1. The first possible answer.
- Answer 2. The second possible answer.
- Answer 3. The third possible answer.
- Answer 4. The fourth possible answer.
- Right Answer. The tutor provides the right answer.
- Distance. This field is filled by a number, corresponding to the maximum distance in meters, in which the students must approach, for the question to be displayed.

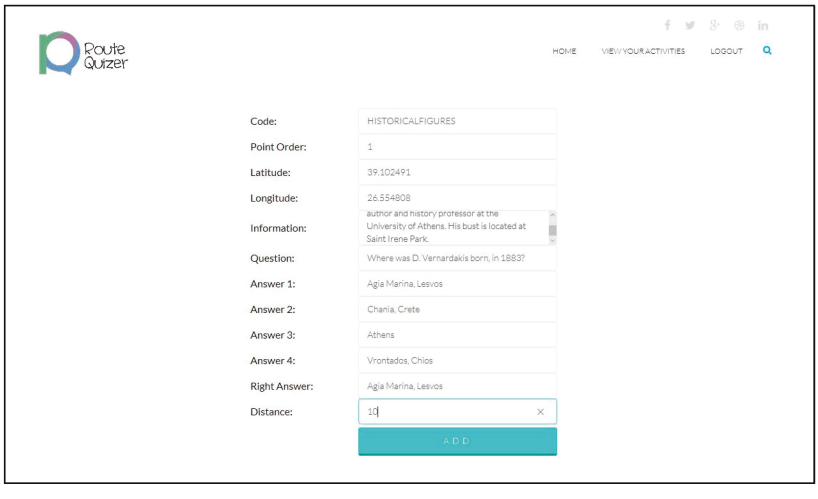

Figure 4. Web application—Creating an activity.

After all the above information about a certain point is inserted, the tutor repeats the process for each point. In this stage, the new activity is ready to be used by the students. In order to register a different activity, the teacher defines a different activity name and restarts the "Point order" value.

2.2.4. Browsing the Results of an Activity

As mentioned before, the tutor can overview their students' performance. After logging in the application's website and selecting the "view results of an activity" button, they are asked to submit an activity's name. As a result, a table containing the following columns appears.

- User
  Contains the student's username.
- Activity name
- Point
  1 in case it was the first visited point, 2 if it was the second etc.
- Result
  Contains either "Correct" or "Wrong".
- Help
  Contains either "Used Help" or "Did not use help", that indicates whether the user used the help button or not.
- Date and Time
  The date and time when the students answered the question.

2.2.5. The Mobile Application

RouteQuizer's application for Android devices is compatible with all Android OS versions, and during its beta testing it has been extensively tested using many smartphone devices of different prices (ranging from 50€ to 700€), screen sizes (4 inches to 6 inches), and computational power, in order to ensure that no problems will occur regardless of the device used.

Before using the application, the user must make sure that mobile data usage and the GPS function of the device are enabled. After the application is launched, an introductory screen appears for 3seconds, and afterwards the student/group of students is/are asked to write their name/team's name. Right after typing their name, the application asks an activity name, which should be provided beforehand by the teacher. By typing the activity's name, the application loads all data concerning the first destination point.

The way the application handles an activity's name favors teachers in the following ways:

- Only authorized users that know the activity's name can have access.
- It ensures the uniqueness of each activity.
- Sharing the same activity with other teachers, is easy, simply by sharing its name.
- The application, as is, is usable by different teachers and for different classes.
- The teacher can easily disable an activity if he wants to, by changing its title.

2.2.6. Main Screen

The main screen is a map that can be zoomed in and out, rotated and centered. The map displays a blue dot that indicates the current position of the user. To make RouteQuizer more appealing and fun to the students, the position of each destination is not acknowledged. They can get hints as to where it is located, through the information provided by the tutor. The main tool the students have is a distance meter although to prevent the users from getting lost, there is also a help button.

More specifically, the main screen of the application consists of four buttons and a distance meter.

- Center map button.
  Upon selection, the screen is centered in the user's position.
- Map type selection button.
  The user can choose between four different map types, a road map, a satellite map, terrain map and a hybrid map.
- Help button.
  A red marker indicating the position of the destination, as well as the shortest route to get there, appear on the screen, preventing the user from getting lost. Also, the tutor is informed whether the help button has been used or not.
- Information button.
  A window containing all the information provided by the tutor appears, helping the user locate the destination point but also to get informed about it. In case the text is long, the window contains a scroll bar.
- Distance meter.
  The distance meter represents the distance in meters between the user and the destination. That way, the user knows whether he is heading to the right direction or not.

Using the above user interface (Figure 5) and taking advantage of the distance meter and the available information, the students must reach one point at the time, within a certain distance. That, and also the fact that (unlike all other geocaching applications) only one point is loaded at a time, are a powerful tool in the hands of tutors, because it makes it easy for them to plan a trip exactly as they want to, and to be sure that the students did really visit the points.

Upon arrival at their destination, the smartphone automatically vibrates to notify the students that they arrived, and a window containing a question and four possible answers appears. Along with the

multiple-choice question, a new button is also added to the screen (while the help, and distance meter disappear). The students select their answer and press the "Check button" to submit their answer. At this point, a message informs them if they were right or wrong, in case they were wrong it displays the right answer, and also at the same time, their result, the time and date they answered, as well as whether they used help or not, are submitted in the according table of the online database, enabling the tutor to overview students' performance.

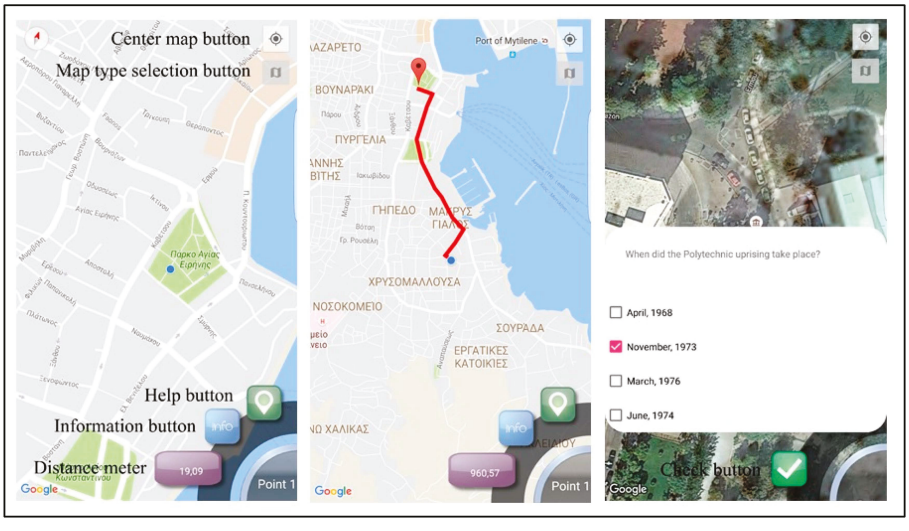

Figure 5. Mobile application—Main screen.

Afterwards, the second point data loads. The students keep visiting their destinations and answering questions, until they answer the final point's question. The application automatically perceives that there are no more points to load, and a game over screen appears, congratulating the students, for discovering all points.

A very significant characteristic of the application is the lack of menus. Each screen contains only the most important elements, without confusing the user. That simplicity translates into a fluent and easy user experience, enabling people that have no previous smartphone experience to use the application.

2.3. Students' Evaluation—Pilot Case Study

The first case study was conducted as part of a STEM summer school program that took place in a high school campus in Mytilene, Lesvos island, Greece in March 2018. The 34 participating students were aged between 12 to 15. Following an in-class presentation of how the GPS system works the students were separated into 4 groups of 8 to 9 students each. Each group accompanied by a researcher participated in a different activity in terms of points' location but the four GPS related questions they had to answer were the same.

Being the first case of the system's mobile application, we focused solely on recording our observations on:

- how the application performed technically,
- the students' spontaneous comments, and
- the student's behavior and concentration during the activity.

The activity proved to be a pleasant break from the summer school's routine. Although the students were not classmates the communication levels between them were high. The existence of

a hidden box containing prizes at the end of each activity seemed to be of great importance to the students and the rally to finish the activity before the other groups were common in all four groups. It was clear that the hidden box added much needed adventurous aspect on the activity.

In terms of functionality the application worked better in three out of four devices that were used although the devices used were the same. The GPS signal inaccuracy we faced in one team made reaching point no 3 impossible, something that really annoyed the team members. With further investigation we found out that the specific device was faulty, and it was never used in a case study again.

That first case study helped us reach to multiple conclusions in order to improve not only the application itself but also the organizing and planning part of a RouteQuizer activity. The distance meter of the app helped in retaining the students' interest in high levels although the school campus area was not the most exciting place to be. In order to increase interest levels in future activities we replaced the "Information" button with the "Hints" button. Instead of providing all information about a certain point before reaching it, we decided that all information should be presented afterwards. By providing hints and riddles as to where the students should go, we can increase the difficulty levels of an activity while also providing a more adventurous experience.

The number of students consisting the groups in future case studies had to be reduced to a maximum of 5. It is impossible for 9 students to get their hands on the device within an activity of 4 points. Also, it is much easier for a teacher to accompany a group of 4 to 5 students especially when the activity takes place in urban places.

Moreover, changes to the application were applied during the development phase in order to improve the user experience. Specifically, in low-end smartphones (the type of smartphones that will most likely be used in real world implementations) we noticed increased loading time in calculating the user's distance to the destination that had not been identified during the beta testing of the app, as well as lagging in acquiring the user's position. By completely revising the corresponding code parts, we managed to greatly reduce loading times.

2.4. Teachers' Evaluation—Teacher Training Program

Teacher feedback was also crucial for the further development of the application. For that reason, in collaboration with the directorate of secondary education of Lesvos island we organized a teacher training program that would help us evaluate the application according to the teachers' perspective.

The training program lasted 2 days and was attended by 11 secondary education teachers. During the first day the teachers were instructed on how to use the web application. They were also separated in 3 groups of 3 to 4 each and were asked to create an activity that would take place in Mytilene city's center. The meeting point of the second day was the starting point of each of the activities. Each team conducted one of the activities that their fellow teachers had created during the first day of the training program. After completing the activity all teachers were gathered indoors were the evaluation of the system as well as the training program took place. At the end of the day, they were also asked to fill a questionnaire evaluating both the web and the mobile application as well as writing down their suggestions.

All participating teachers were experienced PC and smartphone users. Most of the participants (55.5%) reported that they have participated in a treasure hunting activity in the past although not using a smartphone. Both web and mobile applications were highly rated (Figures 6 and 7) and all teachers were willing to adopt the system in their teaching. Moreover, all of them believed that their students would respond positively in the implementation of such a teaching method. Responding to whether they believe that the application can benefit the educational process on a scale of 1 to 5, the application averaged 4.33/5.

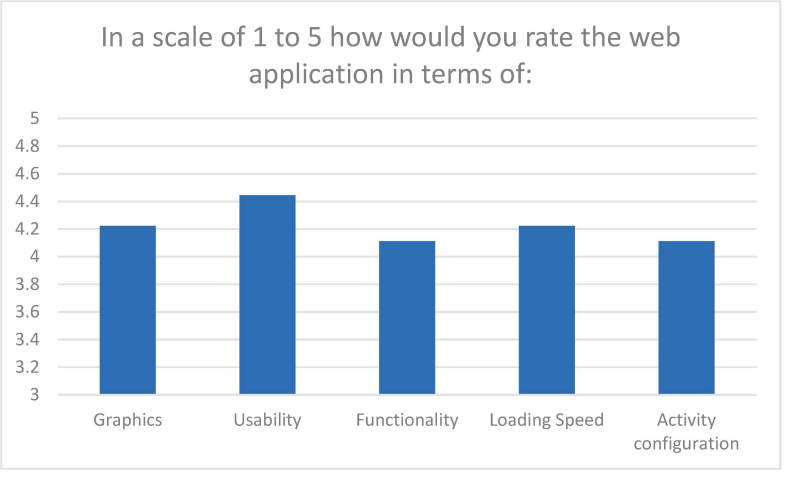

Figure 6. Teachers' evaluation of the web application.

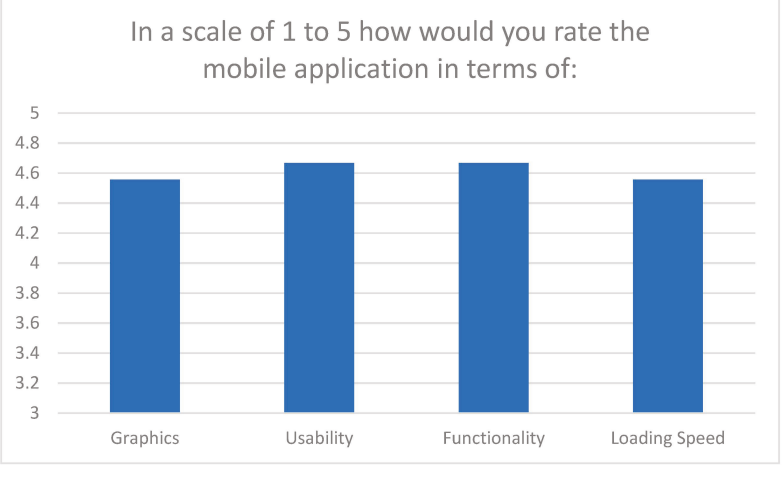

Figure 7. Teachers' evaluation of the mobile application.

Based on the teachers' remarks the following suggestions were adopted:

Web application:

1. The location of the points should be selected on a map.
2. Open ended questions should also be supported.
3. Teachers should be able to copy an activity they have created and just change the order of the points.

Mobile application:

1. The information window should not only contain text, but also photos, videos, and sound recordings.
2. Help button should not be easily used. A confirmation window should also appear.

2.5. Case Studies

After improving the system based on the feedback we received during the case study and the teacher training program presented above, we conducted four more activities (Table 1) with a total of 70 students participating. Each one differed in terms of location, participating students, subject, and objective, although the way the activities were planned and executed was similar. The students were separated in groups of 3 to 5 and were accompanied by a teacher during the activity. After each activity was finished, all students filled a questionnaire, containing questions about the learning subject. Furthermore, data about the mobile application and the experience of treasure hunting using a smartphone were collected. All smartphone devices that were used during the activities were identical, and they, as well as internet connectivity, were provided by the researchers in order to exclude digital exclusion phenomena. Also, during each activity, researchers made sure that every student on each group would hold the device, and actively participate in the process.

Table 1. Case studies.

Case Study	Participants	Number of Participants	Participants' Age	Location	Learning Subject
1	1st junior high school students	27	12–15	Surroundings of the University of the Aegean campus	Analysis and Perception of the landscape
2	University of the Aegean Geography students	25	18–21	Surroundings of the University of the Aegean campus	Analysis and Perception of the landscape
3	Mantamados junior high school students	18	12–15	Mantamados village	The village's history
4	Dyslexic junior high school students	12	12–15	Mytilene city centre	Practising orientation skills visiting the city's monuments

2.5.1. Case Study no1—First Junior High School

The case study was conducted in the surroundings of the University of the Aegean campus. The 27 participating students aged 12–15 years old, were separated in groups of 4 to 5, and were asked to visit 7 destination points during the activity. The total distance they covered was approximately 2 km. The activity's learning subject was "Analysis and Perception of the Landscape".

Our objective was to study the children's reactions and behavior during the activity and to evaluate whether the distance of 2 km was too small or too big.

2.5.2. Case Study no2—University of the Aegean Geography Students

This case study was conducted within 2 weeks of the first Junior High School one. The learning subject, destination points, questions and location were exactly the same, in order to record the differences in students' overall reactions and behavior.

Furthermore, the main objective of this case study was to identify whether the activity could benefit the students educationally [36].

2.5.3. Case Study no3—Mantamados Junior High School Students

Mantamados is a small village located in the northern part of Lesvos island, Greece, and its population is 3210 people. After studying an old book about the history of the village, full of old localities and stories, we created an activity that would help local students learn more about their village's history.

This case study's objective, other than monitoring the students' reactions, was to evaluate whether the students would cooperate with the other team members in order to reach each destination. The nature of the activity was ideal to study the social interaction of the groups, as not all but surely

not every student would know which coffee shop was the oldest building of the village, or where the 30s police station was located.

2.5.4. Case Study no4—Dyslexic Junior High School Students

Dyslexia, one of the most distinctive learning difficulties, has been proved to cause topographic disorders as well as orientation problems [37]. In order to examine whether the RouteQuizer application could benefits dyslexic students to orientate their selves, we conducted an activity with 12 dyslexic students participating [38]. The research was conducted in Mytilene city center on Lesvos island, Greece, in January 2020. Before the two teams started, they were instructed about the use of the application. There was a 15-min delay between the two teams as the routes they had to follow where the same (in order to collect comparable data). Each team was accompanied by two of the researchers.

The in-app questions that the students had to answer required good understanding of the four points of the horizon, the capability to estimate distances covered and route to be followed.

3. Results

The four case studies we conducted (Table 1), provided us with valuable feedback not only about the perceptions of the students towards field trips using smartphones, and the RouteQuizer app's performance but also with specific findings from each. By collecting questionnaires after each activity and closely observing every team that participated in those activities, we managed to answer all four research questions.

Regarding research question 1, the answer derived from the student's responses in the questionnaire as well as the observation process.

Two of the common questions that were asked in all four case studies were:

1. How much did you enjoy the treasure hunt experience?
2. Would you like to repeat such an activity in the future?

Most of the students reported that they enjoyed the treasure hunt experience (45.6% of the students reported they enjoyed the treasure hunt experience a lot, 49.1% fairly, and 5.3% a little) and 57.9% would like to participate in a similar activity in the future a lot and 33.3% fairly.

As far as the mobile application is concerned, the students were asked to rate it in a scale of 1 to 10 in terms of functionality, usability, loading speed and content (Figure 8). Furthermore, most students reported that the application helped them in answering the learning subject related questions (32.75% a lot, 56.9% fairly).

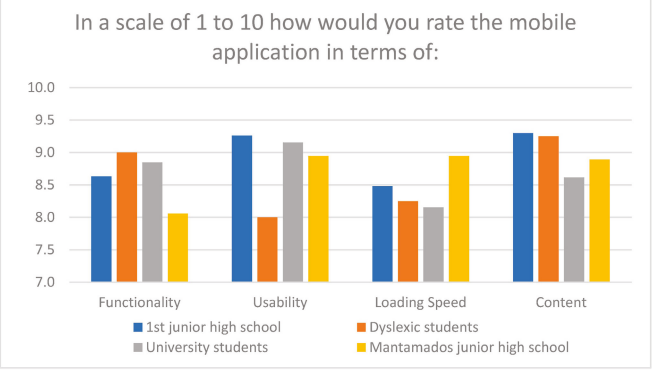

Figure 8. Students' evaluation of the mobile application.

Also, all 4 case studies followed a similar pattern in the way they were conducted. Groups consisted with less than 6 students, and each group was accompanied by either one or two researchers. Every researcher's observation was recorded and compared. The main characteristics of all four case studies were the following:

- Winning was important [39].
- Competitiveness levels were high [40].
- Collaboration within the members of each team always occurred.
- Students had a great time [41].

Case study no2 contributed to answering both research questions 2 and 4. During the case study, the students were divided into two groups: half of them participated in the field exercises without using the application but accompanied by the course professor who was also lecturing during the activity. The second group used the RouteQuizer mobile app exclusively, without supervising or instructing by the professor, relying solely to the information provided from the app. After grading and rating the students' answers, the first group of students that did not use the system's application managed a 56.25% score, while the second group scored 76.92% [36]. Based on our observation we justified that 20.67% difference in three main reasons:

- Not all students of the first group were paying attention,
- The application encouraged collaborative learning
- No questions were left unanswered while using the mobile application.

Regarding the students' social and physical skills (research question 3), case studies no 3 and no4 provided crucial findings. The "Mantamados" case study (no3) proved to be the most physically demanding one, as the village is densely structured something that lead students to many deadlocks. Most of the students were not familiar with any of the toponyms they were asked to visit which led to extensive collaboration within the members of the groups. Furthermore, when extra help was needed, 3 of the 4 groups asked elder people passing by for directions, which although most of the times were not very helpful, lead to the students hearing even more stories from the past. All members of the 4 groups were continuously active, and their dedication to complete the tasks impressive.

During case study no4 all four researchers reported that the students had significant difficulties in distinguishing the four points of the horizon [42,43], even though a compass was built in the application's map. After failing to answer the first couple of questions, and better realizing their location and movements on the map, students performed better at the last set of questions [36]. Another interesting finding occurred when during the activity the teams met. Instead of decreasing the interest levels (as one team would simply follow the other one in order to reach the next station) the competition went up sharply, and even the shyer children seemed to be more interested in the activity as well as the evaluation of their performance.

4. Discussion

During the development and evaluation process of the system we managed to provide answers to our research objectives by conducting four different activities while also collecting valuable data from Greek teachers.

It was clear during the research that the use of smartphones is a pleasant experience for students. The questionnaires suggest that 45.6% of the students reported they enjoyed the treasure hunt experience a lot, 49.1% fairly, and just 5.3% a little. Furthermore 57.9% would like to participate in a similar activity in the future a lot and 33.3% fairly. The same finding can also be found in [39–41].

During case study no 2, we compared the performance of students using the smartphone app with those participating in a traditional outdoor activity. The better outcomes of the first group can easily be explained when observing both groups during the activity but can also be explained when considering the size of the participating groups. The 12 students that were not using the application had to follow

the tutor and pay attention to what he said. Although 12 students are not a big group, it is much more difficult to keep all students committed to the lecture while being on the field. Alternatively, the much smaller groups of 4 students were much easier to keep interested, as they had to cooperate in order to proceed and answer the questions correctly. The smartphone in this occasion not only did not distract the students, but it was the factor that kept them focused throughout the activity [14].

Regarding social and physical skill development using the system's application, we confirmed all social and physical skill presented by Taylor [3] and Palmárová & Lovászová [44]. In all case studies, not only those with student participants, but also the three activities conducted by secondary education teachers, the collaboration levels among team members were very high. Prior to answering each question, a small meeting between the members of each group was held, and students were sharing their views and opinions, before picking their answer [36]. An example of the increased levels of collaboration and communication can be viewed in case study no 3, during which the members of three of the teams not only collaborated with each other, but also with passing by people in order to get directions.

As far as physical skills are concerned, many of the activities although not too demanding required at least 2 hours of walking time. Also, the orientation related skills of all students that participated were clearly developed as they were getting closer to the last destination point [45]. The above finding became more apparent during the case study no 4, during which dyslexic student were greatly benefited by the map, compass, and information that the application supplied, confirming that also dyslexic students can greatly be benefited by ICT in terms of geospatial abilities [46].

During case study no 2 it was demonstrated that the mobile application can improve student outcomes and help effectively in achieving the educational goals [36]. Although the sample of the case study is small, which is a limitation that does not enable us to generalize the finding, it is consistent with the theoretical framework [47,48].

A product that is intended to be used by young people, and especially when it concerns their education must come with instructions that will ensure the best possible use of the product. In our case, taking into account that not all teachers are familiar with how to organize a mobile treasure hunt activity, we attempt to accompany our system with some recommendations, in order to overcome as many mobile learning challenges as possible while also taking advantage of all mobile learning and treasure hunt game benefits without of course depriving from teachers the right to use the system as they eventually decide.

- Students should work in groups.
  That way students develop their social skills (sense of togetherness, socialization, development of the cohesion and the collaboration of the group, encouragement of communication). At the same time, the number of devices needed is significantly decrease, resulting to a huge cost saving in case the devices are provided by the school.
- Schools should provide the devices to be used.
  The cost of a "low-end" android smartphone ranges from 50USD to 100USD a cost that would not significantly affect the yearly budget of an education institute/school. The students will not be required to either own an android smartphone or bring their device to school, something that possibly could also be banned in many schools. In addition, the students will be using the device only for as long as the activity lasts and will all be using the same device type encouraging equality and avoiding digital exclusion.
- Smartphone devices should be "locked".
  In the occasion the school provides the mobile devices we suggest all other applications and features of the device to be locked, meaning that the only application accessible to students will be RouteQuizer. This ensures that students will not get distracted by other applications installed in the device such as camera, web browser, etc. Technically, this can be easily achieved by using one of many free applications available on Google Play that enable users to hide all applications installed in a device.

- Teachers must ensure the activity is conducted safely.
  Although RouteQuizer provides all possible functions to prevent students from getting lost, it is the teacher's sole responsibility to ensure the safe conduct of the activity. We recommend that activities should take place in a controlled environment, especially in the occasion the students are children.

5. Conclusions

RouteQuizer's developing process differs from other systems because of its testers. Greek teachers and students become part of the developing team by frequently testing and evaluating the system, to create an as beneficial as possible mobile learning system ready to be inducted in the teaching process. In its present form, RouteQuizer is fully operational and has reached every technical and educational milestone we had set at the beginning of the project.

From a technical aspect the android application is supported by all Android operating system versions (Android 2.1 to Android 10.0), and is executable in all Android smartphone models, regardless of their manufacturer, screen size, resolution, and computational power. To achieve that many tests and optimizations where needed such as creating all graphics in different resolutions. The application also takes advantage of every new feature that a smartphone can offer to education. Portability, connectivity, and pleasant user experience are features that not only characterize smartphones but also the RouteQuizer application. In addition to the apparent portability, connectivity is one of the main characteristics of the application, as it communicates in real time with the database without requiring any special action from the user. The pleasant feeling that smartphone users enjoy is still existent, as the lack of menus, settings, advertisements and any other annoying elements are absent while at the same time every interaction between the application and the users is simple.

In terms of educational benefits, the system complies with all standards set by UNESCO and EU while offering all mobile learning and treasure hunt games' benefits. It enables students and teachers with no previous smartphone and web application experience, respectively, to use it because of the simple design both the android and the web application provide. The way the application handles each destination point, loading one point at the time, and providing information as well as the distance to be covered, not only adds a certain degree of difficulty but also makes the hunt more entertaining and interesting for the students. The system's capability to inform teachers about the students' answers on every point is a unique feature that we did not meet to any other similar application that we tested, and we believe it can be very handful to teachers that do not only use the system for its entertaining features but also for the educational benefits it provides.

RouteQuizer's purpose is to encourage teachers adopt mobile learning in their teaching and benefit students in every possible way. That is the reason why it is accompanied by propositions that will make RouteQuizer more effective on pursuing its purpose.

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Communication

The Case for Evidence-Based Outdoor Recreation Interventions for Girls: Helping Girls "Find Their Voice" in the Outdoors

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Abstract: Females' participation in outdoor recreation is often limited for a variety of reasons including social gender norms, a lack of exposure, and fear. Research has uncovered a wide range of positive outcomes for those females who do participate ranging from enhanced self-esteem and confidence to improved body image, indicating the importance of opening the outdoors as a welcoming place for all to experience. Finding Your Voice is a recreation intervention created with the focus of introducing middle school girls to outdoor recreation to increase the participants' self-efficacy and self-empowerment. Empirical research focusing on participant experiences has demonstrated promising results and the best practices from Finding Your Voice and the broader research on female empowerment in the outdoors are presented.

Keywords: outdoor recreation; female empowerment; single-gender; adolescent programming; adolescent girls; outdoor camp; girls' camp; youth development

1. Introduction

Research has consistently indicated that females are more likely than males to avoid or be deterred from participating in outdoor recreation because of gender-normative expectations, a lack of exposure, a lack of role models, and fear [1,2]. The outdoors has traditionally been viewed as the domain of males where females are out-of-place and unwelcome [1–3]. Gender normative socialization (e.g., "Little Red Riding Hood") teaches girls that the outdoors is a scary place they should avoid and engenders the sense that girls should be fearful while in this setting. This fear includes physical and psychological safety and is amplified by the reality that outdoor recreation normally occurs in secluded areas far from other people and potentially help if an accident, injury, or negative interaction should occur. Due to the potentially secluded nature of the outdoors, females tend to fear physically violent/harassing behaviors, crime, and the potential for accidents, injuries, or simply getting lost [4–7]. Additionally, outdoor recreation pursuits tend to have a higher perceived level of risk associated with them than other recreation activities. Research points to the socialization girls receive that leaves them more highly risk-averse than males which present an additional constraint for females to outdoor recreation [8,9].

While females tend to face more constraints than males in pursuing outdoor recreation, research has consistently concluded that when females participate in outdoor recreation, they experience a range of benefits. Those who pursue outdoor recreation demonstrate higher levels of self-esteem, self-trust, self-worth, assertiveness, self-sufficiency, independence, confidence, empowerment, and body image as well as a greater sense of community and stress relief through interaction with the natural

environment [3,10–12]. The benefits outdoor recreation participation can offer to females paints a clear picture of the importance of not only exposing girls to the outdoors but in helping them build the skills to experience sustained participation in outdoor recreation. Finding Your Voice (FYV) is an intervention for pre-adolescent girls intentionally designed to achieve this goal.

The Intervention

First developed in 2006, FYV is a weekend residential camp program based in Clemson, South Carolina aimed at introducing middle school girls to outdoor adventure recreation with target outcomes including increasing participants' self-efficacy and self-empowerment. In the initial planning stages of the camp, activist Maggie Kuhn's famous quote " . . . Speak your mind- even if your voice shakes. When you least expect it, someone may actually listen to what you have to say," [13] struck the co-creators of the camp (Clemson University faculty and graduate students) as encapsulating the soul of what the camp was aimed at achieving. Thus, the camp was named Finding Your Voice to evoke a sense of empowerment and personal confidence that is central to the goals of the intervention and plays on Kuhn's powerful sentiment. In its first iteration, the participants were exposed to a range of activities including rock climbing, backpacking, yoga, rugby, and field hockey. In addition, campers participated in educational sessions on topics including nutrition, body image, self-esteem, college life, and STEM careers. FYV was created based on the theoretical framework of self-efficacy theory (i.e., Bandura's Self-Efficacy Theory) which drove the creation of program details [14].

Self-efficacy, or one's belief in their competency at a task, is grounded in the expectations one has for how well they will perform that task. Based on Bandura's work, there are four main sources through which individuals build these efficacy expectations: performance accomplishments (successful experiences), vicarious experience (observing others similar to oneself succeed), verbal persuasion (being told one can succeed), and emotional/physiological arousal (emotional/physiological responses in a given situation that provide either positive or negative feedback to an individual) [14]. The theory also details that an individual's efficacy expectations are a "major determinant" of how much effort they are willing to put into the task, and how well they will persevere in that task [14]. Empirical research has demonstrated the effectiveness of interventions aimed at enhancing self-efficacy in physical activity [15,16] including long and short-term programs [17–20] aimed at females [20,21] and youth [22–24], and those focused on actual behavioral change [25].

Because of its roots in self-efficacy theory, FYV was intentionally crafted to maximize the opportunity for participants to enhance their self-efficacy. First, all of the counselors, as many of the instructors as possible, and all of the campers are females of a similar age for their respective groups. This provides models for the participants to view interacting in the camp environment and the various activities positively and successfully, thereby allowing them to see others, similar to themselves, succeeding. In addition, the activities are focused on basic, entry-level skills to heighten the opportunity for the campers to be successful in trying an activity, many for the first time. Further, the counselors are trained prior to each camp on the basic tenets of self-efficacy theory to ensure they understand the importance of encouraging participants to view the success of others, of providing realistic positive verbal feedback, of working with each participant to help them succeed in each activity (e.g., providing positive reinforcement and helpful instructions during the activity), and to properly handle discussions around the anxiety, stress, or fear campers might feel prior to or during activities.

FYV has not remained static, however. Over time, new research, theory, and a continued goal of focusing the camp on its central focus—outdoor adventure recreation—has resulted in a wide range of changes to the program. Based on more current research on female participation in outdoor adventure recreation, the program was tweaked in recognition of these new insights. First, a continued focus was placed on developing resiliency skills in the campers (enhanced self-efficacy, self-esteem, self-empowerment) with a heightened understanding of how important this factor can be in successful outdoor recreation participation [26]. In addition, more emphasis was placed on inserting the camp into the natural environment after research identified how important this connection to the outdoors

can be in overcoming constraints over time in outdoor recreation [27]. This included the transition of all activities to an outdoor facility and away from on-campus facilities, a schedule change to ensure that all campers would participate in kayaking, backpacking, and rock climbing—activities central to the outdoor recreation focus of the camp, and at least one meal prepared and eaten outdoors. In addition, a female athlete who has reached a high level of success in outdoor recreation is integrated into the camp (e.g., a keynote speaker, highlight videos, interviews) as research has indicated the importance of connecting young participants to mentors and exposing them to skilled female athletes [26]. Through its evolution, FYV has stayed focused on its original goal of introducing the outdoors as a welcoming place that has served 250+ adolescent girl campers over 7 years.

2. Materials and Methods

Data from the FYV camp has been collected for a total of eight, nonconsecutive years (once in 2006 and from 2013–2019). The original camp in 2006 was run as a pilot camp and started again in 2013 due to personnel and funding support. In two instances, 2006 and 2013, a survey, based on a task-specific self-efficacy measurement focused on physical activity self-efficacy, a key theoretical basis for the camp itself [28] was given to the participants. Questions included related to support seeking (e.g., parental/adult support), barriers to participation (e.g., how likely participants felt they would be able to overcome constraints to participate in physical activity), and positive alternatives (e.g., how likely participants felt they were to choose physical activity over non-physically active activities). Adolescent girls between the ages of 9–13 who participated in FYV ($N = 75$) on these two instances completed a pre- and post-test survey on the first and last day of camp. Additionally, each year, participants engaged in focus groups concentrated on the key theoretical elements of camp (e.g., constraints to participation, social support, constraint negotiation, etc.) on the last day of camp. For the quantitative measure, paired sample t-tests were conducted to assess changes in self-efficacy with a p-value of <0.05 indicating significance. The focus group data were analyzed using open axial coding. This research was approved by the authors' Institutional Review Board and both parental consent and child assent were received.

3. Results

This research conducted on FYV has consistently supported the positive benefits related to participation in the camp. Results of the quantitative evaluation has indicated a statistically significant increase in the participants' physical activity self-efficacy (e.g., $t = 3.912$, $df = 39$, $p < 0.001$; $t = -4.225$, $df = 34$, $p < 0.001$) from pre- to post-program. Additionally, qualitative findings have uncovered themes related to various elements of the camps' design including related to confidence-building ("[After doing the activities] I felt like I could do anything. And I felt strong and powerful."), and an appreciation for the camp environment ("I felt better about myself here because there was no one that was going to be mean, like we were all gonna be accepted.") including the all-female experience ("[If boys were here], you feel pressure that you'd have to get to the top of the rock wall . . . because they can. The people that belayed, they said you don't have to get all the way up, you can just try [your best]."). Another theme that has consistently arisen in focus groups relates to the resiliency skills the campers report building:

> Going on the rock wall, I sort of fell and shifted and stuff so that was scary but it really wasn't that bad. And then kayaking I was sort of scared when I was flipping over that I would get stuck or hit in the head, but it wasn't that bad and it was actually kind of fun to flip over. And then backpacking, you would think being in the woods would be scary like maybe a bear or snake or something, but it was really fun.

Closely related to this is the way campers' perspectives change as they think towards the future and participating in similar activities again: "Now if we do these activities again like sometime during our life, I would step up and be the first person to do it rather than being the last or middle person like today." These findings, while limited by geographical location and the particular participants who

have participated in FYV and the data collection, are encouraging and point towards the importance of continuing to offer interventions to girls to enhance their exposure to the outdoors and, hopefully, their perception of that space as welcoming to all.

4. Discussion

4.1. Expanding Outdoor Interventions

While the FYV model has been presented here, it is not the only option for introducing girls to outdoor recreation. With the goal of broadening the view of the outdoors as an environment open to females, the focus should simply be on implementing more intentionally designed, evidence-based female-focused interventions. Four areas that deserve intentionality in the design are the structure and focus of the intervention, relationship building, and ongoing evaluation.

4.2. Structure

First, the basic structure of the program should be designed in a way to best support the female participants' comfort and goal achievement. One major consideration that should be made is the gender makeup of the participants and support staff. There is a wide range of evidence that suggests that all-female environments may best deconstruct the traditional gender roles and gender typing inherent in outdoor recreation. A single-gender environment can help participants to feel more relaxed and be free of gender stereotypes when taking on these new activities in a potentially uncomfortable environment [29–31]. A single-gender environment can also eliminate the possibility that the girls take on more traditional, submissive roles when in the activities (e.g., allowing a male to take the "control" position at the stern of a canoe) [3]. This all-female structure may allow girls to experience their own success as opposed to comparing it with male participants who are (perceived to be) more skilled and experienced. Additionally, a single-gender environment may allow participants to more easily move away from a context where one's body is seen as an "object" for others to observe [32]. Thus, the general concern of trying to impress boys in the group is removed and, as Mitten [29] concluded, females are more likely to feel unconditionally supported and accepted in all-female environments [30,31].

Additionally, research indicates all-girls programs tend to reduce competition, enhance levels of participation, and allow girls to focus on their own growth [30]. The addition of an all-female staff provides an additional layer of support for the self-efficacy and confidence of the girls in even attempting new activities. The provision of role models who are "like" the participants gives them an extra layer of messaging to support their ability to succeed [14]. It is important to note that creating a single-gender environment has its own drawbacks that must also be addressed through the design of the program. First, Whittington et al. noted the importance of creating an inclusive environment to avoid the formation of cliques and/or divisions in the group as well as creating an intentionally supportive environment [30]. Some of these design elements (including the importance of relationship building) will be discussed further. Eagleman also found that the hyper-femininity (e.g., emphasis on pink, frilly, and other stereotypically feminine markers) sometimes present in single-gender activities can be viewed negatively [33]. Thus, removing (or never implementing) these stereotypical images or design elements is important to consider. Research has also indicated that single-gender environments are not always the most appropriate or necessary makeup for creating positive experiences in outdoor recreation [26,34]. For instance, while an all-female environment may be helpful in early experiences in outdoor recreation, sustained participation in the outdoors will require mixed-gender environments [26]. Similarly, not all outdoor recreation environments are created equally, so when the need for competition or cooperation between participants is minimal, gender differences are less salient [34]. However, these findings related to the specific environments of competition climbing and the experiences of highly skilled female mountain guides. As such, even with this research in mind, for the purposes of "introducing" girls to the outdoors, the single-gender environment as suggested here is, arguably, most conducive to creating positive outcomes for participant self-efficacy [29–32].

In addition to the general environment, inherent to the structure of the intervention must be an intentional skill or competency building focus. In the case of FYV, the main focus is on enhancing self-efficacy. As outlined in the program description, all of the basic program elements were designed around the research on how self-efficacy beliefs are built. While self-efficacy does not have to be the focus of your intervention, whatever competency you choose to focus on must be built into all facets of your program to create an environment conducive to addressing your desired outcomes. This should include, but not be limited to, the physical environment, the make-up of staff (e.g., highly skilled vs. novice), activities offered (including the level of difficulty/challenge), feedback mechanisms (e.g., how staff are trained to respond to/support participants), opportunities for participant reflection (e.g., journaling, group discussions), and your own evaluation of the program's outcomes.

4.3. Focus

Beyond the structure of the intervention, the focus of the intervention should be honed in on a deliberate emphasis on key aspects of outdoor recreation and the related skills research has indicated as necessary for success in the outdoors. First, previous research indicates that a passion for the outdoors is a key component of overcoming the constraints typical to females' experiences [27]. This indicates that in addition to introducing girls to the skills needed, immersing them in the outdoors is important in allowing them to connect with the environment as a component of that experience. Integrating the outdoors can be as simple as offering outdoor vs. indoor rock climbing or conducting a backpacking course in the woods rather than an urban greenspace. Additional immersion could be built-in during meals, the location of reflection activities, or the location of supporting lessons (i.e., those not related directly to outdoor skills such as resiliency-building, self-esteem, etc.). Finally, connecting your participants with resources for continued participation in the activities can be critical to their long-term, sustained involvement. Resource binders with an overview of the skills they learned at camp, listings of local providers, maps of local trail systems, or listings of other upcoming outdoor recreation opportunities can provide a roadmap for continued involvement in this early confidence-building stage of participation.

Beyond the acute focus on the outdoors and outdoor recreation, providing a broader foundation focused on the deconstruction of gender norms as well as building resiliency skills will help support the goal of breaking down barriers to outdoor recreation participation [26,30]. The FYV model includes a range of educational sessions that changes from year-to-year but always focus on the broader goal of challenging normative gender roles and arming the participants with the skills needed to be self-sufficient and confident when faced with the inevitable challenges present not only in outdoor recreation but in pursuit of any of their goals.

4.4. Relationship Building

A bevy of research also indicates how critical it is that relationship building is at the core of interventions created to empower females in the outdoors. First, be sure to include female role models in the activities you are introducing. While staff will certainly fill this role to an extent, it can also be empowering to expose girls to females participating at the highest levels in the activities they are learning. Providing role models will help to cultivate the perspective of the outdoors as a welcoming place for females while simultaneously demonstrating the ability for women to not only participate, but thrive and excel [2,26,35]. These role models could be introduced in the form of guest speakers or visitors to the program, but could also be introduced through highlight videos.

In addition to role models, the literature points to the importance of having connections with other participants in cultivating sustained involvement in the outdoors [26,31]. One programmatic aspect that can help to address this point is simply creating a culture and opportunities within the program focused on building relationships and connections between participants. Not only does this create a more open and welcoming atmosphere during the program and work to prevent some of the pitfalls to single-gender programs [30], but it has the potential to create longer term relationships

participants can rely on for continued participation. Next, one-off interventions can certainly be helpful, but providing longer term mentorship and support opportunities can be key in helping females navigate longer-term participation [26]. Thus, building in continued, ongoing meetings, communication, or activities involving the girls and camp staff can help to cultivate this critical social support. This could come in the form of quarterly meetings, monthly activities, or even a social media group dedicated to keeping the community connected. Finally, and closely related to these relationship supports, is to build collaboration and connection between the program and providers of outdoor recreation in the region the intervention is offered. Expanding the connection females feel beyond just those they participated with or just a single organization that initially offered the intervention continues to expand the network participants can rely on to support their ongoing pursuit of outdoor recreation.

4.5. Evaluation

A final and critical aspect of creating and implementing these interventions is the need for evaluation, both formative and summative. During the intervention itself, closely monitoring the program can allow you to quickly remedy any issues that are arising that could be detrimental to the experience of the girls (e.g., the formation of cliques or divisions, adjusting challenge levels). After the intervention, conduct a formal evaluation to assess how well you achieved the stated goals of the experience (e.g., increased self-efficacy, self-esteem). Understanding what the participants actually experienced compared with what the intervention was designed for them to experience can provide critical information on further refining the program. Conducting these formal assessments via both quantitative and qualitative means will allow for a simultaneous assessment of particular constructs (e.g., self-efficacy) as well as a deeper dive into the participants' experiences. It is also important to conduct a summative assessment with the staff involved in the intervention to provide a broader view of the program and its successes and shortcomings. In addition to an evaluation of the intervention, research continues to move our understanding of females' experiences in the outdoors forward and sheds light on new details and nuances that had not been considered before. Thus, in addition to intervention-specific evaluation and improvements, staying aware of new research and best practices and allowing for the evolution of programs based on each will allow for the greatest chance of success in meeting both the participants' needs and the stated program outcomes. Most importantly, these programs, grounded in recreation, must rely on key components of what recreation should be (e.g., freedom, autonomy, intrinsic motivation). To fully benefit the participants, these programs must be embedded in a leisure ethos, ripe with opportunities for autonomy and freedom for the participants, and, maybe most critically, should be fun.

5. Conclusions

With the current physical and emotional state of adolescent girls, adolescent girls must be introduced to ways to improve their health, including outdoor programming. Drawing on research conducted on one such intervention as well as the larger body of research focused on providing greater access to the outdoors for girls, this paper highlights the importance of including outdoor activities and socio-emotional learning as part of programming for adolescent girls. Future research should focus on ways to continue to support program participants after program completion, including the use of continued education and communication via social media, involving past participants as junior camp counselors, and promoting opportunities for future group gatherings.

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education sciences

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Article

Gateway to Outdoors: Partnership and Programming of Outdoor Education Centers in Urban Areas

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Abstract: The purpose of the study is to understand the challenges and opportunities of urban outdoor education centers in partnership and programming. The context for this study involves efforts by all-season outdoor education centers, Outdoor Campus (OC), in two urban areas in South Dakota (SD). Outdoor education scope and social-ecological framework were applied to guide this qualitative study. Semi-structured interview questions were used to interview eight outdoor educators in 2019, including four individuals from each service location composed of three males and five female educators. Qualitative content analysis was applied to identify common themes and essential quotations that emerged from the data analyzed through the interviews. Three main themes emerged: (1) gateway to our outdoor legacy (2) working together for outdoor education, including three sub-themes: formal partnership, programmatic partnership, and finding balance in partnership, (3) challenges as opportunities in outdoor education programs, including two sub-themes: common challenges and evolving process.

Keywords: outdoor education; outdoor skills; partnership; outdoor programs; outdoor education in urban areas

1. Introduction

Outdoor recreation helps individuals of all ages gain physical activity, reduce stress, increase life satisfaction, and enhance interpersonal interaction [1–3]. Outdoor education is also used to increase public support of conservation endeavors and environmental literacy [4]. Both consumptive (e.g., fishing and hunting) and non-consumptive (e.g., hiking and kayaking) outdoor activities contribute to such conservation and restoration efforts through recreation-related spending, including equipment and license purchases. However, the declining outdoor recreation participation in the United States has been a concern for many agencies involved in managing public recreation areas [5]. The lack of diversity is also a concern in promoting outdoor recreation. Approximately 75% of white males participate in outdoor recreation, whereas females, younger generations, and ethnic minority groups showed a significantly lower rate of participation [6]. Therefore, it is essential to apply and implement proper and efficient programs and strategies to reach out to these groups, typically the most inactive outdoor recreation participants [7]. Outdoor education centers are used as gateways to engage with the public for promoting outdoor activities through educational efforts and outreach to serve people offering a wide range of interests and experiences in the outdoors. Especially in urban areas, outdoor education centers provide opportunities for recreational involvement and allow personal growth and learning in a unique setting [8] and allow individuals to connect and bond with their communities, with other individuals, and their environment through a variety of programs [9]. Considering a broader use of green infrastructure or ecosystem service in urban areas, outdoor education centers also could promote ecosystem health and human well-being in the community [10] and further the understanding between urban green space and public health within the context of environmental

justice [11]. However, due to the limited resources, many outdoor education centers and sustainable programs must rely on partnerships to leverage resources, such as facilities and equipment, staff, skills, and expertise, to accomplish shared goals [5].

South Dakota, from a cultural and historical perspective, provides a profound outdoor recreation opportunity for residents and visitors. It is especially famous for fishing and boating on the Missouri River and its reservoirs, and hunting culture and resources across the state. Although these activities are considered as outdoor recreation in the modern era, they were everyday-life, survival activities in the early days of South Dakotans [12]. Outdoor education is believed to be an essential effort to continue this outdoor legacy in South Dakota. However, some concerns have been raised about how outdoor heritage activities (e.g., fishing, hunting) might damage our natural environment and harm Indigenous' eco-social structure and communities [13], especially in a state, like SD with a high Native American population (9%) [14]. Such environmental conflicts and disparities of environmental health and justice of Native American communities have been on-going issues and unsolved problems in South Dakota [15]. However, it is worth noting that South Dakota residents in a current statewide study showed a strong awareness and recognition of needs with a desire to push for better protection, promotion, and enhancement of SD's heritage and Native American heritage about conservation efforts and outdoor recreation promotion [12]. A statewide education effort is an integral approach of the state wildlife management agency to provide sustainable outdoor recreational opportunities for the public [16]. With a growing population and decline in outdoor participation in urban areas, two all-season outdoor education centers were developed at the end of the 20th century for serving and promoting outdoor recreation in South Dakota urban areas for future generations.

The purpose of this study is to understand the challenges and opportunities of urban outdoor education centers in applying innovative programs to reach out to the public with a wide range of interests and experience in the outdoors and utilizing partnerships to create a social network in the community for enhancing the culture of outdoor recreation and environmental conservation. The context for this study involves efforts by all-season outdoor education centers of two urban areas in South Dakota (SD). Previous studies have identified partnership benefits and barriers to outdoor education. The current study builds on that knowledge by investigating how outdoor education centers act as a gateway entity serving as the center of building community support and networks for outdoor education, and promoting outdoor recreation in urban areas with a specific focus on partnerships and program innovations.

2. Literature Review

This qualitative study used two theoretical frameworks to feature the importance of programming and partnership of outdoor education centers in urban areas. The authors applied Higgins and Loynes' [17] outdoor education scope to explain the range of programs offered at the outdoor centers and to investigate the emphasis areas and changes of current programs. Additionally, the social–ecological framework was used to describe the dynamic relationship and partnership between the outdoor education centers and other related partners and to illustrate challenges and opportunities for outdoor recreation participation-related topics [18]. More specifically, partnership and program innovations were the two focus areas in the study for understanding how outdoor recreation centers leverage resources for serving the communities and how outdoor education-related programs lead to new directions for promoting the outdoors.

2.1. Education Programs in Outdoor Education Centers

Outdoor education centers around the nation play vital roles in interacting with and educating the public about outdoor knowledge, skills, and appreciation while supporting the overall vision and mission of their affiliated agencies and organizations. The study utilized the work of Higgins and Loynes particularly a conceptual model created to explain the scope of education programs provided in urban outdoor education centers [17]. Three main domains are incorporated in direct experience

of outdoor learning, including environmental education, outdoor activities, and personal and social development. Environmental education is commonly understood as the study of landscape, such as biology, geography, history, and culture. Outdoor activities incorporate skill acquisition related to those activities, such as kayaking, climbing, and fishing. Personal development in the model is used to promote qualities like self-esteem and self-awareness in people's lives, while social development is about interpersonal skills and working in groups. It is essential to focus on one or more areas and be sensitive to other opportunities that might guide such education experience within the complementary areas [17].

Special attention has been paid to school children and youth in outdoor education. Some short-term effects include increasing the comfort level in the outdoors, viewing humans as part of nature, and increasing preferences to visit parks and go outside rather than seeing a movie or playing video games indoors. Some long-term attitudes fade over time, but environmental knowledge, and environmental awareness remained [19]. Some studies focused on outdoor education at school settings in various learning opportunities, such as physical activity/education [20–23], science learning [21,24], environmental education [25], and a holistic learning experience [1,24]. Most importantly, outdoor education programs also teach children and youth beneficial life skills, such as communication, leadership, and problem-solving, that are transferable into other aspects of students' lives [26].

Other studies addressed the importance and impacts of outdoor education resources outside of school systems in the community available for broader audiences, including adults, children/youth, and family. Such services could be provided by local, state, and federal land management agencies [27], university extension/outreach offices [21], and private entities and organizations [28]. Among these service providers, public government agencies are commonly reviewed as the most promising entities serving multiple purposes for education, recreation, environmental protection, and health promotion to the public. A public outdoor education center in an urban area has been used as an informal approach to providing a place to learn and a process of experiential learning [29]. Green spaces (e.g., parks, greenways, open space, forests, gardens) are widely recognized as important contributors to health for residents in urban areas [10,30–32]. However, inequitable access to natural environments, especially in populated areas or urban communities, has been a significant concern of outdoor recreation professionals [8]. With a long history of budgetary limits and philosophical debates in public services for outdoor recreation, many outdoor education and recreation centers in the public sector have been facing critiques of appropriate services provided by governmental agencies and challenges related to charging or increasing fees for public outdoor education opportunities [33,34].

2.2. Social–Ecological Model and Partnership

The social–ecological framework was used to investigate the impact of public outdoor education centers in urban areas under a social and community context and understand how such outdoor education centers create a community support network through partnerships with other organizations in promoting outdoor recreation. This framework originated from Bronfenbrenner's ecological system model [35] to illustrate the interaction between individual and various social and environmental factors and how each level impacts individuals' development. In outdoor recreation specifically, Larson et al. [18] illustrated the interacting influence among different layers of social structure based on the scale of influence, including micro (e.g., individual, family), meso (e.g., interactional community), and macro (e.g., border society) levels (Figure 1). The social–ecological conceptual framework posits that individuals' outdoor recreation participation is influenced by higher-social order, environmental, and policy-related structures [18]. In the study, outdoor education centers in urban areas are reviewed as the epicenters for providing services to the public and working with diverse community groups and individuals at a meso level of social structure in the urban areas. These outdoor education centers also are the reflection of the state government's support, practice, and policies in promoting outdoors and overall state culture and atmosphere.

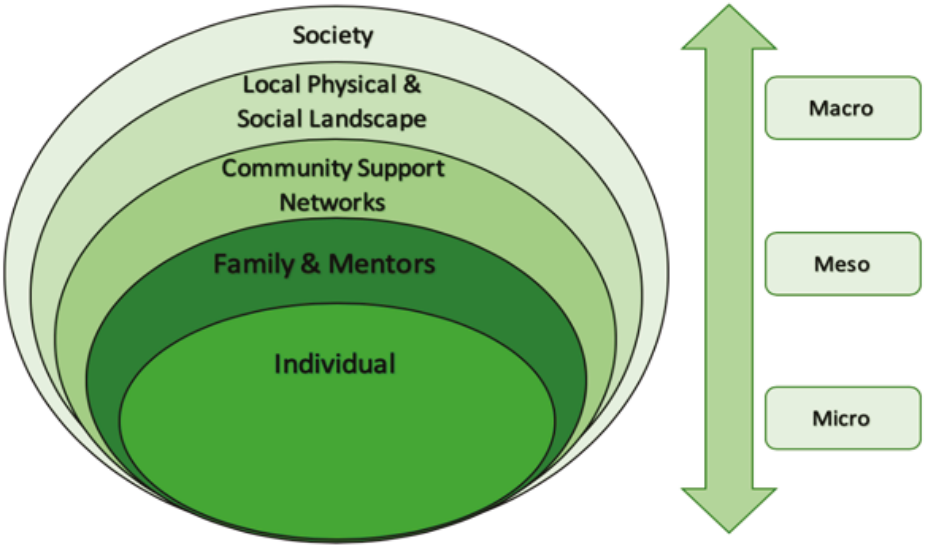

Figure 1. Nested levels of social structure for outdoor education (adapted from Larson et al. [18]).

Outdoor recreation and education heavily rely on effective partnerships to serve the urban population [5,36]. Partnerships allow organizations to accomplish their initiatives more quickly by dispersing responsibilities and resources among the participating parties [5]. Sharing responsibilities and resources is especially helpful for outdoor recreation agencies and services primarily in a financially challenging circumstance. Partnerships for governmental agencies at all levels in many cases are required or a precondition for public assistance or funding [37]. Many public outdoor education services, like an education or outreach division of a land management agency, mainly rely on partnerships to serve the public due to insufficient agency resources, personnel, and decreased budgets necessary to provide adequate educational and recreational opportunities to users [38]. Along with sharing resources, parks and recreation agencies benefit by showcasing their facilities and outdoor amenities to the community and participating agencies [39]. With increased exposure to outdoor recreation through community partnerships with parks and recreation agencies, community outdoor equipment retailers and outfitters are likely to see increased sales, and recreation nonprofits have higher membership and participation rates [5].

Many outdoor education centers have successfully partnered with other stakeholders to reach out to more participants and serve the community with a broader range of outdoor activities. Schools and youth-focused organizations are typically essential partners with outdoor education centers. Schools active in partnerships with outdoor organizations report many benefits. Many schools, especially in urban areas, cannot offer outdoor recreation programming without the assistance of community partners. Therefore, partnering with community businesses and organizations assists teachers by lessening the financial and teaching burdens associated with the outdoor recreation curriculum [23]. While partnerships present various advantages for participating organizations, they also come with a variety of challenges. Many of these challenges are the result of poorly defined leadership roles, unequal distribution of responsibilities, and a lack of enthusiasm from one or all parties [39]. While partnerships are typically beneficial for participating agencies, organizations often face difficulty in finding the time necessary to initiate and sustain partnerships [38]. A successful collaborative partnership requires higher-level managers to create time and space for staff to begin and engage with partners [40]. In organizations where partnerships are encouraged, management's desire and push to form partnerships may lead to "partnership fatigue" among the parties involved [39]. In recent years,

multiple states have created offices of Outdoor Recreation intending to form and sustain partnerships in the outdoor recreation sector [41]. The results indicated that personnel aims to partner with federal agencies to capitalize on mutually beneficial networks, support agency personnel, provide an ongoing collaborative framework to increase capacity in the long-term, and generate state-level support for decisions on federal lands [42].

3. Methods

A qualitative research approach was chosen for this study to provide an insightful understanding of the complexities of the roles and functions of outdoor recreation education centers, especially the partnership efforts within urban communities. In-depth semi-structured interviews were conducted with outdoor education providers from two service locations and various positions for exploring the similarities and uniqueness of partnerships and programs at each outdoor education center in urban communities. The study was approved by the South Dakota State University (SDSU) Institutional Review Board (IRB) to protect human subjects (IRB-1901019-EXM).

3.1. Study Location

Two Outdoor Campuses (OCs) in South Dakota were utilized as study sites in this investigation. These two OCs are located in the two most populous cities in South Dakota: Sioux Falls, with a population of approximately 178,000, and Rapid City with a population of 75,000 (Figure 2). The Wildlife Division of South Dakota Game, Fish, and Parks (SDGFP) oversees both campuses for promoting outdoor education and skill learning opportunities in close proximity to the urban areas in the state. The main goal of the OCs is to preserve outdoor opportunities in the state through partnerships and stewardship to connect the state residents and visitors to the great outdoors in South Dakota. Both campuses provide public physical areas and facilities for exploring outdoors supplemented with programs and outreach services for the surrounding communities and statewide to promote outdoor recreation skills (e.g., hunting, fishing, kayaking, etc.). They also offer conservation and stewardship toward the natural environment. All the services and programs at the campuses are provided at no direct cost to participants as the campuses are funded through the sale of hunting and fishing licenses in South Dakota and Pittman–Robertson/Dingell–Johnson funds. Classes at the facilities are led by a staff of full-time naturalists, seasonal interns, and over 150 volunteers.

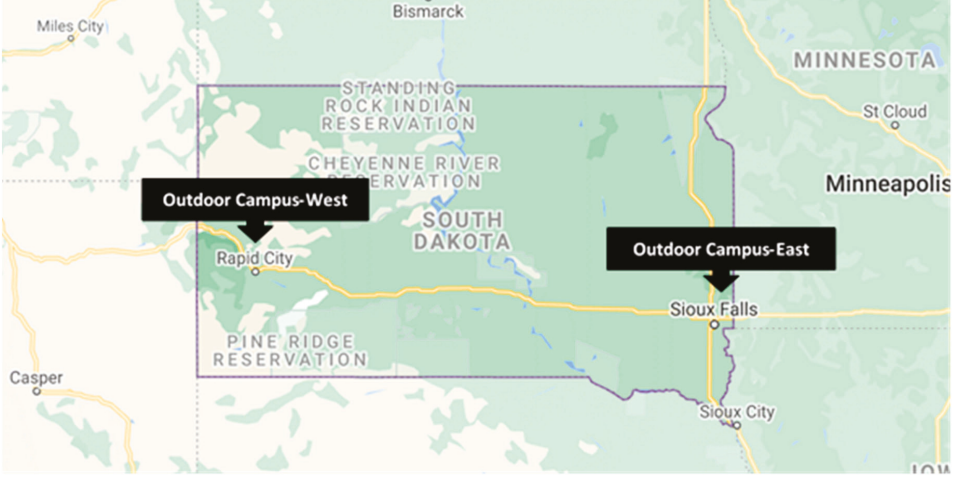

Figure 2. Map of outdoor campus locations in South.

In 2019, four main different categories of outdoor programs were offered at both OCs, including environmental education (e.g., wildlife and habitat, lifecycle), outdoor skills (e.g., backpacking, nature photography, outdoor cooking, survival skills), hunting (e.g., BB gun, archery, firearm safety), and fishing (e.g., ice fishing, fly fishing). More than 100 different programs are offered annually: Some are seasonal programs, and some are yearlong programs. All programs are free for youth, adults, and families through an on-site visit, community outreach, and school programs (from K-12). Approximately 40,000 individuals participated in the outdoor programs offered by OCs in 2019.

The Outdoor Campus-East (OC-E) in Sioux Falls, South Dakota, was opened in the summer of 1997. The east campus features over three miles of walking trails located adjacent to one of the city's largest parks, as well as the Sertoma Butterfly House. Fourteen years later, the desire to educate South Dakota's residents and visitors grew, so the Outdoor Campus-West (OC-W) in Rapid City, SD was built to service the west side of the state. The OC-W features an archery park, one-and-one-half miles of hiking trails, and various other amenities. The west campus is unique with its location in the Black Hills of SD. Many of Rapid City's residents are active in outdoor recreation activities in their daily life due to their proximity to state parks, national forests, hiking trails, mountain lakes, and camping areas. The OC-E in Sioux Falls, South, is centrally located within the state's largest city. With fewer traditional outdoor recreation areas in southeastern SD, the OC-E is able to introduce outdoor skills to a wide variety of individuals in the area.

3.2. Participants & Data Collection

We applied a purposeful sampling strategy to ensure the inclusion of staff and managers who can provide insightful information and knowledge on the topic. The inclusion criteria are (1) SDGFP employees on both west and east outdoor campus, (2) experience with community engagement and building partnerships to promote outdoor recreation through educational efforts in South Dakota, (3) willingness to voluntarily participate in the project. The original invitation was sent out using participants' email addresses obtained from the SDGFP website. Participation in the study was completely voluntary, and participants could cease involvement at any time. No risks or direct personal benefits were associated with participation in the study.

Seven face-to-face interview sessions were conducted with a total of eight outdoor educators from two service sites in the state of South Dakota. All interviews were conducted between February and May of 2019 in a conference room at the study sites, except for one interview with two interviewees was conducted at a university conference room due to the interviewees' travel schedules. Both settings provided a quiet and comfortable environment for a face-to-face interview. The first and second author conducted all interviews in person and audio recorded; each lasted between 50 to 80 min. Audio files were stored on secured electronic devices and then transcribed verbatim. There were four participants from each campus in the study, including three males and five females between the age of 35 to 64 with 5–25 years of outdoor recreation-related service experience. These eight interviewees were named from participant 1 (P1) to participant 8 (P8) to protect interviewees' identification and confidentiality.

3.3. Interview Structure

A semi-structured interview was used in the study, which allowed researchers to ask questions structured for consistency with clear guidelines reflecting the main purpose of the study while also offering the flexibility for research participants to talk about their experience and perspectives. There were three main sections in each interview: (1) participants' background information, such as their roles, responsibilities, and experience working at the campus, (2) various collaborative efforts with the community and partnerships through which they inform, create, and mention other organizations and agencies, and (3) changes, challenges, and opportunities of programs in promoting outdoor recreation to the public and with community partners. The interview questions were created based on Larson et al.'s social structure [18], derived from socio-ecological model for the outdoor recreation-related topic. This approach allowed educators to not only share their personal values, beliefs, and experiences in

outdoor education, but also to emphasize the role and scale of influence of their position and OCs within the community. Also, the authors utilized the socio-ecological model to ask follow-up questions to gain a more in-depth understanding of educators' interaction with the organization and community, their effort to create community networks within the local context, and their decision making process with consideration of organizational policies and environment.

3.4. Data Analysis

Qualitative content analysis was applied to identify common themes and essential quotations that emerged from the data analyzed through the interviews. After transcript verification from interviewees, all transcripts were imported into a qualitative computer analysis program (NVivo 12) to improve the data management, coding process, and analyses. The study employed an inductive analysis. First, both authors read and familiarized themselves with all transcribed interviews of eight educators. Next, the two authors began open coding all transcripts individually and identifying patterns from each interview. They also used their interview notes to assist their individual coding process since both authors were involved in data collection/interview. The authors then discussed the connection and linkages among the codes and the themes they identified. To ensure consistency of the coding process, the authors met on a weekly basis seeking to establish consensus regarding emerging themes and to identify similarities and differences from the data. When a significant difference occurred, existing literature and conceptual models were revisited for additional context and insight. Overall, the coding pattern and thematic identification revealed about 80% similarity between the two authors, while some discussion and clarification were needed for emerging concise themes and reaching consensus agreement of results.

4. Results

The results of the study revealed three main themes. The first theme, the *gateway to our outdoor legacy*, is more general in both partnership and programming. The second and third themes focused on partnership and programming, respectively.

4.1. Gateway to Our Outdoor Legacy

The first emerging theme from these interviews is the pride and commitment to the long-lasting outdoor legacy of the state. This theme is related to the macro-level factors in social-ecological model, such as social and cultural environment as well as political environment in South Dakota. All interviewees commented on the ability of the outdoor education centers and programs offered to cultivate outdoor culture and carry on South Dakota's outdoor legacy. They all understood the importance of outdoor education centers in South Dakota, famous for prolific resources and opportunities for outdoor recreation. They also recognized the uniqueness of the outdoor campus comparing to other outdoor education centers elsewhere. P5 and P8 further explained the essence of the outdoor campus to focus on outdoor skills education, such as hunting, fishing, and other outdoor-related skills, rather than environmental education as traditional outdoor education or nature centers. P8 stated: *"I don't think there are many places that balance environmental education with hunting and fishing recruitment, retention, and reactivation. . . . Most states that do outreach don't have campuses to do outreach with. That's something special about South Dakota."* However, some confusion might exist due to misconceptions of why a nature center (outdoor campuses) offers environmental education along with hunting and fishing instruction. An outdoor campus in South Dakota may not be a typical environmental education center in a different setting. However, in South Dakota, an outdoor skill education center focused on conserving the state's outdoor heritage reflects the values and ethics present in the population.

Moreover, most educators maintained broader influential factors, such as new leadership and priorities in the state government, considerably shifted the focus on what programs are priorities and what evaluation tools are effective to evaluate impacts of OCs on the agency's overall goals and

objectives. For example, fishing and hunting license sales are essential for the agency's operation sustainability; therefore, hunting and fishing-related programs have become priorities which result in reducing other relatively indirect-yet relevant—programs such as arts and crafts, book reading, etc. All educators agreed such change is understandable and beneficial for the agency in the long-term, although some found the change challenging at the personal level. Despite some personal value difference with the organizational priority, all educators recognized their role as public servants is to serve the community and fulfill the agency's mission to "optimize the quantity and quality of sustainable hunting, fishing, camping, trapping and other outdoor recreational opportunities." [43]. Most importantly, they believe that they played a vital role in continuing South Dakota's outdoor legacy in creating an environment with a variety of opportunities for learning about the outdoors and related skills. P7 further explained the recognition of OC and stated:

> "One of the benefits in working in an outdoor campus setting is that you have that recognizable footprint within the community and in the local area so the state, regional, national organizations that are trying to do similar things to what we're doing come to us."

Most interviewees emphasized that the centers provide outdoor campus opportunities for children and youth in the city to explore nature and enjoy the outdoors (e.g., outdoor play, nature playground) and to learn new skills and knowledge in a safe outdoor space (e.g., fishing, shooting bows and arrows); otherwise they have no or limited access to experience. P5 said, *"We're giving people maybe their first time to canoe, kayak, shoot a gun, or do archery. I think we're the one opportunity urban people have to discover outdoor recreation."* Moreover, all interviewees spoke about the effect on children and youth programs they have observed on participants and aiming for greater outdoor involvement and recreation participation. For example, P1 explained " . . . *teaching outdoor recreation, it influences those kids (participants) to go and influence other kids and the neighbor kids down the road."* These participants can share their new outdoor recreation knowledge with others in their lives and spread the culture of the OC.

All interviewees mentioned the impacts and connection of the outdoor education centers on the individuals and the community, which shows the meso level of influence of OCs within the community. First, the centers help people to build their confidence in the outdoors. Focusing on outdoor skill education, all the interviewees noted the unique outdoor recreation opportunities in SD and the ability to instill confidence in outdoor skills as a common outcome of program participation. Second, the outdoor centers served as a hub to help people new to the areas get to know the culture and environment of the community and the state. P7 expressed the rise in confidence among participants who are new to the area or unfamiliar with the outdoors: *"What do I need to do for going on a hike? It seems to be very basic to us, but people new to the area or have just never been outside, it builds a lot of confidence."* With increased confidence in outdoor skills, interviewees also note the creation of a sense of community. P1 and P4 both noted the ability to provide a safe outdoor space in the city as an important impact of the OC.

4.2. Working Together for Outdoor Education

4.2.1. Formal Partnership

Educator interviews revealed three categories of partnerships: local community partners, cross-jurisdiction, and interagency collaboration. Common local community partners consisted of school districts, parks and recreation departments, landowners, nonprofits, and sports outfitters. The Rapid City and Sioux Falls school districts work with their respective OC to contract a teacher to the campuses. The Sioux Falls school district hires a teacher to work full-time at the OC-E, while the Rapid City school district hires a full-time teacher for the OC-W who are responsible for teaching school curriculum for field trips in an outdoor education setting. These teachers are then responsible for planning and instructing outdoor education courses for the cities' schools while fulfilling curriculum needs for schools such as life sciences and social sciences (P2, P4, & P5).

The OC-E also has a formal partnership with the City of Sioux Falls Parks and Recreation Department. The east campus sits on about 100 acres of land within a Sioux Falls city park. The city

parks and recreation department manages the outdoor area while the OC-E manages the building. Within this partnership, the OC-E also assists with fishing, archery, and snowshoeing programs organized by the Sioux Falls Parks and Recreation Department. Besides partnerships with outside organizations, the campuses exhibit a high level of collaboration between two campuses. Regarding the campuses working together, one interviewee stated that *"there is rarely a day that goes by that we don't talk, text, or email one thing or another back and forth. We have a strong connection."* While OCs in two different locations may have different audiences, interviewees still see the need to keep in touch and work together to accomplish the goals of the agency.

4.2.2. Programmatic Partnership

For programmatic needs, interviewees indicated that nonprofits and landowners are essential to create new programs as well as reach audiences with similar goals (P4 & P6). Several nonprofits organizations were identified as programmatic partners, such as youth-focused groups, church/religious groups, and volunteers. In recent years, P1 and P7 also have turned to partner with landowners in order to fulfill their first-time hunters' program. The coordinators work with landowners with an abundance of specific wildlife populations. The program accomplishes wildlife management for landowners while instructing participants related to the sport of hunting. One interviewee explained the hunting program saying:

> "I takeout first-time youth and adult hunters, and I take them to the gun range where we shoot and get them comfortable with the gun, and then I actually take them on an actual hunt where they actually harvest and process a deer."

P1 commented that many private landowners enjoy being a part of a person's first hunt, especially youth hunters. After taking a group of hunters out one evening, one landowner told P6 how much he enjoyed their presence and compared it to having his granddaughters home again.

Along with private landowners, interviewees also seek to profit with local nonprofit groups and sporting goods stores. One organization, Trout Unlimited, assists with teaching classes at the OC, bringing their expertise to classes like fly-fishing. In turn, participants from these classes are going on to become members of Trout Unlimited and progressing their conservation efforts. Both OCs also work with sporting goods outfitters in their respective areas. In one example from interviewees, the sporting goods store asked if the OC could give out hats with the store's name as well as participate in their major summer event, Outdoor University. Through this partnership, both agencies are able to promote outdoor sports. Individually, the OC benefits through receiving more supplies while the new sporting goods store benefits by putting their name out in the community.

4.2.3. Finding Balance in Partnerships

Interviewees from both campuses noted the need to find a balance in partnerships. Partnerships often originate from acknowledging similar or like goals; however, P6 noted the need to ensure that partnerships do not stray too far away from The OC's ultimate goal and mission. All the interviewees commented regarding their openness and willingness to collaborate with a variety of partners, while recognizing that not all partnerships are perceived as mutually beneficial or equally valuable on a personal level. For example, P1 addressed this need to find the balance in partnership with a local youth service entity and stated:

> "(A non-profit) have kids that pay to come attend their (summer) camp, but they bring them here to do fishing or archery. But it's still bringing people, and allowing us to introduce them (youth) to the outdoors. Even though we are not profiting on it and they're making a profit, it's still a collective audience that they are bringing to us that wouldn't normally be here. We get hundreds of kids that come in through another organization here."

All educators recognized partnerships require time and invested energy to reach specific goals. Building partnerships is a dynamic process; maintaining partnerships require time and effort.

Partnerships need time to grow and mature; most partnerships with non-profit or other public agencies show steady growth or maintenance; however, partnership with private sector agencies show less stability. P5 explained a frustrating experience with a cooperating retail store with which they had a mutually beneficial partnership for years. That cooperation ended due to a top-down decision from the headquarters. Yet, a new opportunity came when a new outdoor retail store opened in town, becoming the major sponsor for events and offering great deals for outdoor equipment and promotional materials.

Outdoor educators must be creative in coming up with innovative strategies to provide programming with other organizations that align with the mission of the OC and the partner organization's mission and goals. P6 used an example to explain the partnership and said:

> "We know that some of the people involved with a homegrown group are interested in growing their own food from farm to table and field to table. Well, if you're harvesting your own food and you're raising your own chickens, maybe then you'll go hunting. There's a similar connection there. I call them gateway classes. We have a common interest, so let's see if we can cross over a little bit."

To maintain these partnerships, P2 emphasized the need for effective and frequent communication between partners to ensure that both organizations are benefitting from the collaboration. P6 described the approach to open communication and evaluating the success of a partnership, such as "am I giving you what you need?" and "have I held up my end of the deal?" while simultaneously informing the partner organization how they have been doing.

4.3. Challenges and Opportunities in Programming

4.3.1. Common Challenges in Outdoor Education Programs

The abundance of programming offered at the OCs is accompanied by challenges such as limited resources, participant accountability, and marketing. Interviewees from both campuses noted limited resources like space, staff, and funding as programming constraints. Attracting and recruiting new participants was also a common challenge on both campuses. With the new focus on recruiting hunters and anglers, the OCs must find new and creative ways to recruit non-consumptive outdoor recreation users to hunting and fishing. The campuses also have the task of attracting non-users to outdoor recreation. P8 addressed such challenges: *"When you work for Game, Fish, and Parks, you engage with hunters and anglers all the time. What's challenging is you don't engage with the non-users. Finding those people means that you have to put yourself into a different position than you normally do."*

While in an urban setting, P5 commented on the challenge of attracting urban participants: "*Urban people don't always think about the outdoors first. . . . They don't always think about a walk through the forest, snowshoeing, or skiing or learning about what's under the water. It's not at the top of mind awareness.*" Expanding on the challenge of marketing to new audiences, P8 said"*In order to engage with new audiences, you have to go where those people are and meet them. . . . If we want to engage older populations, we have to put ourselves in places we've never been before, and that's been challenging.*"

Participant accountability was also cited as a common challenge among programs. As for free programs, educators noted that participants do not have anything holding them accountable for attending the class. Adult participants are frequent no-shows to classes. By registering for classes and not showing up, potential other participants are unable to attend classes at the OC.

4.3.2. Evolving Process of Outdoor Programs

The transition from youth to family and adult programs was common in every interview. This shift of focus is a result of R3 programming initiatives to recruit, retain, reactivate hunters, and anglers in the state [7]. South Dakota Game, Fish, and Parks has seen a decrease in hunting and fishing license sales over recent years. Along with this transition comes the need to create innovative programs. P5

explained the need to follow the trends as a method to attract new participants to programs. Another creative strategy used to attract more adults was the creation of date night classes. P6 spoke about the difference in attendance due to marketing changes. In the past, the facility struggled to fill adult participant rosters. However, once date nights were advertised, the OC saw an influx of interest in adult programming. In line with the transition to adult and family programming, the facilities are also turning to series classes in order to teach more advanced skills. P6 spoke about the changes to program delivery:

> "We tried to provide every opportunity and round them out as much as possible. . . . When it comes that they're (participants) not just taking stuff from us, they're using their resources. But when they come back and give back, it's awesome! That's the goal."

The goal of the new focus on family programs is that outdoor skills become commonplace in families to participate together rather than only educating youth in the activities. P5 noted the benefits of family programming as not just providing youth a single experience but allowing them to participate in outdoor recreation and practice their new skills together as a family activity.

Finally, to engage new or nontraditional hunting and fishing groups, it is crucial to identify these "untouched but with potentials" and reach out to them using the approaches that this target population would accept. Several niche groups or nontraditional outdoor recreation participants were discussed in the study. For example, older adults (50 years and older), and especially women, have become new participants at OCs, so special programs or collaborations with local businesses (e.g., hotel, winery) for specialized packages has been offered to expand their service target group, which might be also beneficial area tourism as well. Also, homeschool programs are the fastest-growing programs on both campuses. P1 explained such discovery with the homeschool group:

> "We started about five or six years ago now. I was at a conference, and they were talking about how the need is out there for home school how they are a collective audience. . . . There is a huge, huge following of home schools and they are all looking to tie into something that they can actually . . . away from home with their peers and stuff like that too so there has been a huge following. . . . Their flexibility is as far as schedules is a lot easier as well. Plus, the home school community is sometimes a little more open maybe to different ideas and stuff like that as well."

In order to increase the mobility of reaching out to communities across the state, outreach programs play essential roles in interacting with community members. It provides direct services to those who might not be able to travel to the campus for learning shooting, fishing, and archery. Also, some efforts have been made to have outreach to college students through training and workshops in broadening the scope of the services.

Finally, another prevalent theme in the interviews is the change in evaluation, which is usually considered as the last phase of programming in which values and impacts of services need to be assessed and used for the improvement of the next program cycle. Although some evaluation techniques or tools have been utilized on both campuses for program evaluation, it has been challenging to demonstrate the impacts of outdoor education programs without continuous tracking and consistent documentation. Several interviewees addressed such essential changes in the outdoor education system and hope the new data tracking system is able to produce reliable data and provide a stateside outdoor education effort and impacts for informed decision making in operation, management, investment, and budgeting for future outdoor education.

5. Discussion

The purpose of the study is to understand the challenges and opportunities of urban outdoor education centers in applying innovative programs to research out to the public and utilizing partnerships to create a social network in the community for enhancing the culture of outdoor

recreation and environmental conservation. Two outdoor education centers, Outdoor Campus East and West, in SD urban areas, were used to understand how outdoor education centers as a gateway entity serving as the center of building community support and networks for outdoor education and promoting outdoor recreation in urban areas (Figure 3).

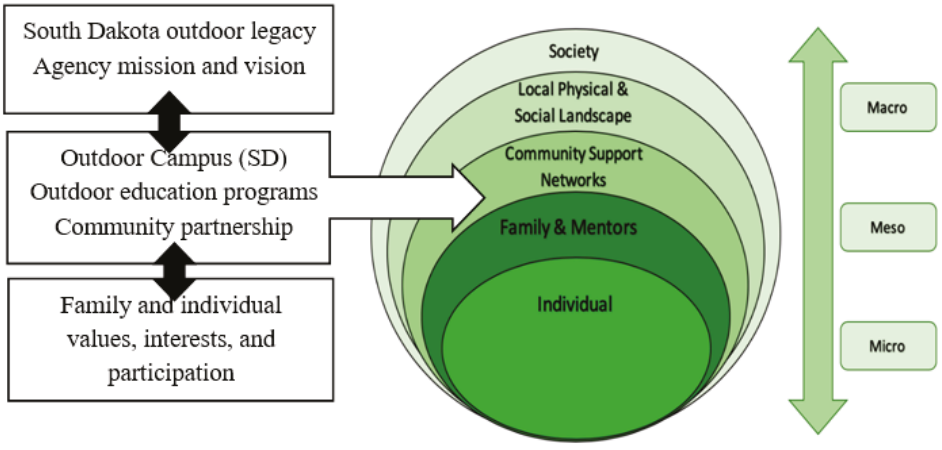

Figure 3. Outdoor Campus impacts and relationships in social structure for outdoor education.

First of all, the results indicated that outdoor educators play essential roles to support the foundation of OCs by creating an environment supportive of individuals pursuing outdoor recreation or organizations with compatible goals and interests in cultivating outdoor cultures. The OCs provide opportunities and enhance accessibilities through various approaches (e.g., on-site programs, outreach,) and collaborations (e.g., formal partnership, programmatic partnership). As a state entity, the OCs tended to work with a wide range of partners to reach out to people and organizations with different interests and roles in outdoor recreation and education. It is the reason why the educators expressed the importance of finding balance in partnership, so they can sustain the partnership without losing the agency's overall mission and vision while fulfilling the community's needs and interests. It is important to notice that as social contexts shift, such as modernization and urbanization, individuals' values and beliefs of outdoor education related to wildlife conservation also change. At the cultural level, residents in urban areas typically experience higher levels of modernization, typically show higher education levels, frequently have higher incomes, and tend to view wildlife as part of an ecological network worthy of care (mutualism), rather than viewing wildlife as benefiting humans through hunting or fishing (domination value) [44]. Therefore, wildlife management agencies might need to incorporate both domination values and mutualism values in decision-making processes for reducing the potential conflicts in the perception of wildlife conservation, especially in urban areas.

Moreover, the results also showed that the OCs could be viewed as meso-level factors in the social–ecological model to serve as a hub providing outdoor education and skills programs and facilitating the community for creating networks, interactions, and connections between organizations directly or indirectly associated with outdoor recreation. Urban outdoor education centers are essential influences in the promotion of statewide outdoor recreation opportunities and resources and in creating and maintaining partnerships with public, private and non-profits sectors for serving people with a wide range of interests and skill levels in outdoor recreation. Using social–ecological framework, the OCs in urban areas only create a social habitat to sustain the environment for outdoor recreation but also foster the interaction among various organizations to provide a supportive social network, creating a sense of community through engaging outdoors and natural environment [18,45].

Another interesting finding was the dynamic and evolving process of outdoor education programming revealed in the study. All outdoor educators recognized that the SD outdoor education system is a unique model in the nation. The OCs are not typical nature centers or environmental education units. Both environmental education and outdoor skills are part of the scope of outdoor education [17]. The primary focus of environmental education is to explore environmental issues, engage in problem-solving, and take action to improve the environment [46]. The OCs provide both environmental education and outdoor skills, which might create some confusion to the public with conflicting ideas of protecting resources (environmental education) and consuming resources (outdoor skills, such as hunting and trapping). It has been an evolving and learning process for many research participants. It takes time, effective communication, and teamwork to find a balance between how to provide both environmental education and outdoor skills, how many programs of each category should be offered, and what programs are needed and appropriate for each location. With the current shift from youth-focused programs to family and adult-oriented shooting sport, although some learning curves were discussed, all research participants understood the reason for changes and recognized the benefits and impacts of reaching out to various untouched populations or untraditional outdoor participants and hunters and anglers (e.g., older adults, minorities, women). As there have been declining fishing and hunting license sales in SD, the OCs could be viewed as an education and outreach center to recruit, retain, reactivate (3R) hunters and anglers in the state [7].

Finally, this study has several research limitations that render opportunities for future research. First, the study only included two outdoor education centers in South Dakota as study sites and recruited eight individual educators for the study. It is possible that the response is location-specific with place-based experiences and practices which might not necessarily be appropriate for other outdoor education centers. Semi-structured interviews from the OCs educators provided insightful knowledge and information regarding their experience and responsibilities in promoting outdoor recreation within a wildlife- and natural resource-related governmental agency through educational efforts. Although we were unable to interview all full-time outdoor educators from OCs, these eight volunteer educators participating in the study represent approximately one-half of the full-time employees from both outdoor campuses with a wide range of expertise and experience within SDGFP. At the state level, it might be helpful to conduct interviews using similar questions and techniques with other outdoor education centers at federal (e.g., National Park Service) and local (e.g., municipality) levels to explore the cross-agency and jurisdiction partnership and collaboration. Moreover, it might be beneficial to identify other education centers or organizations with similar priority in promoting fishing and hunting for conducting thorough case studies with interviews to explore the challenges and solutions in such topics.

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Unpacking Systems of Privilege: The Opportunity of Critical Reflection in Outdoor Adventure Education

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Abstract: Outdoor adventure education has an extensive history of considering how its students should wrestle with privilege. Recent events have brought issues of privilege to the forefront, which raises the question of whether outdoor adventure education can play a role in learning to see and affect systems of privilege. This paper examines several elements of outdoor adventure education that make it an ideal environment for teaching about systems of privilege, and makes the argument that Jack Mezirow's critical reflection, wherein people question the principles that underlie their ideas, should be a key element of outdoor adventure education curriculum in the 21st century. The authors' perspectives are grounded in critical theory and the assumption that power dynamics need to be examined in order to be changed. By combining critical reflection with the unique characteristics of outdoor adventure education, outdoor adventure educators may be able to successfully teach participants to recognize and impact systems that operate around them.

Keywords: social justice; experiential learning; transformative learning; equity; pedagogy; whiteness; gender; critical theory

1. Introduction

Recent events across the world have heightened people's awareness of injustices in their communities, and have led to a call to fix systems that have privileged one group of people over another [1]. As each movement arises, a common refrain heard from people, particularly those with privilege, is that they did not realize that systems operate around them that reinforce beliefs and behaviors that oppress one group while benefiting another [2]. Following George Floyd's murder, many United States citizens who have privilege have been confronted with their contributions to racist systems. Other recent movements, such as #MeToo and the European migrant crisis, have highlighted how systemic injustices often go unchecked and manifest as a flawed strand of the Western societal fabric. The COVID-19 pandemic is yet another unfolding example of how systems privilege some people over others. As awareness of injustices and the motivation to change these entrenched systems continues to mount, people need tools to help them to identify hidden systems so that they can take action to change them.

Outdoor adventure education (OAE) is a setting wherein instructors could teach critical reflection to students as a tool to help make invisible systems visible, and use the unique structure of a course to challenge participants to act with an awareness of the systems in which they participate. Critical reflection describes the process by which people become aware of "how and why the structure of psychocultural assumptions [have] come to constrain the way we see ourselves and our

relationships" [3], a concept which emerged partially from thought emanating from the Frankfurt School of Critical Social Theory [4]. While some OAE educators may already teach and use critical reflection, we argue it should be a key component of the OAE curriculum in the 21st century. Modern OAE is often attributed to Kurt Hahn's Outward Bound School and continues to embody his original educational endeavors [5–7]. Hahn believed that developing moral character was central to overcoming the most pressing social issues of the early 20th century [8]. During Hahn's involvement with the Salem School prior to Outward Bound, he established the seven laws of Salem, the last of which was to "free the sons of the wealthy and powerful from the enervating sense of privilege" [7,8]. With these goals, he identified issues that troubled society in the early 20th century and which sadly remain as pressing today.

While much of contemporary OAE continues to support Hahn's principles, OAE has been and continues to be a space occupied predominantly by people who identify as White and male, have higher socioeconomic status, and are able-bodied [9–11]. While OAE encompasses a broad array of learning opportunities, for the purpose of this paper, we define OAE as the classic educational expedition wherein a small cohort of instructors and participants spend several days, weeks or even months in a wilderness setting away from society [12,13]. These courses are thought to develop participants' leadership and technical outdoor skills as they undertake physically arduous expeditions where they backpack, mountaineer, or sail from their starting point to a predetermined location [13]. The ethos of many OAE programs is steeped in colonial thought that promotes rugged individualism and encourages participants to conquer the challenges before them, such as mastering the environment, without significant consideration of how their actions feed into a dominant narrative that ignores people who have a different lived experience [14–16].

Many contend that unless OAE changes, it may be challenging or even impossible for OAE to address social issues, such as how to remedy systemic injustices [10,17]. People with privilege have been charged to do their own work to identify how their actions contribute to systems that perpetuate injustice [18], which includes problematizing institutions that they participate in, like OAE, and making changes. Therefore, we argue that practitioners in OAE should examine their curriculum to see how they can incorporate critical reflection as a tool to disrupt systems that operate within the course. As they include lessons on critical reflection, practitioners should also require students to practice taking different actions than they normally would, based on what they learn by examining their socially conditioned belief systems. Practicing these behaviors on course could lead students who are doubtful to understand that systems exist, and that they have the power to change them.

Outdoor adventure education has many elements that make it an ideal space to learn to see systems of privilege. First, a classic expeditionary OAE course consists of a small group of people who form a temporary, bounded social system for the duration of a course [12]. This characteristic allows the group to remain intact and temporarily separate from society [19], which may make it easier for students to identify how individuals influence dynamics within the social system than in typical daily life because they operate in a "bubble" with fewer outside forces influencing them. Second, OAE's problematic nature as a space shaped by colonial thought, neoliberal ideologies, and persistent hegemony may provide students opportunities to identify their own power and privilege and make deliberate choices about how they want to act during and after the course [10,11,20,21]. Third, a key element of OAE is the reflective process, wherein people engage individually, and as a group, in making meaning about what occurred over the day, week, and entire course [22]. Meaning-making is an important step in recognizing how one participates in oppressive systems [23]. Finally, the fact that OAE resembles society [24], with its propensity for injustices, suggests that, with the right scaffolding, students could carry learning that occurs within OAE into their lives where they could enact positive change.

In an effort to help OAE practitioners work toward social justice, we explore how the OAE curriculum could be adapted to teach participants to identify and confront systems of privilege. To start, we explore aspects of OAE that make it a potential site to learn about systems. Next, we identify how OAE replicates society and presents OAE students with opportunities to identify how systems

of privilege operate around them. Then, we explain how Mezirow's critical reflection [25] can be employed in OAE to encourage students to question the discourses that underlie systems of privilege in the field and in their communities. Finally, we present specific examples for how OAE instructors could employ these techniques on a course.

2. Positionality

Our goal in writing this paper is to look at how a system that is flawed can be improved upon because we want to work towards creating a more just society. In the present moment, we believe that change will be most realistically accomplished by operating within existing systems. Our paper maintains a critical approach that argues that individuals construct their reality as a function of their values [26]. We do not believe that any one action is sufficient; rather, we are hopeful that a multitude of actions can create change. We recognize that we have many privileges, which vary between us but include having higher socioeconomic status, being cisgendered, having no visible disabilities, and being White, to name a few. We also recognize that our privilege may prevent us from fully seeing all perspectives, as could our previous work experience as professionals in OAE. However, we believe it is our responsibility to try to create positive change and that through repeated efforts, we can be successful. Our hope in writing this paper is to reach audiences who work in OAE and seek tools that they can use while on course to affect change.

3. Outdoor Adventure Education as a Site to Realize Systems of Privilege

One of the challenges of systems of privilege is that they cannot be seen, held, or touched, so people must acknowledge their existence without having a tangible product at which they can point [27,28]. This invisibility can make it difficult for people to recognize systems of privilege at work, or describe them to others who are not yet aware of or willing to admit they exist [29]. A person who cannot identify systems around them may struggle to change them. Outdoor adventure education, however, has certain characteristics that make it easier to detect systems as they operate than when most people are in their regular daily lives. For instance, OAE creates a bounded social system wherein students and instructors spend the duration of the course together, typically without much or any interaction with people outside of their small group [12]. Once together, the group forms a temporary system with its own rules and norms that are impacted primarily by the people on the course, creating a bounded system [19,30]. A person may step outside of the group briefly, but they ultimately remain connected for as long as the course lasts. Thus, while invisibility of systems remains an issue, it can be easier on a course to trace how actions that occurred at one moment impact a later moment in time, whereas in regular life it might be harder to see the connections because they involve different people in different places.

The curriculum on many OAE courses presents another opportunity for learning to see the impact of systems of privilege. Much of OAE is designed to present students with opportunities to practice decision-making and leadership skills [13,31]. Those who have leadership and decision-making responsibilities are often in a powerful position where their actions affect others [32]. In OAE, instructors typically take on the initial leadership roles and gradually relinquish those responsibilities to students, who are able to make decisions for the group in a scaffolded environment [13]. This dynamic, where students practice leadership skills, can allow students to understand the impact of their choices, particularly when paired with the nature of the bounded system [13,30,33]. Ideally, instructors would not allow students to make decisions that benefit one student while disadvantaging another. In practice, some decisions may lead to inequities or reinforce systems that privilege one student or group of students. Students might decide, for example, how to split up gear, how quickly to hike, how frequently to take breaks, and how to designate roles such as who sets up the tent versus who cooks dinner [12]. Their choices have the potential to reinforce or disrupt systems, which can provide rich learning opportunities less frequently encountered in daily life where actions and their impacts are less easily traced.

Another important aspect of an OAE course is that the experiences are simultaneously authentic and simulated [10,12]. At the start of a course, a specific overarching goal is identified, such as backpacking from point A to point B. The work students put in to achieve this goal is real, and results in sweat, sore muscles, and, at times, exhaustion. Throughout the course, the students are active participants engaged in direct, authentic experiences [12]. OAE stands in contrast, then, to other experiences that are entirely simulated, such as the Poverty Simulation [34]. In the Poverty Simulation, participants adopt roles and run through simulated rounds where they need to complete objectives while being given limited resources to do so. While participants report profound learning from the Poverty Simulation [34,35], some of what they learn comes through imagined rather than actual experience. One might argue that OAE students choose to embark on what is in many ways an artificial experience. In this sense, the experience is a simulation, and it has characteristics, such as the bounded system, that are not representative of most people's daily life. These characteristics also make it easier to set aside time and space to have important conversations about privilege, because many short-term objectives can be dropped to accommodate the most pressing; however, this will not occur without challenges or significant effort from instructors [21].

The temporary nature of an OAE course also makes it distinct from other common experiences in life, and may be a quality that supports students experimenting with new behaviors and beliefs [36,37]. Most students in the OAE courses described in this paper do not know the other students prior to the course unless the course is designed for an intact group. Because they have no prior experience with one another, they may be able to more easily adopt new roles because no one expects them to conform to certain identities [30,38]. Instead, they are able to present themselves—to some extent—as they want to be seen. The liminal space that is created by OAE may allow students to feel more comfortable exploring new beliefs because it is limited in duration [36,38,39]. Students may feel they can behave in a way that is unlike the identity/identities they present at home because they will not see these people regularly after the course ends. Trying out a new way of being can be perceived as risky [40]. A student who has their beliefs challenged and attempts to change them may feel more comfortable doing so in an environment that is impermanent, knowing that they can revert to their old beliefs once they return home if they so choose.

Finally, reflection is an essential component of OAE, which is designed around the experiential learning cycle where a person engages in an activity and afterward reflects on the experience [41]. During a typical course, instructors facilitate discussions for students to reflect on what occurred during the day, and attempt to process how different actions contributed to the outcomes [32,42]. With the appropriate scaffolding, these moments might allow students to explore how their decisions contribute to or disrupt systems that operate around them, and how their underlying belief systems guide their actions [20]. In addition, students in OAE courses often report having more opportunities for solitude and reflection than they do in daily life [30,39]. Because systems are largely imperceptible, reflection and thought are likely to be necessary to help students become aware of them and their influence (e.g., [34]).

4. Parallel Structure in Outdoor Adventure Education and United States Society

While an OAE course may be a small, bounded system, it is also a reflection of the larger society [24]. Courses are not designed and facilitated by individuals living in a vacuum, but rather by people who are part of and influenced by the systems around them [43]. Their participation in these systems plays an important role in shaping their values and beliefs. Consciously or unconsciously, OAE instructors are guided by these same values and beliefs when making decisions about the course structure, content and policy [21]. Similarly, students do not become tabula rasa once they join a course and step into the outdoors. They bring with them all the same attitudes, assumptions and privileges as they hold in their everyday lives.

Some of the parallels that exist between OAE courses and the larger Western world highlight the systemic injustice perpetrated within both. Many courses are designed for able-bodied people and

occur on appropriated lands, often without any acknowledgement of how even the common definition of wilderness erases the lived experience of indigenous people [11,44]. While praising Hahn as a central figure in OAE, many neglect to consider the militaristic aspects that underpin how Outward Bound developed [45], and the imperial struggles occurring across the globe that influenced thought at that time. As occurs in other types of programs in Western society, OAE remains populated predominantly by people who share the demographics of those who first devised it [46,47]. For example, in the United States, people who identify as Hispanic or Asian constitute approximately one quarter of the total population, and individuals who identify as Black or African American make up about 13% of the population [48]. However, due to systemic resource constraints, cultural factors, and discriminatory or exclusionary practices [49], individuals who identify as Black, Indigenous, and People of Color (BIPOC) remain underrepresented in outdoor spaces. Despite representing significantly larger percentages of the U.S. population, Hispanic and Asian Americans collectively represent less than 10% of total U.S. national park visitors, and Black or African Americans represent less than 2% of all visitors [40]. The same underrepresentation of BIPOC individuals can be observed in OAE spaces, where the majority of students are White [50].

Another parallel can be drawn between gender norms prevalent in Western society and the expectations placed on students of different genders on OAE courses. Women in OAE have reported that they experience challenges in OAE that match their experiences in daily life [9]. In mainstream Western culture, women have historically been seen as nurturers and caretakers and have faced criticism when they deviate from this script. Rogers and Rose [9] found that women in OAE experience the same disapproval while on course, and noted that women who did not conform to gender expectations received lower student evaluation scores, which has implications for their career trajectory much as it does in other education settings, such as academia [51]. Allen-Craig et al. [52] reported similar findings whereby OAE continues to include gendered language, such as hard and soft skills, and that employees presenting as women have experienced being overlooked for promotions, have had their skills questioned, and have found colleagues presenting as men being assigned "higher risk" activities. Across all contexts, the expectation that women ought to conform to historical norms is problematic and limiting.

While OAE may represent a microcosm of United States society, the fact that it does is an opportunity. When these similarities are left unacknowledged and unchallenged, OAE maintains the same systematic injustices rampant in larger society [17]. However, these structural and philosophical similarities combined with the small and bounded nature of OAE courses creates an ideal space for students to learn about privilege in a way they may not be able to in their everyday life. In daily life, people deal with competing demands on their attention that are less likely to exist while spending days on end removed from society [38]. During a course, opportunities exist to pause and ask why, for example, the majority of other people seen while hiking are White, and critically reflect on why this is a problem and how it came to be so. In fact, reflection—seen as an essential component of OAE—presents a unique opportunity to see systems of privilege when intentionally employed.

5. Critical Reflection in Outdoor Adventure Education

One of the key theories underlying OAE is experiential learning theory, which is often described as a four-stage cycle wherein participants do an activity, reflect on the activity, relate the activity to more abstract concepts, and revise their actions as they prepare to do the activity again [41]. At at least two points during this cycle, participants engage in a reflective process. Reflection is seen as a technique that helps individuals make connections and draw meaning from experiences, and its use was heavily advocated by theorists such as Dewey [53], Kolb [54] and Mezirow [25]. We argue that rather than depend upon the traditional experiential learning cycle, OAE should advance and incorporate critical reflection as a component of the cycle and as part of its curriculum. Experiential learning and transformative learning are seen as complementary frameworks [55,56], and preliminary

evidence exists to suggest that transformative learning, and thus critical reflection, occurs for some OAE participants [30,39].

In the 1970s, Mezirow [57] developed transformative learning theory as a way to describe how people come to see the world from an entirely different framework or perspective. Transformative learning typically begins with a disorienting dilemma wherein a person has an uncomfortable experience that does not fit within their existing ways of understanding the world [25]. As they try to reconcile how the disorienting experience fits within their existing understanding, they engage in critical reflection where they ask epistemological questions about how they came to know the world as they do. Mezirow argued that critical reflection was a key element to transformation, and defined critical reflection as being focused on the premise that underlies an idea [25,57,58]. Instead of simply thinking about what happened or how that relates to other ideas, a person who critically reflects explores how the initial thought came to be and questions the validity of their reasoning [59,60].

The process of critical reflection encourages a person to delve into sociocultural analysis so as to understand why it is that women, for example, are seen as nurturing, and why women might face criticism and judgment for deviating from that expectation. After critical reflection, the end result for someone who once stereotyped women as care-taking might be that they now understand that those stereotypes are culturally induced, and not indicative of how a woman might see herself and her potential identities. Transformative learning is typically a gradual process, so, over time, they might identify how their behavior reinforces the stereotype, and how their actions contribute to it, such as when they judge women in leadership roles who take decisive action the way men commonly do as rude [61]. They might also recognize that a series of systems has encouraged these assumptions as opposed to their earlier assumption that women care-take because it is the natural order of the world [2]. If so, they would have experienced what Mezirow called transformative learning [25].

A handful of studies have explored transformative learning in OAE. D'Amato and Krasny [39] found that aspects of the OAE course, such as living in nature, experiencing a different lifestyle, being a part of a community, and dealing with challenges, led to transformative experiences. Meerts-Brandsma et al. [30] showed that after participating in an OAE course, students were more likely to have questioned the ways that they act and their beliefs about social roles, a key step in the transformative learning process. This finding indicated that students encountered a disorienting dilemma. According to Mezirow, a disorienting dilemma serves as the entry point into transformative learning. It occurs when a person faces information that they cannot reconcile with their existing way of understanding the world [25]. As an example, one student in Meerts-Brandsma et al.'s study described how he had been raised in a sexist culture and held sexist beliefs [30]. On his OAE course, he was expected to be respectful of everyone, including women, which tested his as yet unexamined belief systems. When he returned home, he was appalled by how he saw women being treated and realized that his beliefs had changed, which he attributed to his experience in OAE and how members of his course challenged his behavior.

It would be a mistake to assume that OAE will naturally provide the disorienting dilemmas needed to provoke students into questioning the roles that systems have played in developing their beliefs. As described above, without intentional action, OAE could be just as likely to reinforce existing, problematic expectations about the world [17]. Rogers and Rose described how women in outdoor leadership who deviate from gender expectations face additional scrutiny from students, and how their gender presentation can lead both students and even women themselves to question their competence in technical skills [9]. However, it also seems clear that OAE can provide experiences that allow students to critically reflect upon their assumptions—and potentially change them. For students to critically question their assumptions, instructors will need to be trained on how to facilitate opportunities that could evoke critical reflection and encourage participants to question how their underlying beliefs may lead them to problematic conclusions.

6. Employing Critical Reflection on Outdoor Adventure Education Courses

Critical reflection likely already occurs on some OAE courses. Our aim is to draw attention to its intentional use, and offer the recommendation that outdoor adventure educators deliberately incorporate opportunities for critical reflection into their course design, and consciously teach its terminology, so that participants experience the process of evaluating their actions and the underlying premises that guide their behavior. Concerns about and awareness of injustice have escalated in recent years. These issues do not appear likely to abate as the COVID-19 pandemic exacerbates existing issues of privilege [62]. What we now need are tools and techniques that can help people identify unjust systems, consider what actions they can take to rebalance them, and then practice taking action. To demonstrate an application of critical reflection, we will provide examples that show how instructors could employ it on an OAE course.

Many instructors who intend to teach critical reflection will need training themselves on how to identify opportunities where they can encourage it. The colonial underpinnings of OAE are likely to provide problematic occasions for instructors to question their own or their students' actions. While expedition-based OAE courses are temporarily separate from society, each person brings their lived experiences to the course, which, as we said, creates a microcosm of the world in which they live while they participate. Historically, OAE has been seen as a space to improve oneself, and the focus of many courses has been on students developing skills and character traits that will position them for their future [13]. Many students boast about how they learned to live simply through OAE, without recognizing that the simplicity they experienced on course is still a significantly richer lifestyle than many people around the world will ever encounter [63]. For many students, the ability to access an OAE course is an example of an unearned privilege that stems from the circumstances of their birth in a Western county or to a family with financial means, or to being in a culture that feels safe recreating in backcountry settings [10,64].

On course, some students may also benefit from unearned privileges, such as the student who is taller and can hike faster. Their height and associated strength may allow this student to take on more weight, which might encourage the group to look favorably on the student, whereas the group is frustrated with a smaller student who cannot carry their pack weight as well and slows down the pace. If left unchecked, a moment like this can support an existing unexamined system that values ability and physical characteristics that provide immediate benefits. Because of the flexible time constraints of a course, an instructor could stop and ask students to consider why they think they appreciate the taller student more, and whether the smaller student did anything to warrant their disdain. The instructor might push students to question why their goal-driven behavior is so important that they would look down upon a member of their group. The aim of such moments would be to disrupt the system in the moment, and to encourage critical reflection on what underlying beliefs and socialization made it acceptable for students to behave the way they did. Finally, the instructors should ask students to take action in a way that goes against their conditioned responses and belief systems.

Instructors may also need training on the major issues that tend to arise during a course, which could be accomplished during the cultural competency training that many providers already offer [21]. As described above, virtually all of the problems that exist in OAE also occur in broader society. Topics that are likely to occur on a course include issues around gender roles, the limited racial diversity in OAE student groups and among employees, the requisite wealth needed to purchase gear and take time away from work and family responsibilities during the course, and the appropriation of lands that created the wilderness where many courses are held. Instructors are likely to need examples and coaching to understand how to bring up these issues, and to work with students who may not expect this component of the curriculum to be part of a course ostensibly focused on adventure and expeditions.

Next, instructors may need to understand how reflection differs from critical reflection, and generate ideas about how they can teach critical reflection to students. Instructors who teach Kolb's experiential learning cycle may want to introduce the idea of critical reflection at that point,

and ask students to compare and contrast the two terms [54]. They could begin their lesson on critical reflection with a topic that has less immediate political charge, such as how knowledge is created, and relate it to an example on the course, such as how people learned to interpret the night skies. The instructor might guide the conversation so that students question how their direct experience on a course relates to knowledge that comes from laboratories or historians. The purpose of such a lesson could be to encourage students to consider what beliefs and values underlie their thoughts about what counts as knowledge, and whose voices are heard in the construction of knowledge. This conversation could be designed to nudge the student to explore what they believe and why they believe it, which is the criteria that differentiates reflection from critical reflection [60].

As the course develops, instructors may want to focus on the dynamics that occur within the student group, and look for opportunities to link actions that happened earlier to actions that occur later, or actions that replicate societal problems. What they could seek in these moments are examples of unseen systems that have direct impact on the students' experiences. One example might focus on how a student acts while serving as leader of the day, and how their choices impact the group. If the student picks the route for the day, how do they incorporate feedback from their more vocal peers versus those who are quiet—or do they incorporate feedback at all? Once the instructor has identified the example, they could guide students through a series of questions about why they made the choices they did, what belief systems and socialization support how they chose their action, and how that choice affected others. They could then encourage the students to disrupt the system by making different choices the next time they have an opportunity. Finally, instructors are likely to want to ask students to think about how their behavior on course relates to their behavior when they are at home. If a student's beliefs have changed about, say, leadership, the instructor might encourage the student to consider whether that will change anything when they return home, and if so, what.

No easy or guaranteed methods exist to transform a person's perspective, and change how they interact with the world. However, OAE offers a unique context, with elements that differ from daily life, which may facilitate the integration of education about critical reflection, and provide concrete, tangible moments upon which students can reflect and question why they made the choices they did, and how they would make those choices to support goals of justice. One of the most critical needs in society is for people to understand how they participate in systems that frequently lead to those with privilege gaining greater privileges, while those without struggle to find equal footing. We argue that OAE can be used as a tool to support this need.

7. Conclusions and Implications for Practitioners

OAE is a distinct type of experience that has the potential to greatly impact its students [13,65]. Its qualities lend itself to being a site to learn to see and potentially challenge systems that oppress people, because of its unique construction wherein students are separate in time and space from their daily lives, but also engaged in making multiple decisions that impact the people with them. By intentionally incorporating critical reflection into the experiential learning cycle, students could learn how to question the premises that underlie their thoughts, and may consequently learn to identify and then affect oppressive systems. By learning to do so in OAE, they may be able to continue their behavior in the greater beyond. If so, OAE can return to its roots of addressing social issues, but with a re-visioned 21st century perspective.

Our hope is that practitioners consider this paper an invitation to adapt the OAE curriculum to include critical reflection as a component of all courses. Critical reflection differs significantly from reflection, and is an essential step in transformative learning, which is desperately needed to broaden the perspectives of many people across modern society. If and as OAE practitioners do so, we encourage scholars to contribute more research on what critical reflection looks like on an OAE course, and to explore its impact on students over time so as to identify how they use this skill after a course. Simultaneously, we believe that more scholars and practitioners should make better use of Mezirow's work in OAE. Many programs suggest that they offer transformative experiences, and could

better consider how transformative learning theory influences the design and delivery of their courses. Finally, we encourage our ideas around critical reflection in OAE to be considered a starting point worthy of critique. Through continual refinement of our thinking, we will be able to better identify what additional steps need to be taken to right unjust and problematic systems.

As we write this paper, injustice is one of the most pressing issues that society faces. It requires urgency in its addressal because people are dying as a consequence of systems that discriminate against them. Every action people take to figure out how to improve the world is an important one, even if each step is not perfectly executed. OAE, after all, is a space that has been dominated by White, male perspectives, has excluded people from being able to participate in it, and has harmed people who were marginalized but chose nonetheless to engage with OAE [10,11]. We believe that OAE is a microcosm of society, and that the problems that exist in the greater world are represented on a daily basis in the hundreds of courses that head into the backcountry each year. While potentially disheartening, a silver lining may exist in that idea. After all, if OAE shares similarities with the greater world, the progress people make in OAE may translate into action elsewhere.

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Article

Where Are We Going? International Views on Purposes, Practices and Barriers in School-Based Outdoor Learning

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Abstract: Popular demand for school-based outdoor learning is growing throughout the world, but there is relatively little use of international comparisons to inform the development and support of this growth. Motivations for providing outdoor learning may vary within and across countries/areas. Through understanding how different purposes are being approached internationally, we can learn how outdoor learning might best be supported to achieve particular outcomes. Eighty expert commentators on outdoor learning from 19 countries/areas responded to a short online survey about motivations for and practices in school-based outdoor learning, based on their experience working in this field. The survey was designed using a conceptual framework of student outcomes from outdoor learning, derived from policy analysis and five major reviews of the field. The three most frequently reported forms of outdoor learning practiced in schools were field studies, early years outdoor activities, and outdoor and adventure education. Among identified purposes for outdoor learning provision within schooling, supporting environmental awareness and action and pupil health and well-being were the most common. Some alignment of forms of outdoor learning and specific outcomes are discussed and implications for future policy, practice, and research considered.

Keywords: policy; purposes; practice; barriers; outdoor learning; outdoor and adventure education; international perspectives; comparative

1. Introduction

Popular demand for outdoor learning is growing in the UK as elsewhere throughout the world, but there is relatively little use of international comparisons to inform the development and support of this growth [1]. Outdoor learning represents a very broad range of activity, and its interpretation in terms of meaning and practice is not consistent across cultures [2]. Within countries/areas, there is not necessarily common ground on how terms are used. Across nations, there is yet more scope for diverse interpretations. For the purposes of this research, we defined school-based outdoor learning as play, teaching, and learning that take place in natural environments for children in formal education and care settings.

Motivations for providing outdoor learning may also vary within and across countries/areas. We can learn much about how best to support outdoor learning in schools by understanding how different purposes are approached internationally [3,4]. Nevertheless, caution is needed as simply "borrowing" policies and practice can result in inappropriate translations from one context to another without attention to the particularities of cultural traditions and constraints that may impinge on successful implementation elsewhere [4,5]. Unfortunately, such detail is rarely provided within articles [2]. However, a lack of precise definition of terms perhaps also reflects that enacted processes and how they are received may differ from intentions and principles [6], introducing margins of error between theory, practice, and learner experience.

Between 2012 and 2015, the UK Economic and Social Research Council funded an international partnership network that enabled researchers in England, Australia, Denmark, and Singapore to collaborate in comparing the development of outdoor learning across these countries/areas, and in 2016, a report [7] drew on this partnership, international research reviews, and an analysis of policy drivers to explore the extent to which outdoor learning supported key policy areas both within the UK and more broadly. From their analysis, Malone and Waite [7] found five student outcomes that aligned with contemporary policy priorities, related to developing "a healthy and happy body and mind; a sociable confident person; a self-directed and creative learner; an effective contributor; an active global citizen" (p. 5). At an international level, these strands are supported by the United Nations Convention for the Rights of the Child (UNCRC) [8]. Article 29 states the purpose of education is

1. The development of the child's personality, talents and mental and physical abilities to their fullest potential;
2. The development of respect for human rights and fundamental freedoms, and for the principles enshrined in the Charter of the United Nations;
3. The development of respect for the child's parents, his or her own cultural identity, language and values, for the national values of the country/area in which the child is living, the country/area from which he or she may originate, and for civilizations different from his or her own;
4. The preparation of the child for responsible life in a free society, in the spirit of understanding, peace, tolerance, equality of sexes, and friendship among all peoples, ethnic, national and religious groups and persons of indigenous origin;
5. The development of respect for the natural environment.

In the UK, these global policy aspirations have been evident in the recognition of health inequalities [9] that have driven several preventative public health strategies. The All Party Parliamentary Group on Social Mobility has reported links between personal and social skills that can be developed through outdoor learning and overcoming adversity throughout life [10], more creative and collaborative team workers have been called for future employment scenarios [11], and the interdependence of human and environmental well-being has been recognized in the 25-year plan for improving the environment [12]. In Scotland, educational policy supports these aims through the Curriculum for Excellence [13]. In some countries/areas, such as Canada, the US, and Australia, policy adoption of outdoor learning to support these drivers tends to be at state level, although there is Australia-wide policy for Education for Sustainable Development [14]. Sustainability is also the mainstay of policy support in Japan [15], while in Norway, Denmark, and Sweden (albeit the latter only at preschool level), it is linked to curriculum educational objectives.

Different forms of outdoor learning appeared to be better suited for specific outcomes, according to Malone and Waite's synthesis of evidence, and they recommended that more research and sector attention was needed to offer more nuanced provision across these desired student outcomes. In another collaboration as part of this international partnership, Waite, Bølling and Bentsen [1] proposed a framework for comparing different forms of outdoor learning using Bereday's comparative process, and illustrating principles through the case of comparing the Danish udeskole movement and British Forest School. The framework principles included "purpose, aims, content, pedagogy, outcome, and barriers" (p. 871). Adopting a systematic process of comparison enables greater nuance in choosing distinct forms of outdoor and adventure education for specific desired purposes.

Literature that undertakes international comparisons of outdoor learning forms or policies or even adequately situates research in its material, cultural, and social context is still relatively rare [4,7,16–19], but the body of research into outdoor learning across nations has exploded over recent years [20]. Networks such as the Play, Learning and Teaching Outdoors network (PLaTO-net), International School Grounds Alliance (ISGA) and the Joint Information Systems Committee (JISC) discussion forum OUTRES, together with international projects such as those funded within the European

Union ERASMUS+ program, have provided valuable forums for international discussion; nonetheless, consensus over terms and definitions is patchy [2].

Several reviews conducted in the last 20 years have, however, helped to summarize the current field of knowledge [21–25]. Taken together, they identify significant evidence that outdoor learning, broadly defined, improves children's quality of life and point to the fact that outdoor learning can meet many desired policy outcomes for young people's well-being now and in the future. Rickinson and colleagues [21] synthesized evidence between 1993 and 2003 on outdoor learning at primary, secondary, and higher education levels and noted attention to the learning process in research on both outdoor adventure education and fieldwork, and a growing interest in spatial influences, demonstrated in emergent school grounds research. Four years later, UK governmental policy interest in learning outside the classroom stimulated a commissioned review, Every Experience Matters [22], which drew on international research on learning outside the classroom and its impacts on children aged 0–18. The author, Karen Malone, found evidence of positive effects on academic attainment, physical fitness and motor skills, confidence, self-esteem and social skills, leadership potential, and environmental responsibility through time spent in learning outside the classroom. Gill's review in 2011 [23] focused particularly on 61 studies of outdoor play and learning in natural environments and reported significant support in them for time spent in nature as a child being associated with greater knowledge about the environment and enduring pro-environmental attitudes, improved mental health and emotional regulation, and greater physical activity levels, motor skills, and fitness. A systematic review commissioned by the UK Blagrave Trust and Institute of Outdoor Learning [24], synthesizing 57 UK-based studies and 15 international reviews, found that adventure and residential activity with young people aged 11 and over was the most studied form of outdoor learning. Studies were, however, predominately qualitative and rarely addressed predicted effects or longer term curricular or employability outcomes, seemingly gaining little traction with policymakers. Dillon and Dickie [25] specifically targeted demonstration of the benefits of learning in natural environments through schools. Their review was underpinned by an economic analysis of the cost–benefits of including outdoor learning as part of schools' offers. They concluded that ample evidence exists that health, community cohesion, and attainment costs to UK society from the adverse effects of inadequate exposure to natural environments could be reduced by about GBP 10–20 million by embedding this provision within schools.

Over a similar period, there has been an acceleration in the decline in many Western countries/areas of children's opportunities to be outdoors in formal or informal learning settings through an academic emphasis on attainment [26], increased screen time and more supervised out-of-home activity [27], and various pressures on family leisure time [28]. Concern about these reductions in children's exposure to natural environments [29] is gathering momentum internationally because it has been demonstrated that time spent outdoors impacts positively on physical and mental health and well-being [30] and "character capabilities" such as engagement with and self-regulation of learning, resilience, creativity, and empathy for others and the natural world [22]. These so-called "soft skills" underpin success in learning and making valuable contributions to society [15,31].

To gain further insight into what the international picture of policy and practice might be, a survey funded by the UK Wildlife Trusts (the Wildlife Trusts comprise 46 individual Wildlife Trusts in the UK, charitable bodies formed by regional groups of people getting together to make a positive difference to wildlife and future generations, federated under the Royal Society of Wildlife Trusts, a registered charity founded in 1912) was sent in September/October 2017 to expert commentators on outdoor learning through personal contacts and networks. The purpose of this article is to consider some current trends across the different parts of the world that participated in the research in order to offer insights into how outdoor learning provision is being shaped and practiced to contribute to discussion around the theme of this special issue. The hope is that this window into current commonalities and differences will help policy makers, practitioners, and researchers identify and consider where more

effort in the future might be directed to maximize the positive impacts of time spent learning outside by children and young people in economically challenging times post COVID-19.

2. Materials and Methods

The aim of the study was to survey international expert commentators on outdoor learning from about 10–15 countries/areas to provide contextualization for the Wildlife Trusts' work with schools and to support a clearer theory of change for their educational strategy development. The research questions pertinent to this article are: What are the purposes and policy drivers for school-based outdoor learning across different nations? What forms of outdoor learning are used in various countries/areas? What barriers to outdoor learning are experienced in different countries/areas?

Because of a limited budget and time frame for the research, it was decided to utilize an online survey method and seek respondents through a purposive sample of personal contacts and networks in the field. A pragmatic methodology [32] was considered appropriate to acknowledge "current truth, meaning and knowledge as tentative and as changing over time" (p. 28), accepting that the data gathered using this approach would be "provisional truths" that would be subject to further exploration. The networks approached included the International School Grounds Alliance, the Institute of Outdoor Learning research hub network; JISC discussion group OUTRES, the Economic and Social Research Council (ESRC) international partnership network on outdoor learning, and ERASMUS + collaborators, plus additional international contacts from conferences, projects, and previous correspondence. Those sent the link to the questionnaire by email were asked to share it with appropriate other contacts and networks, using a snowballing recruitment strategy to obtain the widest sample achievable within a tightly defined period (three weeks). It is not therefore possible to report a response rate as it is not known how many people received the invitation to participate. The number of respondents was 80 from 19 countries/areas as shown in Table 1. Not all respondents answered all questions.

Table 1. Number of respondents by country/area.

Asia	Australia	Europe	N. America	UK	Total
Indonesia 2 Japan 1 Nepal 1 Taiwan 1 Vietnam 1	13	Denmark 2 Finland 2 Germany 2 Ireland 1 Norway 2 Poland 1 Spain 1 Sweden 6 Switzerland 1	Canada 9 US 6	England 5 Scotland 16 UK-wide 7	
6	13	18	15	28	*N* = 80

The survey was deliberately directed towards "experts" in the outdoor learning sector, both practitioners and researchers, using purposive sampling, as the original intention of the research was to gather impressions about the current state of play regarding outdoor learning in diverse countries/areas to explore commonalities. The definition of expert used was someone with a high level of knowledge or skill in outdoor learning. The identification of experts to invite was determined through personal knowledge of their work or their membership in academic and practitioner groups, which was considered indicative of a level of commitment, qualifications, and/or experience across organizational, academic, and practical dimensions of the field. To moderate possible dilution of expertise through the snowballing method of recruitment, participants were asked to rate their capability of completing the survey from their knowledge and experience. A total of 92% of respondents felt well or fairly well qualified to answer the questions posed. Only four respondents reported that they felt "not well qualified" to complete the survey. Not all questions were answered by all respondents; they may have

been left blank if they were beyond respondents' expertise. Some participants pointed out that policies and practice varied within their countries, and that their comments related to their regional situation or impressions of the wider picture in their nation. For these reasons and because some countries/areas were represented by only one expert opinion, the reports should be considered only indicative of areas of commonality or difference.

The development of the survey questions was based on previous research. For example, the student outcomes generated through an analysis of literature and policy drivers [7] created a frame of reference for purposes, although participants were also invited to share other ideas throughout the questionnaire. Other questions were derived from earlier research looking at barriers to the provision of curriculum-based outdoor learning [33,34] and declines in outdoor learning during schooling [26]. Within the pragmatic approach as bricoleur researcher, it is considered acceptable to use "whatever resources and repertoire one has to perform whatever task one faces" [35]. The survey design was kept simple in recognition of the short time frame available for completion and analysis. It was decided to use a three-point Likert scale as, with a relatively small number of anticipated respondents, responses spread over a wider scale might have needed to be reaggregated for meaningful reporting. A draft of the survey was sense checked with an outdoor learning policy maker, practitioner, and researcher who were not completing the survey. Examples and additional comments were invited to enable different perspectives to surface through the survey. The questionnaire can be viewed in Appendix A in full. Because of the small number of respondents and the intention to provide impressions based on expert views, descriptive analysis was used for both quantitative and qualitative data, and interpretive analysis about possible implications was based on this and extant literature.

To comply with standard ethical practices, all those invited were free to participate or not without any penalty. Their identity was not revealed in the report unless with specific permission.

3. Results

In compiling the report for the funding body [36], general trends were reported to provide a reflective 'mirror' for the organization's policies and practice, but for the purposes of this article, commonalities and differences between the countries/areas represented in the survey are included. The framework for reporting broadly follows that proposed by Waite, Bølling and Bentsen [1] examining "purpose, aims, content, pedagogy, outcome, and barriers" (p. 871) where data are available. In this article, purpose, aims and outcomes are discussed together, content is included through comparisons of forms of outdoor learning present in countries/areas, and perceived barriers that obstruct provision are detailed.

3.1. Purposes, Aims and Outcomes of Outdoor Learning

When asked what the main drivers for outdoor learning were in their country/area, between 61 and 64 respondents from 19 countries/areas answered using a three-point Likert scale to indicate whether they agreed with the five desired 21st century student outcomes identified by Malone and Author [7]. Participants also offered further comments. For example, effective delivery of the curriculum was mentioned as a driver in Scotland, while a Danish respondent noted,

> Giving meaningfulness to the topics being taught by connections between surroundings and the topic.

In Denmark, education policy advocates the relevance of learning in contexts other than the classroom, and although there is a grassroots movement for education outside the classroom, udeskole, this is further endorsed and promoted through top-down government investment and research encouraging this [37].

In the US, the principal drivers were identified as health in terms of raising levels of physical activity and awareness of healthy eating, as well as science education.

> Physical Education and Physical Activity are the biggest drivers for outdoor learning, followed by nutrition and science education.

The respondents from Finland and Norway mentioned knowledge and skills in biology and ecology for "nature-friendly behavior."

In Table 2, cells are shaded to show the pattern of response by country across the five policy drivers so that darker grey means respondents reported it as a main driver, light grey means they thought it was a main driver to a degree, and white means it was not considered a main driver. Where there was more than one respondent in the country, the response included was the one chosen by the most people. The number of respondents to the questions about different policy drivers varied as shown.

Table 2. Comparison of main drivers of outdoor learning in participating countries/areas.

Countries/Areas Purpose and Outcomes	Healthy Bodies and Positive Lifestyles	Social, Confident and Connected People	Creative and Self-Regulated Learners	Effective Contributions and Collaboration	Care for Others and the Environment	*N*
Indonesia						*1*
Japan						*1*
Nepal						*1*
Taiwan						*1*
Vietnam						*1*
Australia						*9–11*
Denmark						*2*
Finland						*1*
Ireland						*1*
Norway						*2*
Poland						*1*
Spain						*1*
Sweden						*4*
Switzerland						*1*
Canada						*8*
US						*6*
England						*3*
Scotland						*13/14*
UK-wide						*4*
N countries/areas main driver	*11*	*11*	*7*	*6*	*10*	

If two choices are the same percentage agreement, they are split. Number of respondents varies as indicated.

Table 2 shows that the dominant drivers across countries/areas according to survey respondents were children's health and well-being, developing social, confident, and connected people, and care for others and the environment. Surprisingly, the driver that gained least traction across participating countries' respondents was supporting collaboration, yet this is a commonly attributed outcome from outdoor learning [24]. In the following sections, this overview is further broken down to explore each driver.

3.1.1. Encouraging Healthy Bodies and Positive Lifestyles

In Table 3 the respondents from the majority of countries/areas seemed to recognize that children's health and well-being were powerful driving forces for providing access to outdoor learning for all schoolchildren. However, it was reported as only influential to a degree by respondents in Japan, Vietnam, Spain, Switzerland, and England. Article 24 of the United Convention for the Rights of the Child [8] enshrines physical and mental fulfillment as fundamental to the quality of children's lives globally. One respondent from Scotland commented that,

> At the moment in Scotland it is about meeting the needs of all children and young people, the recognition of wider achievement and the need to find effective ways of raising attainment in literacy and maths. Health and Wellbeing have a huge part too—but certainly the political expectations on schools and early years and childcare settings is high re. attainment at the moment and closing the gap.

Table 3. Main driver of outdoor learning: Healthy bodies and positive lifestyles.

Countries/Areas	Yes	To a Degree	No	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal	1			*1*
Taiwan	1			*1*
Vietnam		1		*1*
Australia	10	1		*11*
Denmark	1	1		*2*
Finland	1			*1*
Ireland	1			*1*
Norway	1	1		*2*
Poland	1			*1*
Spain		1		*1*
Sweden	4			*4*
Switzerland		1		*1*
Canada	6	2		*8*
US	4	2		*6*
England		2	1	*3*
Scotland	11	3		*14*
UK-wide	2	2		*4*
				N = 64 in 19 countries/areas

3.1.2. Developing Social, Confident and Connected People

In comparing responses in Table 4, it seemed for the UK [38] and North America particularly, that outdoor education as a root of school-based outdoor learning may have underpinned the recognition that "soft skills" such as positive social interactions and self-confidence were important outcomes from outdoor activity, traditionally acquired through challenging residentials in outdoor activity centers. In Canada, it was reported as the most influential driver. The picture was more mixed within European pedagogical traditions [1], where these qualities were commonly addressed throughout the educational experience inside and outside the classroom. In Vietnam, Japan, Ireland, Spain, and Switzerland, its importance was considered moderate. In Spain, a respondent noted that the emphasis depended on children's ages:

> 0–6 is more concerned about gaining confidence, autonomy, self-regulation, healthy environments. 6–16 is more related to care for the environment, enrich curriculum contents, direct experience but related to official curriculum contents.

Table 4. Main driver of outdoor learning: Developing social, confident, and connected people.

Countries/Areas	Yes	To a Degree	No	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal	1			*1*
Taiwan	1			*1*
Vietnam			1	*1*
Australia	9	2		*11*
Denmark	1	1		*2*
Finland	1			*1*
Ireland		1		*1*
Norway	2			*2*
Poland	1			*1*
Spain		1		*1*

Table 4. *Cont.*

Countries/Areas	Yes	To a Degree	No	*N of Responses*
Sweden	2	2		*4*
Switzerland		1		*1*
Canada	6	2		*8*
US	2	4		*6*
England	2		1	*3*
Scotland	8	6		*14*
UK-wide	1	3		*4*
				N = 64 in 19 countries/areas

3.1.3. Stimulating Creative and Self-Regulated Learners

There appeared to be more ambivalence among respondents within and across countries/areas about the extent to which stimulating creative and self-regulated learners was a main driver of outdoor learning in their context. As we see in Table 5, four respondents reported this was not a motivation in their country/area. It may be that absence of endorsement within educational policy and strong performativity agenda in Japan, North America, and Ireland moderated the extent to which outdoor learning was valued or used specifically for educational attainment outcomes [26].

Table 5. Main driver of outdoor learning: Stimulating creative and self-regulated learners.

Countries/Areas	Yes	To a Degree	No	*N of responses*
Indonesia	1			*1*
Japan			1	*1*
Nepal	1			*1*
Taiwan	1			*1*
Vietnam		1		*1*
Australia	5	5		*10*
Denmark	1	1		*2*
Finland	1			*1*
Ireland			1	*1*
Norway	1			*2*
Poland	1			*1*
Spain		1		*1*
Sweden		4		*4*
Switzerland		1		*1*
Canada	2	4	2	*8*
US	1	4	1	*6*
England	1	2		*3*
Scotland	6	7		*13*
UK-wide	2	2		*4*
				N = 62 in 19 countries/areas

3.1.4. Supporting Effective Contributions and Collaboration

Table 6 shows that well established links between outdoor learning and improved social skills and teamwork [39] appeared only moderately instrumental as principal motivations for outdoor learning. This is perhaps surprising given that collaboration and working with others are highly valued employability skills [11] and are also fundamental to children's happiness and success in future life [10]. Strongest support was indicated by respondents in Indonesia, Taiwan, Finland, Poland, and England. Some respondents (from Canada, the US, and the UK) did not think it acted as a main driver.

Table 6. Main driver of outdoor learning: Supporting effective contributions and collaboration.

Countries/Areas	Yes	To a Degree	No	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal		1		*1*
Taiwan	1			*1*
Vietnam		1		*1*
Australia	4	5		*9*
Denmark	1	1		*2*
Finland	1			*1*
Ireland			1	*1*
Norway	1	1		*2*
Poland	1			*1*
Spain		1		*1*
Sweden		4		*4*
Switzerland		1		*1*
Canada	2	3	3	*8*
US	2	3	1	*6*
England	2		1	*3*
Scotland	7	6		*13*
UK-wide	1	2	1	*4*
				N = 61 in 19 countries/areas

3.1.5. Underpinning Care and Action for Others and the Environment

Only one respondent from North America reported that environmental issues were not a main driver; overwhelmingly, this purpose was strongly supported by most countries/areas represented in the research as shown in Table 7. There was notable consensus among the participants from Australia that it was a major motivation there. Although it was recognized as a purpose by respondents in both England and Scotland, it seems that it may have been more significantly motivating in England. The Scottish Curriculum for Excellence [14] does not prescribe what is taught in the way the content-driven English National Curriculum [40] does, and outdoor learning and education for sustainability are promoted in Scottish governmental policy [41]. It may be that outdoor learning in England tends to be promoted at grassroots level by teachers who personally value the natural environment, and their values act as a stimulus to making time for it in busy timetables [42].

Table 7. Main driver of outdoor learning: Underpinning care and action for others and the environment.

Countries/Areas	Yes	To a Degree	No	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal	1			*1*
Taiwan	1			*1*
Vietnam		1		*1*
Australia	9	1		*10*
Denmark	1	1		*2*
Finland	1			*1*
Ireland		1		*1*
Norway	1	1		*2*
Poland	1			*1*
Spain		1		*1*
Sweden	2	2		*4*
Switzerland	1			*1*
Canada	3	4	1	*8*
US	2	4		*6*
England	2	1		*3*

Table 7. *Cont.*

Countries/Areas	Yes	To a Degree	No	*N of Responses*
Scotland	5	9		*14*
UK-wide	3	1		*4*
				N = 63 in 19 countries/areas

3.1.6. Policies and Values as Drivers

Of the responses received to the survey, Scotland, Indonesia, Japan, and parts of Australia indicated the strongest support through government policy for outdoor learning. As one respondent from Scotland reported:

> Teacher standards require use of outdoor learning and understanding of Learning for Sustainability within a values-based Professional Accreditation system. Curriculum for Excellence states, 'outdoors is often a better place than indoors to learn' and Outdoor Learning is a regular and progressive experience for all learners. . . . We also have a requirement that all leadership support outdoor learning under new leadership qualifications, local authorities support school grounds to allow 'contact with nature on a daily basis' and 'green space suitable for teaching and learning' and Scotland's play policy and strategy also highlights our children's entitlement to 'free play opportunities, with daily contact with nature.

Outdoor learning is also included within the statewide curriculum in Victoria in Australia, where a government interdepartmental working group is also tasked with exploring ways to embed outdoor learning in recognition of its potential to fulfill several wider policy aspirations. There are moves to include it within the nationwide Australian Curriculum. In parts of Australia, as in several other countries/areas, education for sustainability appears to be a very strong motivation for outdoor learning recognized by individual teachers and in policy alike.

> For us, it is based on relationships with self, others and nature. With a foundational basis of sustainability.

In Japan, the Ministry of Education, Culture, Sports, Science and Technology is working with UNESCO to develop programs for Education for Sustainable Development through schools and communities, with some schools acting as hubs of good practice. This grounded method of expansion has also been used in the Natural Connections Demonstration project, commissioned by the Department for the Environment Food and Rural Affairs in England (DEFRA), Historic England and Natural England [34], where 125 schools were supported in embedding sustainable curriculum-based outdoor learning through networks of schools with varying degrees of experience in outdoor learning.

In Norway it is part of the national curriculum, and it features in the early years, physical education, and biology curricula in Sweden. In England, educational policy support is mostly within early years provision, but recently DEFRA and the Department for Education have commissioned further trials to develop "nature-friendly schools" [43]. Among other drivers cited, Education for Sustainable Development, connection to and knowledge about nature, risk awareness, and diverse and experiential learning environments for curriculum delivery were also mentioned. As Waite found in a survey in the southwest of England [42], respondents to the survey noted that motivations were often shaped at a local level according to teachers' or delivery organizations' interests.

3.2. Content of Outdoor Learning

Regarding the content of the outdoor learning conducted in various countries/areas, a range of forms of outdoor learning were suggested in the questionnaire and respondents indicated whether they were often, sometimes, or not used in their country/area. The types were simply named in the questionnaire and not further defined so as not to impose one particular English conceptualization of

the term. A given definition might not necessarily have general acceptance within England, and given the international nature of the survey, it was also considered important to avoid representing only one national perspective. Of course, it follows that names might conjure rather different ideas for participating countries/areas, but leaving the terms open maintained flexibility about interpretations and the comments boxes allowed respondents to explain further if they wished to do so and to add other forms. Ideas added included camps (Canada), visits to cultural places (Denmark), nature kindergarten, Bikeability and John Muir Award (Scotland), river, beach, mount (Indonesia).

3.2.1. Forest School and Bushcraft

Forest School, which is a growing phenomenon globally [44], was reported as most prevalent in England, Scotland, and Canada and was not observed at all in Norway or Nepal. It was reported that it sometimes or often occurred in 84% of the 19 countries/areas, according to responses received. It is described by the Forest School Association (FSA) [45] as:

> A child-centred inspirational learning process, that offers opportunities for holistic growth through regular sessions. It is a long-term program that supports play, exploration and supported risk taking. It develops confidence and self-esteem through learner inspired, hands-on experiences in a natural setting.

The FSA proposes six principles that are supposed to characterize this form of outdoor learning, but in practice these are not always adhered to and a recent special issue on Forest School of the *Journal of Outdoor and Environmental Education* problematized the concept and its translation into different contexts [46].

Interestingly, bushcraft as a form of outdoor learning was not recognized by respondents from Finland, Poland, Spain, or Nepal. Given its emphasis on the acquisition of practical skills, there may be some overlap with the concept of Forest Schools. For example, Australian early years providers that use nature-based play may describe themselves as bush kindergarten. Although rarely reported as often used (6%), bushcraft was reported as sometimes used in 65% of the countries/areas.

3.2.2. Field Studies

Field studies were widely reported across the responding countries/areas (98% often or sometimes). This is perhaps unsurprising as field studies is an established part of several academic subjects, such as geography and science. Field studies carry out investigative work in the world beyond the classroom and therefore might be seen as having some commonality with conceptualizations of Danish udeskole or learning outside the classroom in the UK.

3.2.3. Embedded On-Site Curricular Outdoor Learning

This form of outdoor learning was reported as fairly prevalent, as shown in Table 8.

Table 8. Prevalence of embedded on-site curricular outdoor learning.

Countries/Areas	Yes (Often)	Yes (Sometimes)	No	*N of Responses*
Indonesia		1		*1*
Japan		1		*1*
Nepal		1		*1*
Taiwan		1		*1*
Vietnam			1	*1*
Australia	3	7		*10*
Denmark	2			*2*
Finland		1		*1*
Ireland		1		*1*
Norway	2			*2*
Poland		1		*1*

Table 8. *Cont.*

Countries/Areas	Yes (Often)	Yes (Sometimes)	No	*N of Responses*
Spain	1			*1*
Sweden	1	3		*4*
Switzerland		1		*1*
Canada	2	5		*7*
US	4	2		*6*
England	2	1		*3*
Scotland	5	7		*12*
UK-wide	2	2		*4*
				N = 60 in 19 countries/areas

The most frequent use of this form was reported by respondents from Denmark, the US, and England. Alignment with the curriculum in countries/areas with a strong performance agenda for schools is understandable as teachers must meet standards and therefore may need to cover curriculum objectives more directly [42]. In Denmark, the confluence of top-down policy and bottom-up teacher-led growth likely contributed to its establishment as mainstream practice [47]. The respondent from Nepal noted that this form was not seen at all there.

3.2.4. Natural Environment Play and Early Years Outdoor Activities

These forms were reported as common across almost all nations with only the respondent from Nepal noting them absent. Norway, Switzerland, Indonesia, Japan, and Scotland were the countries/areas where natural environment play was most reported as often occurring. Participants from Denmark, Norway, Spain, Sweden, Indonesia, and Japan reported early years outdoor activities as often occurring.

3.2.5. Outdoor and Adventure Education

The usual process for this form of outdoor learning is making occasional trips remote from the normal place of learning to residential or day centers specializing in outdoor activities that offer a challenge such as climbing, kayaking, sailing. Frequently, special qualifications are required to lead such activities for health and safety reasons, and schoolteachers may not hold these additional qualifications, so it is common that they are provided by external organizations. This may explain the tendency for most countries/areas to report that outdoor and adventure education took place sometimes rather than often (Table 9). In Norway, the concept of *friluftsliv*, whereby outdoor living is highly valued and practiced within society, may account for its reported prevalence in this country/area [48]. Nevertheless, it seems that many children across the participating nations experienced the opportunity to engage in this sort of outdoor learning at least occasionally.

Table 9. Prevalence of outdoor and adventure education.

Countries/Areas	Yes (Often)	Yes (Sometimes)	No	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal			1	*1*
Taiwan		1		*1*
Vietnam		1		*1*
Australia	6	3	1	*10*
Denmark		2		*2*
Finland		1		*1*
Ireland	1			*1*
Norway		1		*1*

Table 9. *Cont.*

Countries/Areas	Yes (Often)	Yes (Sometimes)	No	*N of Responses*
Poland		1		*1*
Spain		1		*1*
Sweden		4		*4*
Switzerland		1		*1*
Canada	4	3		*7*
US	2	4		*6*
England	2	1		*3*
Scotland	5	7		*12*
UK-wide	2	2		*4*
				N = 59 in 19 countries/areas

3.2.6. School Gardening and Wildlife Areas

Table 10 shows that school gardening appeared fairly well established as a form of outdoor learning across many countries/areas. Participants from Finland and Nepal did not report this form, which may perhaps reflect geographic or climatic barriers. Respondents from Ireland and Japan reported it as often used in their countries/areas. An advantage of this form is that the garden location can be based on school grounds, obviating any need for travel time, costs to engage with nature, or requirements of risk assessments for every visit [49].

Table 10. Prevalence of school gardening.

Countries/Areas	Yes (Often)	Yes (Sometimes)	No	*N of Responses*
Indonesia		1		*1*
Japan	1			*1*
Nepal		1		*1*
Taiwan		1		*1*
Vietnam			1	*1*
Australia	7	3		*10*
Denmark		2		*2*
Finland			1	*1*
Ireland	1			*1*
Norway		1		*1*
Poland		1		*1*
Spain		1		*1*
Sweden		4		*4*
Switzerland		1		*1*
Canada	1	5	1	*7*
US	2	3		*5*
England	1	1	1	*3*
Scotland	7	5		*12*
UK-wide	3	1		*4*
				N = 59 in 19 countries/areas

Gardens and wildlife areas may offer different sorts of affordances [49,50] for children's learning; Wells and Lekies [51] found both experiences positively affected subsequent pro-environmental attitudes, but only wild experiences influenced later pro-environmental behavior. In Table 11, we see the reported prevalence of wildlife areas within the school grounds in different nations. Providing wilder areas as part of the school grounds make biodiverse environments more easily accessible for learning purposes [52,53]. However, as one respondent in Australia commented, there might be safety reasons in some parts of the world that preclude leaving school grounds areas unmanaged. In some

places, the cultural importance of the appearance of a school site may favor tidier grounds. It would be interesting to explore schools' reasons for including a wildlife area or not in further research.

Table 11. Prevalence of wildlife areas in school grounds.

Countries/Areas	Common	Sometimes	Rarely	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal		1		*1*
Taiwan			1	*1*
Vietnam			1	*1*
Australia	2	3	5	*10*
Denmark			1	*2*
Finland			1	*1*
Ireland		1		*1*
Norway	1			*1*
Poland			1	*1*
Spain			1	*1*
Sweden		2	1	*3*
Switzerland			1	*1*
Canada		2	4	*6*
US		1	5	*6*
England		1	1	*2*
Scotland	3	7	1	*11*
UK-wide	2	2		*4*
				N = 55 in 19 countries/areas

3.2.7. Visits to Nature Reserves and National Parks

Nature reserves were reported as often visited for outdoor learning in Ireland, Spain, and Denmark and sometimes visited in 67% of responding countries/areas. National parks were sometimes visited in 80% of countries/areas represented in the survey. These special places offer a different experience from the nearby nature of school gardens [54]. Maller suggested that a mixture of familiar places and progression to more remote highly valued natural environments may support children becoming connected to nature and engender later pro-environmental attitudes [55].

3.3. Aligning Purposes and Forms

Following up the suggestion that different forms support different outcomes, respondents were also asked which forms of outdoor learning they considered were most appropriate for particular outcomes. To indicate trends of association across countries/areas, the percentages of respondents choosing different options are shown in Table 12. In Table 12, the outcome most associated with each form is highlighted in darker grey, while the next perceived contribution of that form is highlighted in pale grey. From this, it is possible to see at a glance that encouraging healthy bodies and minds was considered by respondents as most supported by early years outdoor activities, outdoor and adventure education, and natural environment play; while developing social, confident, and connected people was regarded as most helped through outdoor and adventure education and early years outdoor activities. Embedded on-site curricular outdoor learning and Forest Schools together with early years activities were deemed important for stimulating creative self-regulated learners. In terms of supporting effective contributions and collaboration, school gardening was most selected, although embedded curricular outdoor learning was also associated with this outcome. Visits to national parks and nature reserves were very highly associated with underpinning care for others and the environment, although field studies and school gardening were also seen as linked with this outcome.

Table 12. Aligning purposes and outcomes to forms of outdoor learning (across countries/areas).

Forms of Outdoor Learning/Outcomes	Healthy Bodies and Positive Lifestyles	Social, Confident and Connected People	Creative and Self-Regulated Learners	Effective Contributions and Collaboration	Care for Others and the Environment	*N*
Forest Schools	48% 23	65% 31	73% 35	44% 21	67% 32	*48*
Field studies	17% 8	26% 12	39% 18	44% 20	70% 32	*46*
Embedded on-site curricular outdoor learning	57% 29	51% 26	61% 31	51% 26	41% 21	*51*
Natural environment play	74% 37	60% 30	54% 27	38% 19	52% 26	*50*
Outdoor and adventure education	82% 40	86% 42	39% 19	45% 22	51% 25	*49*
School gardening	57% 28	41% 20	37% 18	61% 30	74% 36	*49*
Bushcraft	33% 13	64% 25	59% 23	36% 14	39% 15	*39*
Early years outdoor activities	90% 44	74% 36	65% 32	45% 22	51% 25	*49*
Visits to nature reserves	38% 18	26% 12	30% 14	19% 9	87% 41	*47*
Visits to national parks	45% 21	21% 10	30% 14	23% 11	92% 43	*47*

Table cells give percentages of respondents ticking each option in response to the question: Which of these drivers do you think are mainly behind the use of the different forms of learning? (Tick as many as apply). The outcome most associated with each form is highlighted in darker grey, while the next perceived contribution of that form is highlighted in pale grey.

From this analysis, it appears that some types of outdoor learning were more generalist in meeting various purposes, while others were more specialist in their impact. Field studies, for example, seemed less associated with health and well-being outcomes; outdoor and adventure education appeared particularly aligned with healthy living and the development of some inter- and intra-personal skills. In all the countries/areas, early years outdoor activities appeared to be the most valued for achieving across all the desired outcomes.

3.4. Barriers to Outdoor Learning

A number of barriers to outdoor learning were held in common across the nations represented in the survey. The barriers suggested in the questionnaire were derived from findings of the Natural Connections project [34] and earlier scoping of barriers by Kings College, London [33]. Table 13 is a summary table that shows the combined assessment of barriers across participating countries/areas, indicated by dark grey shading when the barrier was assessed as significant, light grey when it was considered significant to a degree, and white when it was not considered a barrier. We can see in this table that the most significant barriers internationally appeared to be linked to teacher training and how confident staff were in working outside and in linking the curriculum to outdoor activities. Lack of funding and the need for volunteer support were much less frequently regarded as significant barriers by respondents.

One respondent from Scotland echoed comments from some Australian respondents about staff unwillingness, suggesting,

> Mindset—this is the key barrier. . . . It is remarkable that early years practitioners can enable outdoor learning and play on a daily basis and that outdoor nurseries are springing up everywhere demonstrating that all areas of the curriculum can happen outside yet primary and secondary colleagues feel unable to do the same.

Respondents in Ireland and Vietnam pointed to cultural resistance by teachers,

> School-based learning is not so common in Vietnam due to curriculum and somehow difficult to change the traditional way of teaching and learning in the country/area (indoor learning). (respondent from Vietnam)

> Education has had a formal, structured emphasis from its inception here for cultural and historical reasons possibly as a result of the context being a previously agrarian society. To a lesser extent, there seems to be a historical/cultural barrier where many educationally progressive initiatives were seen as part of a colonial education. (respondent from Ireland)

Three respondents from the UK and Canada also mentioned risk and health and safety concerns. Other factors included time and a lack of awareness of the potential benefits. These comments illustrate how cultural factors influence possibilities for future development of outdoor learning [3].

Table 13. Assessment of significance of barriers by respondents for their respective countries/areas.

Countries/Areas Barriers	Lacking Confidence in Working Outside	Uncertainty about Linking to Curriculum	Lack of Funding	Need for Volunteer Support	*N*
Indonesia					*1*
Japan					*1*
Taiwan					*1*
Vietnam					*1*
Australia					*10*
Denmark					*1*
Finland					*1*
Ireland					*1*
Poland					*1*
Spain					*1*
Sweden					*4*
Switzerland					*1*
Canada					*6*
US					*6*
England					*2*
Scotland					*12*
UK-wide					*4*
N responses/ countries/areas	*14*	*12*	*6*	*5*	*54/16*

3.4.1. Staff Lacking in Confidence in Working Outside

Over three-quarters of respondents agreed this was a significant barrier (Table 14), indicating that attention was needed to train teachers and others tasked with outdoor learning in appropriate pedagogies for the outdoors. About two-thirds of countries/areas sometimes used external providers and these were expected to have expertise in the field. However, it was most common that teachers would lead outdoor learning across all countries/areas. Only some respondents in Australia, Canada, and the US reported that unpaid volunteers were usually involved in outdoor learning. In other countries/areas, they were sometimes involved, but in Denmark, Poland, Spain, Switzerland, and Vietnam, they were never used, according to the survey respondents.

Table 14. Barriers to outdoor learning: Staff lacking confidence in working outside.

Countries/Areas	Yes a Significant Barrier	To a Degree	Not a Barrier	*N of Responses*
Indonesia		1		*1*
Japan	1			*1*
Nepal	1			*1*
Taiwan	1			*1*
Vietnam	1			*1*
Australia	8	2		*10*
Denmark		1		*1*
Finland	1			*1*
Ireland	1			*1*
Norway	1			*1*
Poland	1			*1*
Spain	1			*1*
Sweden	3			*3*
Switzerland	1			*1*
Canada	4	2		*6*
US	5		1	*6*
England	2			*2*
Scotland	8	4		*12*
UK-wide	2	2		*4*
				N = 55 in 19 countries/areas

In Nepal, it was reported that, "School based outdoor activities are still at infancy in Nepal thus leaving great possibilities in this field. Awareness workshops thus play a pivotal role in pushing the barrier to a great extent in the meanwhile." The nations represented in the survey appeared at different points in their outdoor learning development. In Japan, creating natural infrastructure at schools was reported by the respondent as a priority:

> School biotope (wildlife area esp. natural pond) became movement to create in Japan, but because of grounds maintenance and lack of knowledge of using the area, in many cases the area became unused. School gardening is common since it is mentioned in National Curriculum.

School ground infrastructure development was mentioned by expert commentators in several other countries/areas.

It seems many initial teacher training courses may have limited input on how to teach outside the classroom [56], which is unfortunate as the inclusion of modules for outdoor teaching and continuing professional development courses might help to increase teacher confidence. As one respondent from Scotland noted, "Time/of teachers to do continuing professional development (CPD) or something else in that area. Lack of resources and money, knowledge. No subject in school-based outdoor learning in teaching education/training" all potentially contribute to a lack of confidence. The Natural Connections project [34] found that an effective way of building teacher confidence in working outside was through practical sessions alongside more experienced colleagues.

However, there appeared little top-down support in the educational system for this in North America, where growth is attributed more to grassroots organizations' advocacy and support for schools. Even in Scotland, where policy promotes outdoor learning in a number of ways, one respondent commented that progress was happening, "Very gradually via the policies mentioned … and many committed NGOs and others 'chipping away' at schools, encouraging and supporting them to take learning outdoors (via blogs, evidence etc.) to justify the place of outdoor learning (OL), training, networking etc."

3.4.2. Staff Uncertainty about Linking Outdoor Learning to the Curriculum

A lack of ability to combine outdoor learning and unanticipated learning outcomes with teaching specific subject curriculum objectives was considered a barrier by most of the respondents (Table 15). As discussed earlier, this may depend to some extent on whether there were strong pressures on the delivery of curriculum content in that educational system.

Table 15. Barriers to outdoor learning: Staff uncertainty about linking outdoor learning and curriculum.

Countries/Areas	Yes a Significant Barrier	To a Degree	Not a Barrier	*N of Responses*
Indonesia		1		*1*
Japan	1			*1*
Nepal	1			*1*
Taiwan	1			*1*
Vietnam	1			*1*
Australia	8	1	1	*10*
Denmark		1		*1*
Finland	1			*1*
Ireland		1		*1*
Norway	1			*1*
Poland	1			*1*
Spain	1			*1*
Sweden	3			*3*
Switzerland	1			*1*
Canada	5	1		*6*
US	5		1	*6*
England	1	1		*2*
Scotland	6	4	2	*12*
UK-wide	2	2		*4*
				N = 55 in 19 countries/areas

Although teachers may well be capable of mapping outdoor activities and their outcomes to the curriculum if they have sufficient time to undertake the necessary planning, time is a commodity which is often in short supply in schools [34]. Providing teachers with suitable prepared resources was felt helpful by a respondent from Australia to relieve time and curriculum pressures, "There are a few structured programs such as school kitchen gardens, which are easier to implement as they come with teaching resources." In Switzerland, a suite of resources across the curriculum was available for teachers to improve outdoor learning provision,

> With our project 'Teaching Outdoors' which contains a manual for teaching all disciplines outdoors, with teacher training and a pilot study in coaching a few interested schools (www.draussenunterrichten.ch in German, www.enseignerdehors.ch in French).

3.4.3. Lack of Funding

According to most respondents, a lack of funding for outdoor learning was a barrier to some extent, but in some countries/areas, such as Indonesia, Taiwan, Poland, Canada, and the US, respondents considered it a significant one (Table 16). The reasons for this are probably multiple. For example, if outdoor learning is provided by external providers or at remote sites, this entails extra expenditure by schools or parents to enable that. Where outdoor learning is more embedded within educational practice and happens on or near the school site, the additional costs of children participating is likely to be lower with no expenditure on travel or center charges. However, providing progression from familiar to more remote and extraordinary natural environments with different learning possibilities will inevitably incur a financial cost.

Table 16. Barriers to outdoor learning: Lack of funding.

Countries/Areas	Yes a Significant Barrier	To a Degree	Not a Barrier	*N of Responses*
Indonesia	1			*1*
Japan		1		*1*
Nepal				
Taiwan	1			*1*
Vietnam		1		*1*
Australia	5	4	1	*10*
Denmark		1		*1*
Finland		1		*1*
Ireland			1	*1*
Norway				
Poland	1			*1*
Spain		1		*1*
Sweden		2	1	*3*
Switzerland		1		*1*
Canada	5	1		*6*
US	5		1	*6*
England		1		*1*
Scotland	3	6	3	*12*
UK-wide	2	2		*4*
				N = 52 in 17 countries/areas

3.4.4. Need for Volunteer Support

As we see in Table 17 and have previously commented (Section 3.4.1), not all countries/areas involve volunteers in their outdoor learning provision, but requirements for high adult-to-children ratios to meet health and safety obligations for off-site visits and risk-averse societal attitudes may mean that parents and carers are needed to ensure compliance in many nations [57]. Community support can also extend possibilities for outdoor learning. In Indonesia, it was reported that parents and the society around the schools were also providers of outdoor learning; while in Finland, after-school clubs run by volunteers offered outdoor learning opportunities.

Table 17. Barriers to outdoor learning: Need for volunteer support.

Countries/Areas	Yes a Significant Barrier	To a Degree	Not a Barrier	*N of Responses*
Indonesia		1		*1*
Japan		1		*1*
Nepal				
Taiwan	1			*1*
Vietnam	1			*1*
Australia	2	7	1	*10*
Denmark			1	*1*
Finland	1			*1*
Ireland			1	*1*
Norway			1	*1*
Poland		1		*1*
Spain	1			*1*
Sweden		3		*3*
Switzerland	1			*1*
Canada	1	5		*6*
US	3	2	1	*6*
England		1	1	*2*
Scotland	3	7	2	*12*
UK-wide		3	1	*4*
				N = 54 in 18 countries/areas

4. Discussion

In considering the responses from expert commentators across different countries/areas, we begin to appreciate how further work could contribute to addressing challenges associated with the development of school-based outdoor learning. The findings presented offer potential starting points for additional investigation. One possible method would be to develop a Delphi study, whereby ideas can be refined and contested within a panel of experts [35]. Another fruitful avenue might be in-depth national surveys to test the resonance of the impressions that emerged from this study situated within greater detail of policy, practice, and barriers in various national contexts. Local studies that include the children's perspectives on how outdoor learning affects their lives will also provide valuable insight into how various offers are received.

Countries/areas where respondents reported all five policy drivers as important were Indonesia, Taiwan, Finland, and Poland. In other places, the degree to which certain aspects were emphasized varied. According to the respondent from Japan, all drivers except for stimulating creative and self-regulating learners operated to a degree there; a similar situation to that reported in Vietnam, where developing social, confident, and connected people was also not considered a main driver. The respondent from Ireland suggested health outcomes were the main impetus, but that stimulating creative and self-regulated learners and supporting effective contributions and collaboration were not principal motivations for outdoor learning. In other countries/areas, the influence of policy drivers differed slightly in their relative emphases, but, in general, these drivers tended to be recognized across the nations. Explicit policy alignment would further facilitate the tailoring of outdoor learning programs to achieve desired goals.

From those countries/areas where more than one person responded, we can discern that there was not consensus about every aspect from the experts, so findings derived from individual reports and small numbers obviously need to be interpreted with caution. For example, within the multiple responses, it appeared that developing social, confident, and connected people and effective contributors and collaboration were main drivers in England, while in Scotland encouraging healthy bodies and positive lifestyles was more prominent. The two commentators responding about the UK as a whole reported that the care for others and the environment was the main driver. In Canada, it was reported that developing social, confident, and connected people was the principal motivation, whereas the US respondents placed equal emphasis on this and encouraging healthy bodies and positive lifestyles. Swedish respondents deemed health as a main motivator, but in neighboring Norway the respondent rated developing social, confident, and connected people more highly. Finally, in Australia, all aims were highly rated with considerable consensus across participants, but health, stimulating creative and self-regulated learners, and care for others and the environment were the top priorities. Inevitably, local enactments and the position of the expert as policy maker, academic, or practitioner will shape opinions, but exploring such variation would support future collaborations to achieve greater consensus around intent, implementation, and impact [58] and clearer theories of change.

These impressions and insights into the state of play for school-based outdoor learning across different countries/areas provide considerable food for thought to support that endeavor. The number of expert commentators responding to the survey demonstrated that the wealth of evidence for benefits from spending time in nature is in some respects well established in these countries/areas. However, all described challenges in embedding outdoor learning within their educational systems, and countries/areas appeared to be at different stages of development. For some, the challenge lay in cultural and material barriers, where the first steps may need to be awareness raising about the benefits to policy makers, practitioners, and the general public [59] or constructing infrastructure to support forms of outdoor learning that are accessible and affordable [34,52,59]. For others, dominant performativity culture in their countries/areas meant that persuading school staff to make space for outdoor learning in busy content-driven curricular timetabling remained a hurdle [42]. Encouragingly, the main challenge seemed to be about changing mindsets rather than a lack of funding per se, and this cultural change can be achieved through on the job professional development training and

experience [34]. At a national level, research and development efforts might profitably be directed towards identifying and understanding how to overcome specific challenges in a logical sequence appropriate to their context.

The alignment of forms of outdoor learning and purposes revealed some indications of how provision might be better tailored to address specific desired outcomes according to priorities, both at a national policy level and within schools themselves. Without regularity of curriculum-based learning outside the classroom, occasional forms of outdoor learning remain vulnerable to changes in priorities and external pressures [42]. Early years outdoor activities and on-site outdoor learning linked to the curriculum seemed to contribute to some degree to all desired outcomes across the board and could comprise a minimum baseline of entitlement provision. A global priority to protect children's health and well-being and glaring inequalities in relation to this [8] also provide a compelling rationale for these methods to offer wider participation in the benefits of spending time in nature [7], and the additional provision of opportunities for outdoor and adventure education during schooling will make substantial contributions towards this goal. Sustainability agendas appeared to underpin strong motivation for promoting outdoor learning in many countries/areas, whether at governmental or personal levels [7,52,53,59], and national parks and nature reserves were considered especially effective for inculcating care for others and the environment. Inclusion of visits to areas rich in biodiversity as part of children's experience at school will help to meet this aim. In short, increasing the awareness of policy drivers and promoting the most effective forms of outdoor learning to achieve them can refine how school-based outdoor learning is planned and operationalized at international, national, regional, and local levels.

For teachers in some countries/areas, having a policy directive to include more outdoor learning as an integrated element of curriculum delivery would give them permission to make room for it [7], although some teachers may still lack confidence and time to plan for this [34]. Having training and experiences in working outside is an effective tool to overcome personal resistance, and team teaching or on-site continuing professional development can be transformative [34], but equally high-quality resources can provide a valuable starting point for local adaptations. A recent set of books has linked the English primary national curriculum objectives for every subject to progressions in outdoor learning to save teachers planning time and provide a springboard for increasing curriculum-based outdoor learning [60]. They have subsequently been adapted for the Scottish Curriculum for Excellence, and there are plans for further "translations" to other national curricula. Whether time, experience, or funds represent barriers, the development of suitable outdoor learning environments within the school grounds can facilitate a range of experiences on teachers' doorsteps without the need for travel time and costs, the additional paperwork of repeated risk assessments, or the incurring of external provider fees [34,47,52,53].

Several commentators mentioned that inclusion of outdoor learning and its priority varied regionally and at a local level in their country/area, so assessing patterns across whole countries/areas is not clear cut. The interpretation of what outdoor learning might look like varied from macro-governmental and cultural influences through institutional expectations and affordances to the personal values and expertise of individuals within schools [42]. As noted earlier, further drilling down at a national level into the interface of policies, practice, and learning experiences within different forms of outdoor learning would help unpack some of this complexity and enhance international comparisons and development. An international project is currently underway to explore key terms, definitions, taxonomies, and ontologies related to outdoor experiences, based on a scoping literature review and collaboration of international experts in the field through analysis and discussion. This process is working towards conceptual models that can speak across nations [2]. This ambition exceeds the possibilities of this small explorative study. Nonetheless, the research has highlighted some potential ways forward for the field.

Suggestions that respondents made about how improvements could be made to school-based outdoor learning included the support of: grassroots teacher-led movements (Ireland); the Children in

Nature network (US); continuing professional development, teacher education and collective provision (Australia, England, Scotland, Sweden, Switzerland); school grounds infrastructure development (Sweden, US, Japan); and outdoor learning being enshrined in educational policy, teachers' registration and professional recognition (Denmark, Norway, Scotland). Figure 1 summarizes some possible actions that warrant consideration at national and local levels to support the development of school-based outdoor learning.

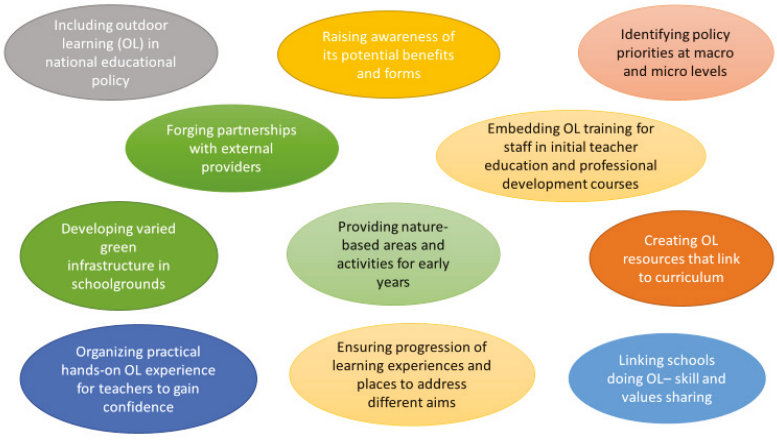

Figure 1. Possible actions in developing school-based outdoor learning.

5. Conclusions

Although this research is limited in that it is based on a small sample (80) of expert commentators on outdoor learning and can therefore only paint an impressionistic picture, nevertheless, it may hopefully serve to open international discussion further about how outdoor learning provision might be embedded within schools through consideration of other experiences. By highlighting differences as well as commonalities for this special issue on trends in the field of outdoor and adventure education, the danger of policy borrowing without contextual sensitivity may be lessened, but it is beyond the scope of this paper to provide detailed explanation of educational, cultural, and material contexts represented within this survey. Attention in research and policy development to the wider cultural influences that impinge on policy and practice will aid careful interpretation and the transfer of ideas between contexts. Further research is also needed to gain insight into the outcomes and purposes that the children experiencing different forms of outdoor learning themselves perceive and value. This will support greater nuance in how national and local provision might be shaped to provide progression towards outcomes and maintain personal and societal benefits for young people. We should also reflect upon the failure of some research within the rich arena of literature to convince policy makers at different levels to endorse embedded school-based forms of outdoor learning, so that studies can be designed to address that gap [24], if we are to maximize the value that outdoor learning can have for young people's present and future lives.

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Appendix A

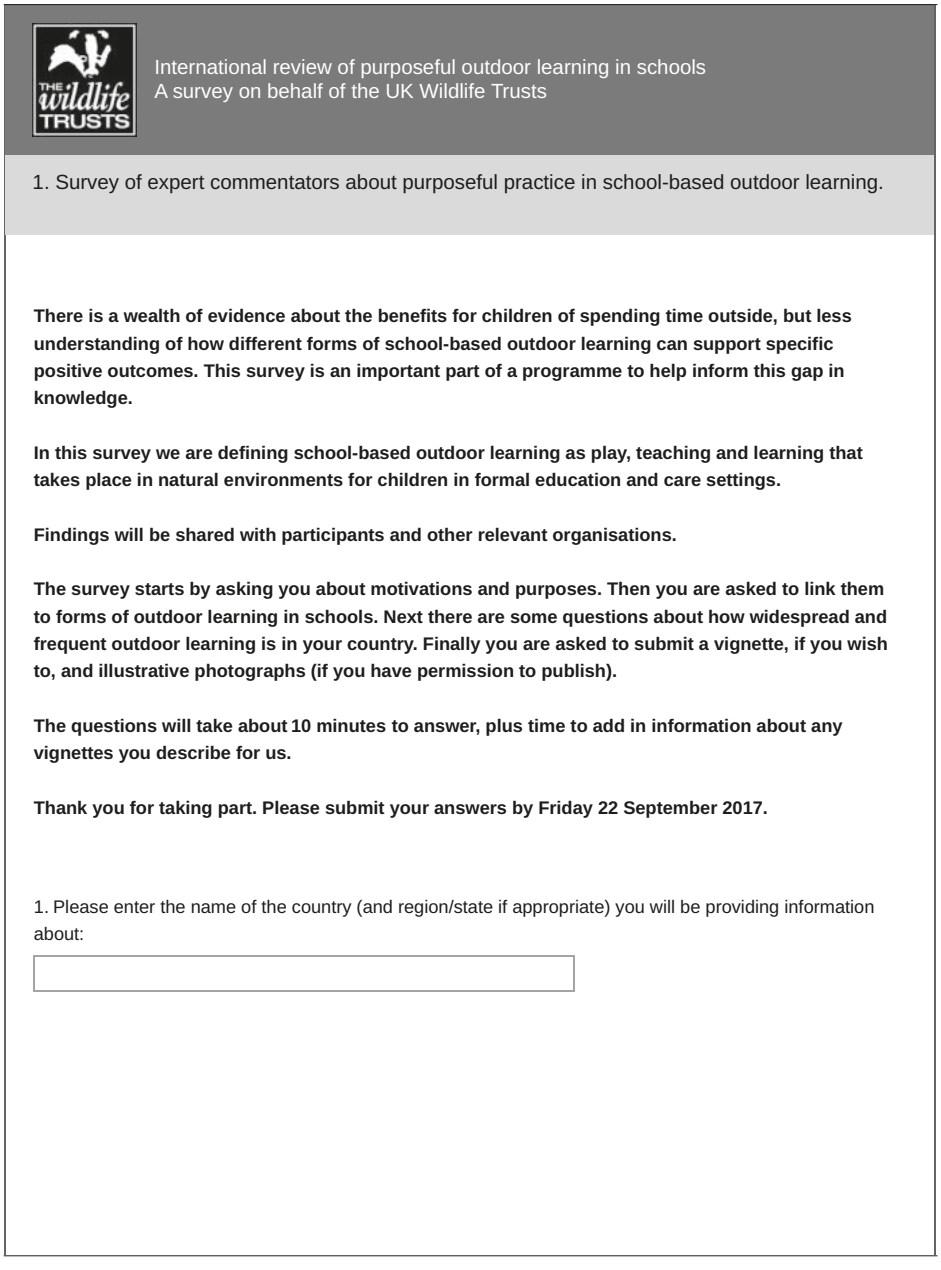
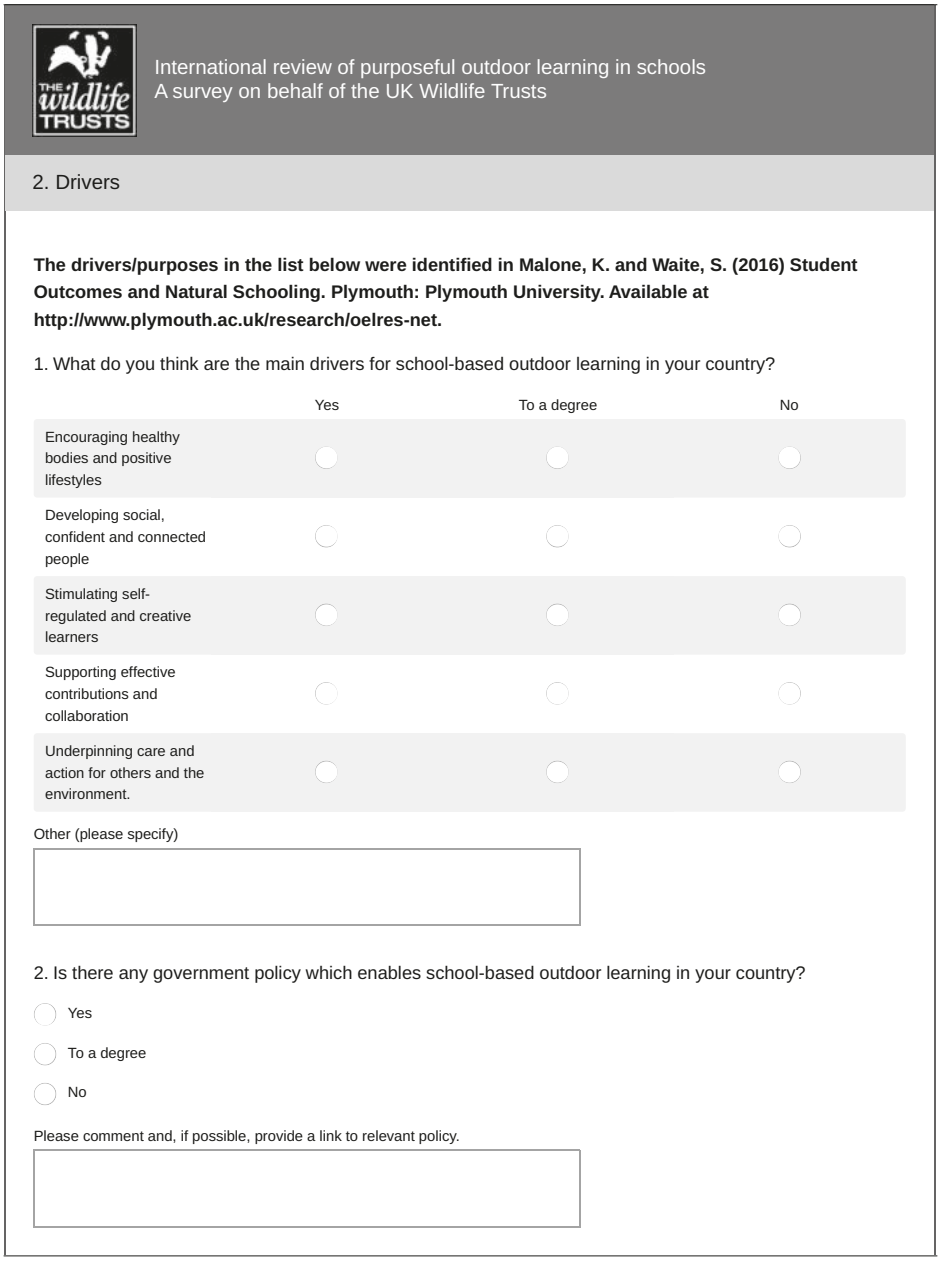


Figure A1. *Cont.*



International review of purposeful outdoor learning in schools
A survey on behalf of the UK Wildlife Trusts

2. Drivers

The drivers/purposes in the list below were identified in Malone, K. and Waite, S. (2016) Student Outcomes and Natural Schooling. Plymouth: Plymouth University. Available at http://www.plymouth.ac.uk/research/oelres-net.

1. What do you think are the main drivers for school-based outdoor learning in your country?

	Yes	To a degree	No
Encouraging healthy bodies and positive lifestyles			
Developing social, confident and connected people			
Stimulating self-regulated and creative learners			
Supporting effective contributions and collaboration			
Underpinning care and action for others and the environment.			

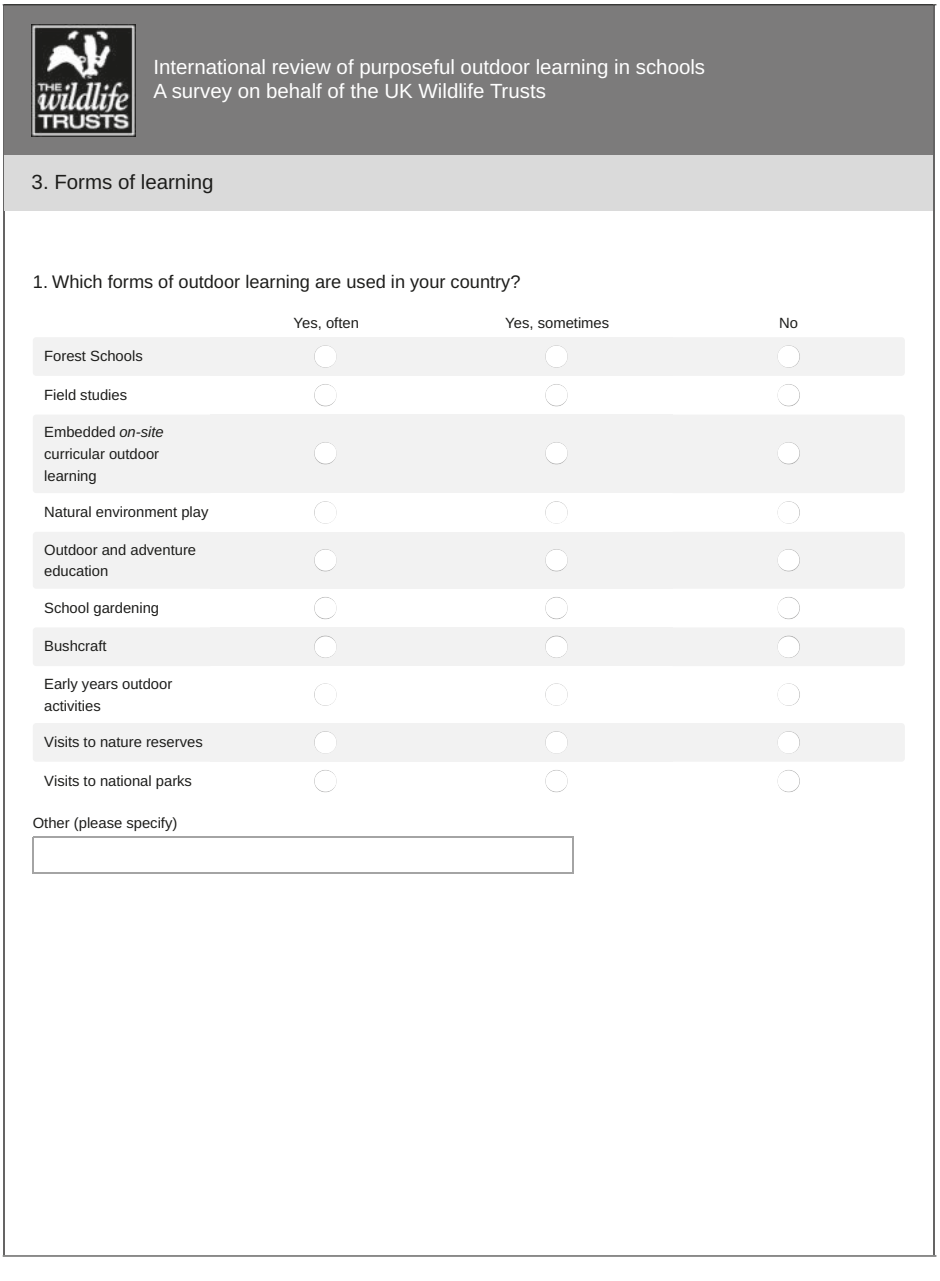
Other (please specify)

2. Is there any government policy which enables school-based outdoor learning in your country?

- Yes
- To a degree
- No

Please comment and, if possible, provide a link to relevant policy.

Figure A1. *Cont.*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3. Forms of learning

1. Which forms of outdoor learning are used in your country?

	Yes, often	Yes, sometimes	No
Forest Schools	○	○	○
Field studies	○	○	○
Embedded *on-site* curricular outdoor learning	○	○	○
Natural environment play	○	○	○
Outdoor and adventure education	○	○	○
School gardening	○	○	○
Bushcraft	○	○	○
Early years outdoor activities	○	○	○
Visits to nature reserves	○	○	○
Visits to national parks	○	○	○

Other (please specify)

Figure A1. *Cont.*

2. Which of the drivers do you think are ***mainly*** behind the use of the different forms of learning? (please tick as many as apply)

	Encouraging healthy bodies and positive lifestyles	Developing social, confident and connected people	Stimulating self-regulated and creative learners	Supporting effective contributions and collaboration	Underpinning care and action for others and the environment.
Forest Schools	☐	☐	☐	☐	☐
Field studies	☐	☐	☐	☐	☐
Embedded *on-site* curricular outdoor learning	☐	☐	☐	☐	☐
Natural environment play	☐	☐	☐	☐	☐
Outdoor and adventure education	☐	☐	☐	☐	☐
School gardening	☐	☐	☐	☐	☐
Bushcraft	☐	☐	☐	☐	☐
Early years outdoor activities	☐	☐	☐	☐	☐
Visits to nature reserves	☐	☐	☐	☐	☐
Visits to national parks	☐	☐	☐	☐	☐

Other (please specify)

Figure A1. *Cont.*

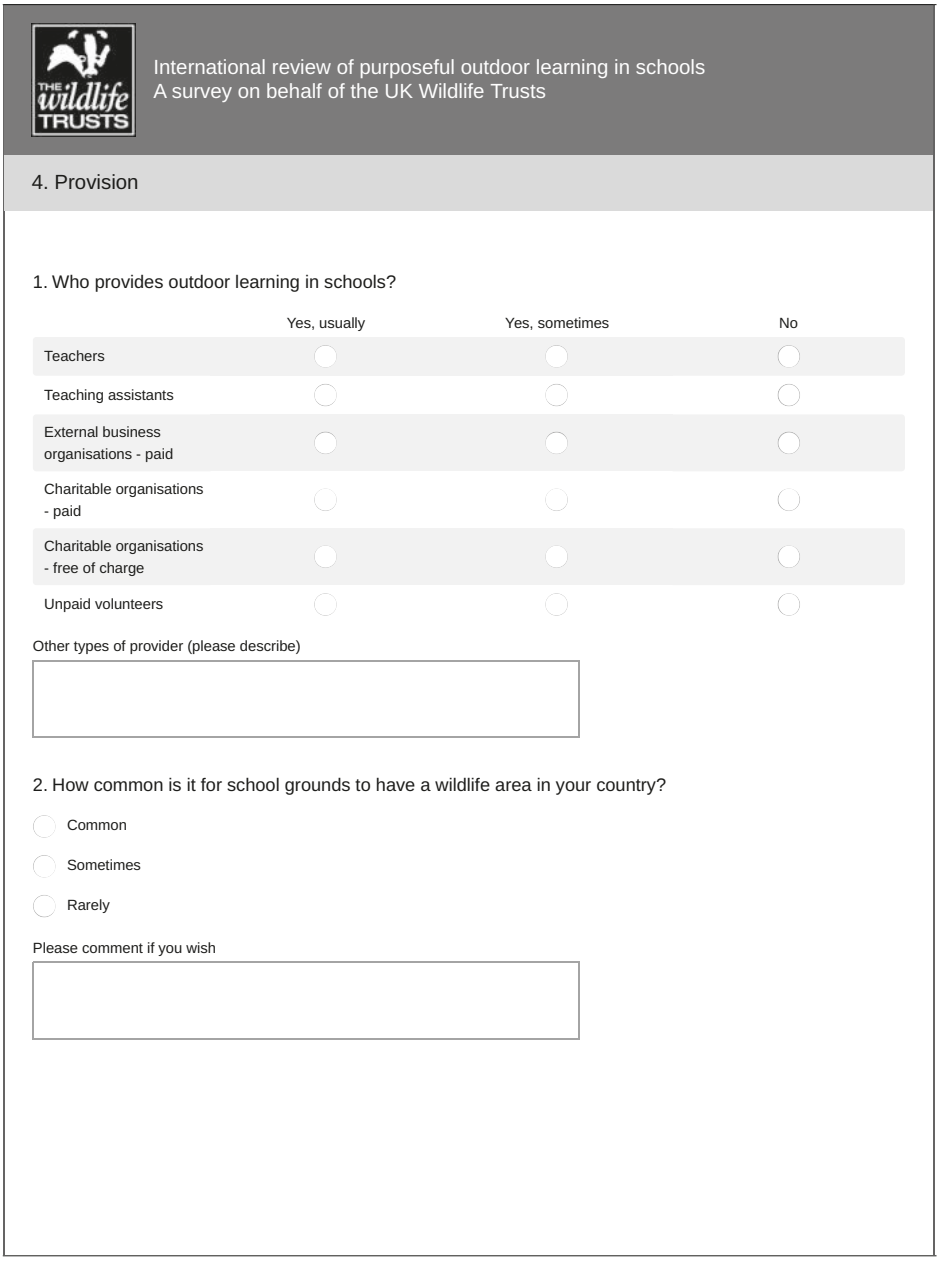


Figure A1. *Cont.*

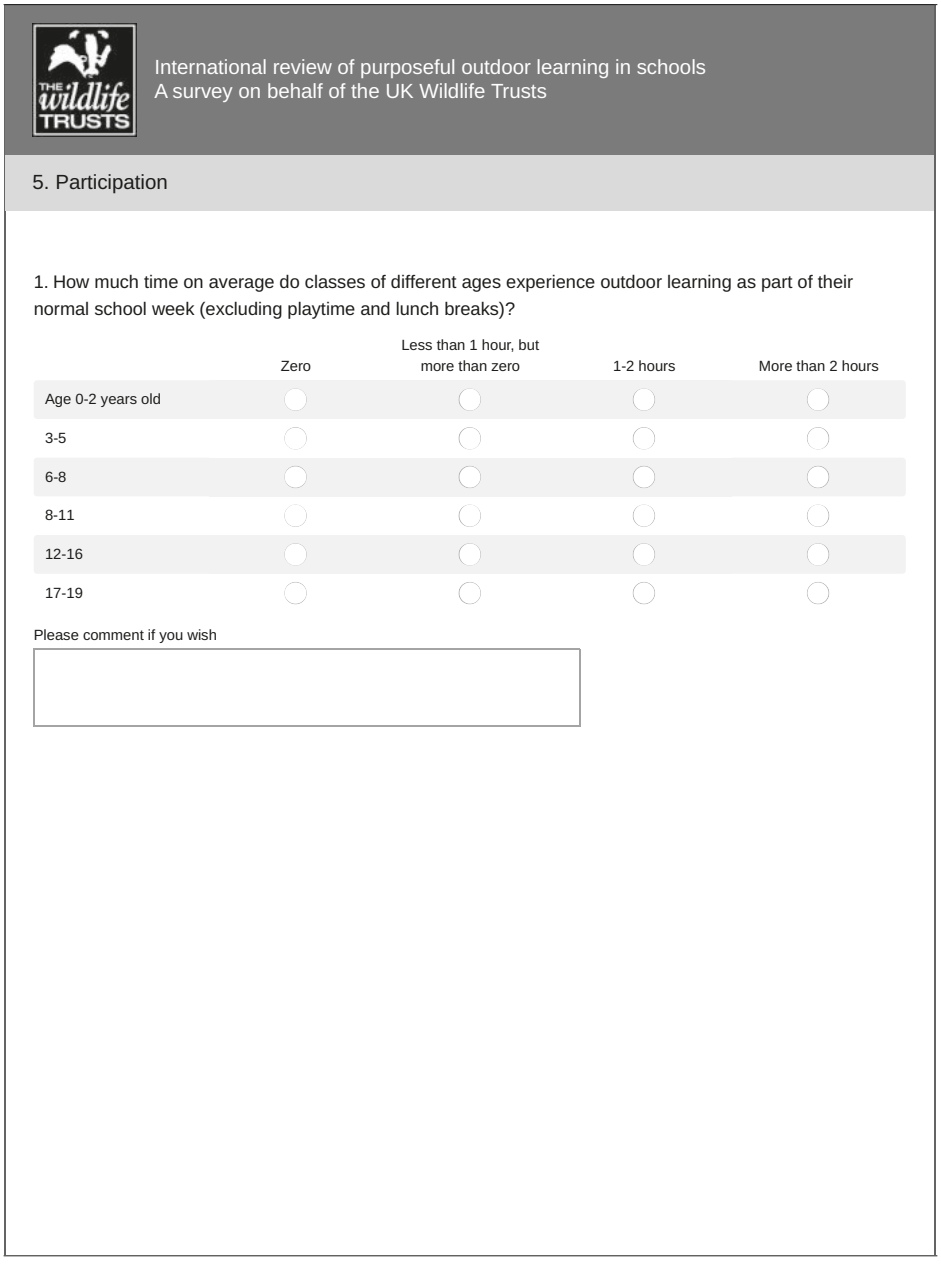
3. To what extent are there barriers to school-based outdoor learning in your country?

	Yes, a significant barrier	To a degree	Not a barrier
Staff lacking confidence in working outside	○	○	○
Staff uncertainty about linking outdoor learning to the curriculum	○	○	○
Lack of funding	○	○	○
Need for volunteer support	○	○	○

If other barriers, please describe

4. Please briefly describe how improvements in school-based outdoor learning are being addressed in your country.

Figure A1. *Cont.*



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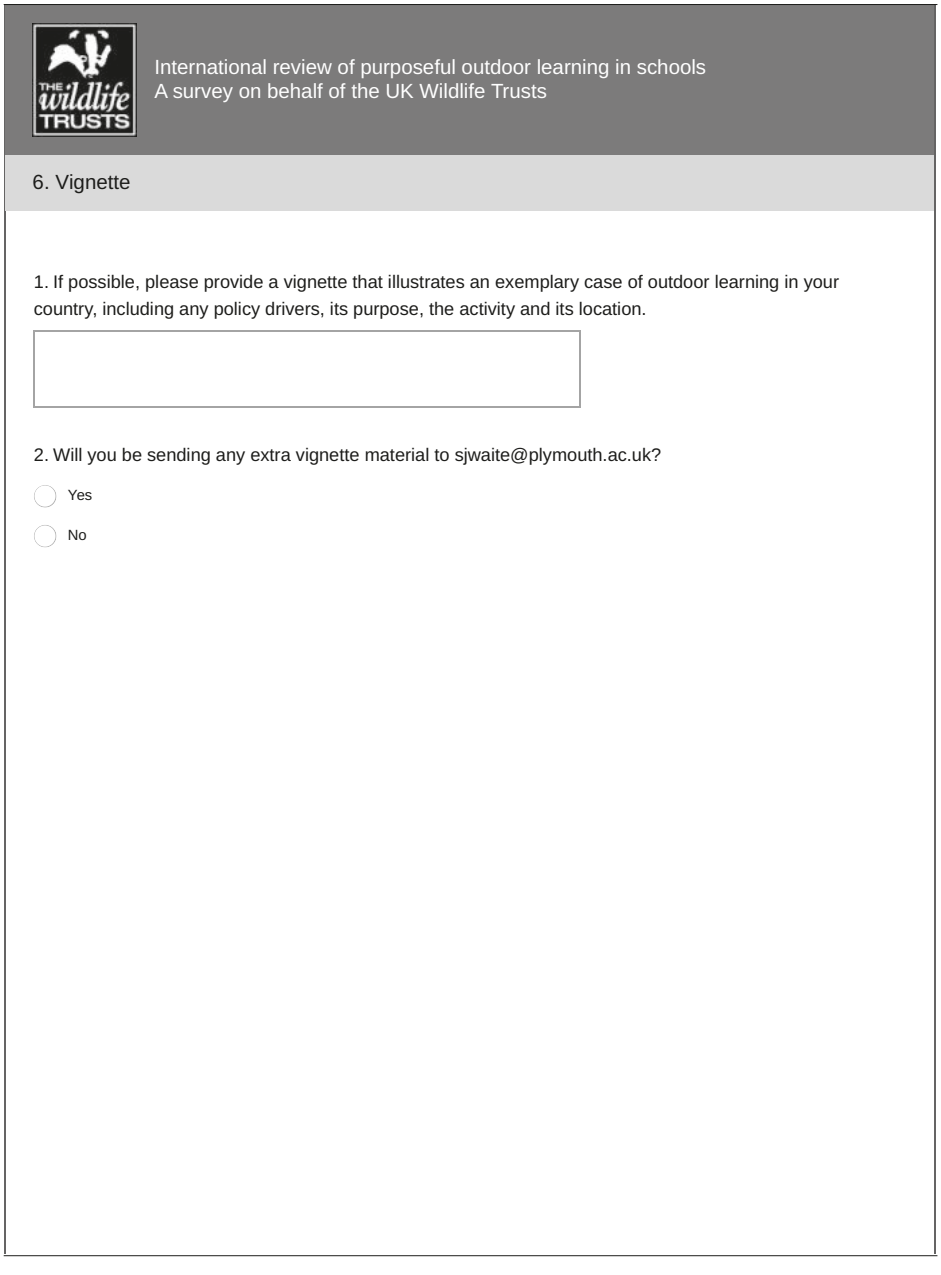

Figure A1. The questionnaire.

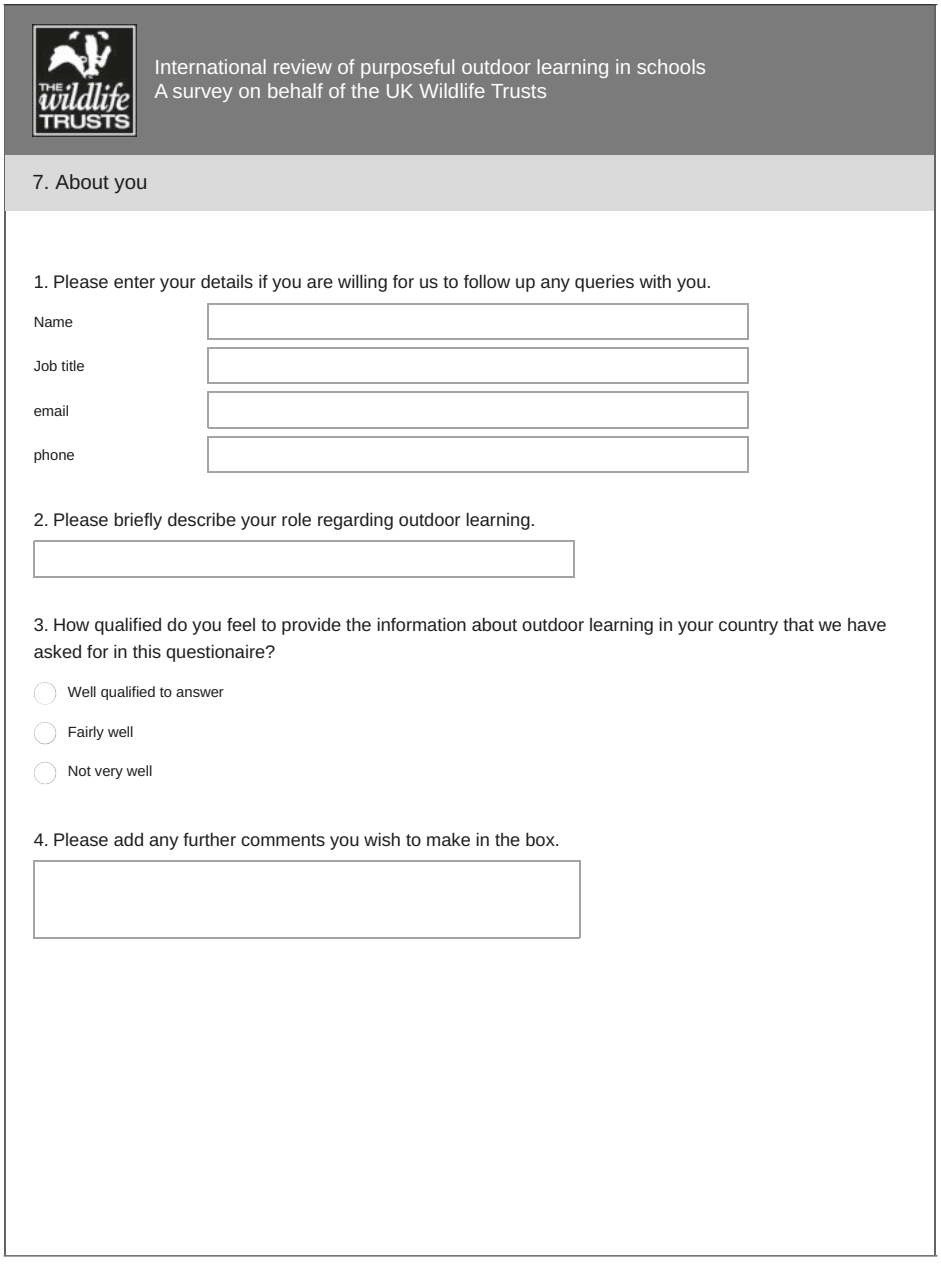

Figure A1. The questionnaire.

Figure A1. The questionnaire.

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Article

Exploring the Inclusive Praxis of Outward Bound Instructors

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Abstract: Equity and inclusion are critical issues that need to be addressed in outdoor adventure education. Although some literature identifies inclusive practices for enhancing equity in outdoor adventure education, most research does not situate these practices within the contexts in which they were created and used. Therefore, the purpose of this study was to explore outdoor adventure education instructors' inclusive praxis, and the conditions that influenced their praxis on their courses and in their instructing experiences. To this end, we conducted semi-structured interviews with ten instructors from four Outward Bound schools in the USA. The instructors varied in their gender, school, types of programs facilitated, and duration of employment with Outward Bound. Our inductive analysis of the interview data focused on the identification of themes illustrating the characteristics of instructors' inclusive praxis, as well as the conditions that influenced their praxis. Themes emerged from our analysis that highlighted the macro and micro conditions that set the stage for instructors' inclusive praxis, which focused on creating spaces that fostered inclusive group cultures on their courses. The findings from this study may be a useful starting point for enhancing the instructors' role in fostering equity and inclusion on outdoor adventure education courses. We conclude with suggestions for future research.

Keywords: outdoor adventure education; social justice; inclusive praxis; Outward Bound

1. Background

Scholars and practitioners in the field of outdoor adventure education (OAE) have long called for the advancement of social justice within the field [1–13]. These calls have been motivated in part by a recognition of ongoing social, economic and demographic changes to which the field must adapt in order to effectively address the needs of an increasingly diverse society [3,13]. They have also been motivated in part by a recognition of inherent dilemmas and contradictions in the field that inhibit the ability of OAE professionals to meaningfully promote social justice through their work [6,8,10,13]. Warren wrote: "In the past, the innocent utopian vision of an outdoor course might have allowed a disconnection from prevailing social issues, but the scale of the dialogue no longer allows complete disassociation" [11]. Warren pointed to social justice education as "an avenue to address the volatile climate created by disparities in opportunity based on race, gender, and class, as well as other social identities" [11] Furthermore, Warren [11] called for scholars and practitioners in the field to embrace the work of promoting social justice education.

There have been numerous other such calls to advance social justice in the field of outdoor adventure education, many framing this endeavor as a moral imperative [1–13]. Although there has been little consensus on how best to accomplish this goal [13], one common element among these calls is that they are all typically grounded in John Rawls' [14] theory of justice—a distributive approach to justice in which all social goods should be distributed equally among the members of a society, unless

an unequal distribution of goods would be to everyone's advantage. Distributive justice is concerned with social and economic inequities resulting from unequal access to the resources (e.g., educational opportunities) needed to attain social and economic goods [14]. Accordingly, justice results when resources are (re)distributed equally across social classes, regardless of the reasons for the initial disparities [14]. OAE organizations strive to implement this approach to justice in their use of scholarship programs and partnerships with other youth-serving organizations [3,5,15] in order to enhance marginalized students' access to programming.

Recent scholarship on social justice in the OAE field has also been framed largely in terms of Rawls' [14] theory of justice. In a study exploring the efficacy of the NOLS Gateway Scholarship Program, for example, Gress and Hall framed social justice in terms of "socioeconomic inequalities, different cultural values, differing levels of cultural integration into the dominant society, and perceived or actual discrimination . . . " [3]. Rose and Paisley explored the influence of Whiteness in framing OAE experiences, arguing that OAE—as traditionally practiced—is a privileged pedagogy "aimed at maintaining the status quo and reproducing dominant power relations between racialized groups" [6]. They consider social justice through the lens of critical theory (particularly critical race theory), framing it in terms of the privilege/oppression dialectic, and call for a more socially just reformulation of the field [6]. Others, such as Paisely et al. [5], have also considered how the provision of scholarships might enhance the diversity of student groups on OAE courses, thus helping OAE to work toward social justice along the lines of socioeconomic status. They found that OAE students' experiences differed depending on the composition of the group (i.e., the ratio of students with and without scholarships). The most homogenous groups (either mostly students with scholarships or without scholarships) reported having the strongest interpersonal connections. Groups with an even split of students with or without scholarships showed the most potential for social justice education. Based on these findings, Paisley et al. [5] conclude that OAE must go above and beyond increasing access through scholarships to further the ideals of social justice throughout the field.

Although researchers have begun to explore the ways in which efforts to enhance access to programming through scholarships affect students' experiences and ultimately serve to promote social justice, there is still a clear need to find additional methods aligned with alternative conceptions of social justice to more fully promote social justice in the OAE field. Therefore, the purpose of this study was to explore how a select group of Outward Bound (OB) instructors in the United States described their inclusive praxis and the conditions that influenced their praxis.

1.1. Communitarian Approaches to Social Justice

Understanding the philosophical and contextual foundations of social justice is important in order to discern how to effectively promote social justice in OAE. Concepts of social justice have taken many forms, as they have often reflected the societal events and contexts in which issues of social justice have been considered [16,17]. While we are mindful that there are many conceptual approaches to social justice, our study focuses on an approach to social justice that seems especially pertinent to efforts to promote social justice in the field of OAE: communitarian approaches to social justice.

Communitarian approaches to social justice focus on the development of values and practices that reflect full inclusion in a given community, rather than focusing merely on issues of inequitable access. Communitarian approaches imply that social justice requires "acceptance of the norms and standards of particular communities, and that these would have priority" [18]. Although communitarian thought is often seen as being socially conservative, communitarian approaches to social justice do not necessarily embrace the notion that there are universal and immutable values or ethical standards to which we must adhere. On the contrary, communitarian approaches assume that these values and ethical standards are characteristic of the particular communities in which they emerge. Membership in communities is especially valuable in this view, because, "as culture-creating creatures, people need to be able to participate in the creation of the common life and its values" [18]. As such, communitarian approaches to social justice provide a framework for the illustration of the value of engaging individuals in the

process of forming communities through a negotiation of the values and norms that define the life of the community.

Educational practices that are rooted in communitarian approaches to social justice ultimately aim to foster better-quality educational experiences for all learners. As Artiles et al. note: "A communitarian vision favors social cohesion as reflected in values and beliefs that are embraced by members of a group or community . . . The goal is to embrace an inclusive vision of education and engage in political struggles that will help build such vision" [19]. Inclusion has been linked to the promotion of social justice in numerous educational settings, and can be defined as the philosophy of providing equitable participation through an environment where everyone belongs [19–24]. According to Booth, "ensuring that people are present within education settings is a prerequisite for fostering their participation" [20]. Nevertheless, equitable access is meaningless if social barriers still prevent students' full participation in activities and learning experiences [25]. Inclusive practices are intended to create more meaningful and equitable learning environments [24,26]. Inclusive practices often include self-awareness of personal biases and privilege, the creation of supportive learning environments, and the provision of relevant supports [2,4,27].

1.2. Advancing Social Justice through Inclusive Praxis as a Pedagogical Approach

Most research about providing OAE experiences for students from underserved groups has focused on the experiences of the program participants [3,5,15], rather than OAE instructors' facilitation of inclusive experiences. Given the well-documented importance of instructors to student experiences [28–30], instructors' inclusive praxis deserves scrutiny [10,11,31]. Warren has argued that outdoor leaders are uniquely positioned to engage in social justice work, noting that "Since the hallmark of adventure education methods is to cultivate a climate of safety and comfort, for people's feelings to be heard and respected, to choose supported challenges, and for individual differences to be valued, they offer an excellent methodological fit with learning about social justice" [11].

Warren also highlighted the need to prepare future generations of outdoor leaders "to be responsive to social justice issues in their teaching and leading" [10]. However, at the time of this publication, Warren [10] also noted that there was a lack of guidance in the literature on preparing outdoor leaders to be responsive to social justice issues. While the literature in this arena has expanded to some extent since that time (e.g., [1,2,4,7]), little is known about OAE instructors' efforts to implement the principles of social justice education and to engage in inclusive praxis when facilitating OAE experiences.

Praxis can be defined as the dynamic process through which practices are conceptualized, informed, implemented, and reflected upon within the context of theory and experience [1,27,32,33]. Inclusive praxis refers to the process of using theory or experience-informed practices and reflection to intentionally design pedagogy and environments that enable full participation [1,11,33]. De Silva suggests that inclusive praxis uses "different pedagogic models centred on social justice, democracy and respect for differences and integrate knowledge through a participatory approach, which means both participating in dialogue and inventing alternatives to create inclusive classrooms" [27]. Examples of inclusive praxis in mainstream educational settings include culturally responsive pedagogy, universal design of instruction, and social justice education (SJE). While these approaches have promise as pedagogical strategies for enhancing equity, little attention has been given to these models in OAE (e.g., [7]) despite consistent calls for their use [9,11,13]. Therefore, an investigation of OAE instructors' inclusive praxis may provide evidence to suggest the ways in which instructors' praxis align with the existing inclusive praxis of other educators in mainstream educational settings. Additionally, an investigation of this nature may help develop an inclusive praxis unique to OAE that can then be used to inform practice.

As Warren and Loeffler argued, if the field is to work toward social justice, OAE research must focus on understanding "how to make changes leading to more socially just practice in our programs and management efforts" [12]. In an effort to answer these consistent calls, we sought to identify both the inclusive praxis of instructors and the conditions that influenced their praxis. The following

questions guided our investigation: (1) How do instructors describe their inclusive praxis? (2) What conditions influence instructors' inclusive praxis?

2. Materials and Methods

We used a constructivist approach to understand the instructors' inclusive praxis. This approach is appropriate for studies that aim to understand how individuals make meaning and construct their interpretations of phenomena [34]. To answer our research questions, we focused on Outward Bound (OB) instructors because of the organization's historical and contemporary commitment to diversity and inclusion, as well as its relevance to other OAE organizations that utilize expedition-based classrooms [4,11,35]. It should be noted that many OAE organizations have modeled their programming after the OB model initially put forth by Walsh and Golins [36].

2.1. Sampling

We used purposive snowball sampling to recruit instructors from OB schools in the USA to participate in the study. In order for participants to be eligible for inclusion in this study, instructors had to have worked a minimum of one year for an OB school in the USA. The lead author contacted OB schools and asked program administrators and instructors to refer potential participants based on anecdotal evidence of their commitment to inclusive programming. We chose this recruitment method for its potential to elicit information-rich cases [34]. The first author intentionally selected instructors from those suggested by program administrators and instructors to comprise a group of OB instructors from a diversity of backgrounds and with varying instructional experiences, in order to best understand inclusive praxis across the spectrum of instructor experiences. The interview participants (5 females and 5 males) were from four USA OB schools, facilitated varying types of programs (e.g., at-risk, school groups, classic open-enrollment, etc.), and were of differing durations of employment with OB (1–19 years). We assigned pseudonyms to ensure the anonymity of the study participants.

2.2. Data Collection

Constructivism—which focuses on the co-creation of meaning—guided our data collection process [34]. In keeping with a constructivist approach, we collected data through in-depth, semi-structured interviews lasting 45–90 min, which were conducted via telephone. This approach allowed the instructors an opportunity to make meaning of their experiences through conversation with the interviewer [34]. The semi-structured approach also allowed us to use predetermined questions, yet maintain flexibility to explore the participants' responses. Other studies investigating educators' inclusive praxis have also used this approach when seeking to understand the ways in which teachers describe their praxis (e.g., [24,37]). The study's interview protocol focused on the inclusive practices used by instructors, as well as the specific conditions that influenced their use of these practices (i.e., "What is at the essence of your inclusive practices? What informs your use of inclusive practices?). The data collection and analysis occurred concurrently. As a result, no further interviews were conducted once thematic saturation had occurred [34].

2.3. Data Analysis

We used a qualitative approach guided by grounded theory strategies [34] to inductively analyze the interview data. We recorded and transcribed all of the interviews, resulting in a total of 172 single-spaced pages of transcripts that were entered into NVivo 11.4 for analysis. In order to systematically investigate the contextual layers of this group of OB instructors' inclusive praxis, our analysis was also guided by Corbin and Strauss's [38] conditional matrix. As an analytical tool, conditional matrices can be used to systematically examine the different layers (micro to macro) in which a phenomenon exists, and can provide the basis to connect different explanatory factors [38]. By using a conditional matrix to understand the different layers influencing instructors' inclusive praxis, we were able explore the contextual factors which were most salient to inclusive praxis in OAE.

The preliminary data analysis began during data collection, and involved memo taking to record our initial thoughts about the emerging themes and future directions for inquiry in subsequent interviews [34]. During the first round of coding, we used open-coding and the constant-comparison method to analyze the interview transcripts for information that was potentially relevant to our research questions [34]. After open-coding, we conducted axial coding to examine the potential relationships among the codes. Finally, we used selective coding to refine the codes and identify the salient themes. At each stage of the analysis, we utilized the conditional matrix [38] to examine potential micro and macro conditions, and their relationships to actions.

We used three distinct methods to ensure the credibility of the findings. First, the authors independently analyzed the same interview transcript in order to identify potentially important codes and create an initial codebook. Our collaborative approach to code creation and review helped to ensure the internal validity of the study. When additional codes emerged, we revisited and augmented the codebook as necessary. Second, using NVivo allowed each author to cross-check the coding process. Finally, due to their previous experience as an OAE instructor, as well as their commitment to the principles of inclusive praxis, the first author engaged in a process of reflexivity in order to minimize the potential for undue bias in analyzing and interpreting the data. The first author has instructed for OB and two other OAE organizations for three and a half years, working approximately 200 days each year, and has instructed a variety of course types serving students of varying abilities, ages, genders, race/ethnicities, religious beliefs, military status, adjudication status, and life experiences. While also being a potential source of bias, the first author's insider status also provided a unique vantage point that helped enrich the analysis and interpretation of the study's findings. Both of the other authors have professional OAE experience in a variety of settings, including field instruction and higher education.

3. Results

Our analysis of the interview data resulted in the identification of multiple emergent themes illustrating the characteristics of inclusive praxis and the conditions influencing the instructors' inclusive praxis. The themes were categorized into three broad thematic categories: (1) setting the stage, (2) creating spaces, and (3) inclusive group culture. In short, the OB instructors' inclusive praxis was influenced by the conditions that set the stage for the creation of spaces aimed at fostering the development of inclusive group cultures.

3.1. Setting the Stage

A key aim of this study was to develop an understanding of the conditions that influenced inclusive praxis among OAE instructors. Four primary conditions that influenced, or helped set the stage for, the instructors' use of inclusive practices within Outward Bound programming emerged during our analysis: societal conditions, organizational conditions, course design, and instructor characteristics.

3.1.1. Societal Conditions

Instructors' responses suggested that the current social and political climate influenced their implementation of inclusive praxis. A key example was provided by Ryan, who indicated that the current climate posed challenges to the facilitation of conversations about diversity, equity, and inclusion, especially those including politics. "We actually have a specific policy this year that says, 'Instructors are not allowed to express their political views on course.' But then you get students whose political views are that we should get rid of immigrants and not be charitable to the poor, etc. I don't want to exclude you based on your political views, but those opinions are in complete contradiction to what we're trying to do here."

Other instructors also acknowledged the influence of broader social and political issues related to equity, inclusion and diversity. Referring to the challenge of talking about current political issues, Derrick stated that "especially now that Trump's in there doing things that might infuriate some people

[but not others . . . these conversations] are definitely worth having, but [keeping them] respectful can be tough."

3.1.2. Organizational Conditions

Many of the instructors identified the organizational culture of OB as being influential to their inclusive praxis. Rebecca attributed this to the organization's origins, stating that "The Kurt Hahn story can be used as a lesson around inclusivity in a lot of different ways." Melissa felt that it was an expectation to be "doing everything you can so that your trips are really inclusive... that's the goal of Outward Bound." For other instructors, this aspect of the organizational culture manifested itself through formal and informal conversations addressing questions such as, "Where does diversity, equity, and inclusion factor into an Outward Bound course? Is [inclusion] a required part of curriculum? Where does [inclusion] play in, in terms of Outward Bound's philosophy and what we've previously done?" Riley highlighted one of the challenges of taking a stance as a non-profit organization, asking, "Are we prescribing a theory of justice, or are we just hoping [students] get there on their own?"

Most instructors said they had participated in OB-sponsored diversity, equity, and inclusion trainings. Amanda stated that these trainings "provided resources and a common language . . . to be able to talk about inclusive practices." Other instructors, such as Eric, indicated that his co-instructors on courses provided him valuable training that "set the norm." OB's culture, trainings, and employees all influenced the way in which the instructors in this study implemented inclusive practices on courses.

3.1.3. Course Design

The instructors pointed to several elements of the OB course design that promoted inclusion. Numerous instructors, such as Rebecca, suggested that OB promotes equity by "issuing people identical gear and putting them in identical situations regardless of where they come from and just normalizing that." Other instructors indicated that the stresses that students naturally experience during OB courses help set the stage for inclusive practice. For example, Jack stated that "[OB's] model really lends itself to inclusive practices in some ways by creating a pressure cooker . . . if we're playing it right, the communication progression really lends itself to working with all the different issues that'll come up as a result of the stresses of the expedition." Other instructors also suggested that OB courses promote inclusion through programmatic characteristics, such as the curricular structure and the management of group dynamics.

3.1.4. Instructor Characteristics

Understanding who the instructors are and what they bring to the table may help explain why they engage in inclusive praxis. The instructors' identities often shape the way they perceive the potential struggles of students whose identities are underrepresented in the outdoor industry. Amanda, who identifies as biracial and lesbian, stated that "I don't look like that general image [of an outdoorsy person] and neither do these students [students of color], but all of us belong here. There's not anything different about that, in terms of being able to succeed on an Outward Bound course."

Other instructors indicated that their childhood, school, and professional experiences influenced their commitment to inclusive practice. Ryan, for example, identified his religious beliefs as being important, stating, "part of it is also religious motivation . . . accepting diversity and being inclusive is nothing short of a divine command." Riley identified college as being pivotal, stating that "Just being very involved in a lot of social justice movements or student groups . . . gave me a lot more understanding and knowledge and desire to structure my life around those values." Many of the instructors identified previous professional experiences as being influential to their use of inclusive practices. For example, Derrick stated, "[W]hen you're in a classroom [teaching] students [disinterested in] biology . . . you've got to find ways to reach those students, kind of the same way that you might on an Outward Bound course."

The interview data also suggested that the instructors' attitudes were critical to their inclusive praxis. Riley highlighted the power of the instructors' attitudes, stating, "I think because it makes the student experience better for all students … and so I get disappointed in myself if I don't feel like I've done that, and feel better when I've taken the extra effort to be as inclusive as possible." Likewise, Doug noted that inclusion aligned with his core values: "I go back to values clarification and thinking about what is important to me … I think of compassion [as] one of my top values and … inclusive practices just sort of make sense as a way that I want to operate."

3.2. Creating Spaces

Another aim of this study was to understand the ways in which the instructors described their inclusive praxis. Our data analysis revealed that this group of OB instructors described their inclusive praxis as a process of creating spaces that can help foster the development of a positive group culture among the program participants. These spaces included the following elements: emotional safety, open conversations, freedom of expression, common ground, and the creation of connections.

3.2.1. Emotional Safety

Establishing emotional safety early on during a course is essential for the creation of an inclusive course environment. Derrick stated, "[I]f you really wanted to have an inclusive environment, it wouldn't look like shying away from those things that make people diverse. It would be putting the diversity front and center, in a context where people feel really respected and open, so that they can share."

The instructors, such as Riley, often set a tone of respect by articulating clear expectations for students: "This group is going to be one that accepts each other and supports each other." Many of the instructors noted that establishing this standard early on in a course created a safe space that encouraged more genuine participation from all of the students.

3.2.2. Open Conversations

Once an emotionally safe space is created, open conversations can help the group become more connected. Amber stated, "Increasing empathy through open conversation" was important because "people have to realize what they have in common and also be able to understand what makes them different." Jack identified the use of circles as a baseline inclusive practice for open conversation: "[W]e sit in circles, we stand in circles, and that's a great baseline inclusive practice. You can see everybody … As we start to build the culture of circle communication, we start adding in different elements … You have these structured ways of allowing everybody to communicate … within the circle."

Other instructors indicated that intentional partner assignments created opportunities for students who were unlikely to speak with each other often to have more meaningful conversations than they might otherwise have. Riley stated, "I do small things like switching up their partners, in paddling or tents … or even buddying them up with somebody and having them interview that person … Leave it up to them to get a little vulnerable with each other." All of the instructors in this study suggested that creating spaces that encouraged open conversations was necessary for inclusive group cultures.

3.2.3. Freedom of Expression

Open conversations create opportunities for the students to freely express themselves. Amber stated, "Inclusive practice is allowing freedom of expression and an ability to create space for students to share their background and their previous experience." Eric also identified freedom of expression as being critical, stating that "the ability to be open and have people feel welcome regardless of who they are … allows you to appreciate others for who they are." Doug noted: "The more you're able to connect with people, the easier it is to understand people and be part of a group with them."

Other interview data revealed that spaces that encourage freedom of expression can lead to greater empathy among students. Melissa acknowledged the need to actively facilitate conversations in order to create an emotionally safe space, stating, "[I]f you have the goal of students eventually feeling

comfortable with sharing parts of their identity with the group … on the first day give everyone a chance to have a voice. I love doing my sharing in terms of activities, because I think it helps build empathy and compassion among students."

3.2.4. Common Ground

Developing common ground among the students is essential to inclusion on OB courses. Melissa stated, "Things that help build the whole group's identity are really valuable because the more the entire group has shared, the less the experience is about their differences." Other instructors identified the celebration of group accomplishments as a way to build group unity. Amber highlighted the need to celebrate shared successes early in the life of a group, stating, "Whether that's finishing our first long day … or [the development of skills] that the group can demonstrate on their own … just finding ways to celebrate that as a group." According to these instructors, setting challenges that caused students to rely on each other were instrumental to the establishment of open lines of communication and the development of common ground.

3.2.5. Creating Connections

Providing the students with opportunities to explore differences and discover similarities led to more meaningful connections. Riley suggested that the development of an inclusive group culture relies heavily on the opportunity to go beneath the surface, stating, "I think of creating space where everyone from a unique background is respected and heard by other people in the group, and also a culture that is … not catering to just one type of person. I think... deliberate activities, conversations, and structures ensure that students are able to go underneath the surface and connect with each other on a human level."

The instructors believed that going beneath the surface allowed the students to empathize with their fellow group members, which ultimately led to stronger group connections. Jack stated, "Any kind of activity where they're sharing who they are to the whole group while the whole group is listening galvanizes group culture in a way that I think is hard to quantify, but I see it every time." Other instructors identified the use of intentional structures, activities, and conversations as a way for students to reconcile their differences and embrace a common goal. Rebecca highlighted these benefits, stating, "If I can get them talking about the real things in their life and their pivotal points sooner, then that's building empathy and connections … and that will build a bond."

3.3. Inclusive Group Culture

These instructors believed that creating spaces that foster strong connections between students helps to build inclusive positive group cultures rooted in meaningful relationships and compassion. According to many of these instructors, OB inclusive praxis is aimed at creating spaces that foster the development of inclusive group cultures. The instructors identified values clarification and compassion as essential elements of an inclusive group culture.

3.3.1. Values Clarification

Providing students with opportunities to identify their own values, as well as to commit to group values, was identified as being essential to achieving positive group cultures. Eric described his approach to promoting values clarification on the course as "having conversations about, 'Okay, here's our school's [values], here's what we say is important.' Then asking students, 'What do you think is important? What are your values?' … [I]t allows for people to start listing the differences of, 'You value honesty, while Jimmy values this, and, we're a group, so how are we going to allow these differences to play out?'"

Most of the instructors identified guided discussions as being an effective strategy for the clarification of values. Amber stated, "Guided discussions get structured in early on as a lesson format … to be able to share what they value." Other instructors also identified student-driven conversations

about values to be an important element of positive group culture on their courses. Jack identified intentional structures and teachable moments as effective strategies, stating that "structuring an experience so that people have genuine decision-making opportunities allows us to bring those values into play and highlight them as a way forward. I think that it's reinforced by sort of group living agreement... a values conversation that will be applied in situations like that. They allow you to reflect back and kind of audit your behavior so to speak."

3.3.2. Compassion

The process of values clarification sets the stage for the development of compassion, which, for the instructors in this study, was focused on the creation of a space where all of the students felt like they belonged. Riley stated, "I want my courses to be at a place where everyone feels like they belong, can contribute, and are valued. [S]o, developing a culture of compassion … will make them feel safe enough to contribute and feel like they can be themselves within a group." Derrick identified intentional activities and role modeling as effective strategies for developing compassion: "You've got to develop compassion somehow by feeling it … You can set up these situations where, because of the context of the activity, they end up having these feelings exposed based on their behaviors, and then it gives them something to reflect on." Jack identified the process of conflict resolution as a method for developing compassion, stating, "I think that just by conditioning people to air their concerns and conflicts in a certain way and being present for those conversations as needed, we start to develop an ethic of tolerance, understanding, and compassion." When asked about how he knows a group is inclusive, Doug stated, "If people are helping each other and demonstrating service and compassion [they are being inclusive]."

3.4. Barriers to Inclusive Practice

While the above sections provided evidence that the instructors in this study are intentionally engaged in the promotion of social justice through the use of inclusive praxis, a number of barriers to the provision of inclusive experiences were also identified. These barriers included: time constraints, student motivation, student demographics, instructors, and the program model.

Time constraints often posed a barrier to inclusive practices on courses. Many of the instructors indicated that the intense nature of expeditionary travel often shifts the focus toward immediate needs, making intentional activities about diversity, equity and inclusion difficult to incorporate due to a lack of time. For example, Ryan stated, "Do we want to do the [inclusion] activity, or do we want them to get some sleep tonight? And, a lot of times you choose [giving] them some sleep, because they need that, or this activity's not going to work if everyone's tired."

Groups function more effectively when their members are motivated to achieve a common goal. Many instructors suggested that positive group dynamics were a high priority; however, facilitating this process can be challenging due to inconsistent student motivation. For example, Doug stated, "Low motivation is another hard one that can get in the way of students being willing to put effort into conversations we're having. The way out they look for is, 'I don't even care about these conversations. I'm not going to see these people in twenty-eight days.'"

The instructors stated that, although they do perceive student diversity in OB programming, it is not always evident on the courses. The instructors indicated that most students were White, and were from more affluent backgrounds, and that the visible diversity on the courses was created through scholarships aimed at empowering high-performing youth from marginalized backgrounds. Riley explained her struggles working with homogenous student groups: "there's a lot to happen in an all-White upper middle class/upper class student group in terms of being inclusive, but wanting to do some deeper activities about inclusion and feeling … they won't be receptive to it because we're all similar." Many of the instructors stated that the lack of diversity on the courses caused tokenism or contrived conversations about inclusion.

Nearly all of the instructors stated that other OB instructors' priorities on courses could create challenges to enacting their inclusive praxis. For example, Jack said that "one of the moments that . . . happens pretty much every year at least once, somebody wants to do a technical objective and in my opinion the group doesn't want to. They don't understand why it won't go, and that's exclusive. To whatever extent to focus on those expeditionary objectives over the group culture itself the inclusion starts to slide." Other instructors, such as Derrick, identified instructors' attitudes as a potential barrier to inclusive practice: "If [inclusion] is not something that's important to you, or if you don't find it really important to get to know people and make sure everyone's having a positive experience, then it's not going to be your priority anyway, right?"

Although Outward Bound USA identifies inclusion and diversity as a core value, the participants in this study also suggested that the program model may not meet the needs of all students and, therefore, may not be inclusive. For example, Rebecca said that, "some of the narratives we use to describe an Outward Bound course, like 'this is the hardest thing you've ever done . . . ' [are not] always the most inclusive or relevant for some of our students. Summer searchers don't need the hardest thing they've ever done . . . What they need is a chance to work on themselves and invest in their own development so that they can go home and take care of their family." Several of the instructors noted that, if OB aims to exemplify its core values, the program model may need to be adapted to be more inclusive.

4. Discussion

The purpose of this study was to explore how OAE instructors describe their inclusive praxis, and the conditions that influence their inclusive praxis. To achieve this aim, we investigated the inclusive praxis of an intentionally-selected group of OB instructors with a diversity of backgrounds and instructing experiences. Several themes emerged through our inductive analysis of the semi-structured interview transcripts which suggest that these instructors' inclusive praxis was framed by a range of conditions that set the stage for creating spaces for the development of inclusive group cultures among OAE students. See Figure 1 for a visual of OB instructors' inclusive praxis.

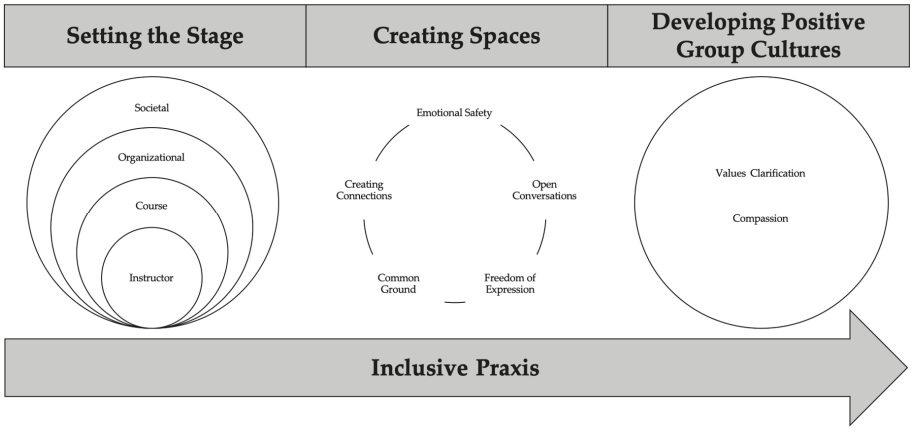

Figure 1. OB instructors' inclusive praxis.

4.1. Conditions Influencing Instructors' Inclusive Praxis

Several themes emerged during our analysis that suggest a consistency among the conditions that influenced the instructors' inclusive praxis. At a macro level, societal issues framed the instructors' use of inclusive practices. Many instructors referred to the current social and political climate—with respect to issues of diversity, equity, and inclusion—as a clear indication of the need for OAE organizations,

such as OB, that are committed to promoting inclusion and diversity. Although this study took place prior to the racial justice movement catalyzed by the events in the United States during the spring of 2020, events and movements such as these will likely continue to influence inclusive praxis among OB and other OAE instructors in the foreseeable future.

OB instructors' inclusive praxis also appeared to be predicated by organizational characteristics that instilled an expectation that courses should be inclusive. The instructors' responses suggested that the policies and trainings influenced their use of inclusive practices by providing guidelines and skill development opportunities. This finding suggests that developing an organizational culture of inclusion can significantly influence the instructors' inclusive praxis. As noted by many of the instructors, the curricular structure of OB courses and the communal aspects of wilderness expeditionary travel fostered shared experiences and impacted the strategies that they used to create inclusive group cultures. These findings may be especially relevant and useful for OAE programs that utilize similar learning environments and pedagogical models.

At the most personal level, the instructors' backgrounds, attitudes, and competencies influenced their inclusive praxis. It is important to note that several of the instructors identified with historically or currently marginalized groups, and that they explicitly stated that their identities informed their approaches to working with students who were also from marginalized backgrounds. Many of the instructors also described specific childhood and professional experiences as being influential to their pursuit of values-driven employment and use of inclusive practices. Finally, nearly all of the instructors in this study said that attitudes, competency, and inclusive practice efficacy were linked to professional experience. These findings may be important considering the experience levels of most OAE instructors and their role in creating more inclusive OAE experiences. These findings reinforce the need for hiring processes to more intentionally consider the ways in which instructors' identities, attitudes and professional experiences might impact the way they facilitate the development of an inclusive group culture on courses. Given the relatively homogeneous demographic of OAE instructors, these findings also support the need to diversify staff demographics in order to enhance equity on the courses [13]. Furthermore, these findings suggest the importance of training that helps instructors become more reflexive as a means for understanding and developing their inclusive praxis [4,7,10,11].

Numerous barriers to inclusive praxis within OB were also identified. These barriers included time constraints, student motivation, student demographics, instructors, and the OB program model. The instructors noted that their inclusive praxis was often influenced by the more immediate needs of the expedition, such as the development of the outdoor technical skills necessary for efficient travel, cooking and camp setup. As a result, the instructors found themselves omitting more intentional lessons about diversity. Although the nature of expeditionary travel and sound risk management practices often necessitate a pragmatic approach to immediate needs, these situations may also provide useful reference points to later debrief the ways in which the stresses of the expeditions affected the group dynamics.

The instructors also noted that the temporary nature of OB courses may cause the students to become apathetic or resistant to techniques that are aimed at the creation of more inclusive group cultures. In these circumstances, one student's attitude may negatively influence the attitudes of others, leading to a more negative group culture. Given the similar temporal nature of most OAE experiences and programming, this barrier likely influences most OAE instructors' efforts to develop inclusive group cultures. This finding reinforces the need to develop the instructors' ability to effectively create inclusive group cultures in light of challenging student behaviors.

The findings of this study also highlight the relative lack of racial, ethnic, and cultural diversity on most OB courses, as many of the instructors in this study described the typical student as identifying with privileged social identities. The instructors mentioned that most scholarship students were students of color from urban environments and lower socioeconomic backgrounds, which aligns with previous research findings related to scholarships in OAE [15]. The instructors also stated that courses with greater diversity often led to more organic opportunities for the discussion of diversity and inclusion,

which is a point that has been previously addressed in OAE literature (e.g., [5]). In the absence of more obvious diversity on courses, however, instructors should still be encouraged to focus on the creation of an inclusive group culture. While this finding may not address how to overcome this barrier, it does reinforce the idea that OAE is a White and privileged space [6] further highlighting a need for changes to enhance social justice in OAE.

Many of the instructors in this study also said that OB provided frequent training aimed at increasing inclusive competency; however, some of the instructors also did not think that most of their peers could articulate strategies to create inclusive group cultures. This lack of perceived competency highlights the potential difficulty inherent in becoming more competent and confident with inclusive practices and social justice education. These findings add to consistent calls for more robust training focused on creating inclusive courses [7,10,11,13].

4.2. Instructors' Inclusive Praxis

The inclusive praxis of the instructors in this study focused on creating spaces that were emotionally safe, invited open conversations and freedom of expression, established a common ground among students, and created connections between students. These findings align with assertions of necessary approaches to the facilitation of OAE courses to offer opportunities for social justice education [11]. Indeed, the instructors in this study identified the need for emotionally safe spaces as an essential first step in the creation of inclusive group cultures, and as part of their role as facilitators. Emotionally safe spaces provided the students with opportunities to engage in more genuine conversations. As a result, open conversations allowed the students to freely express themselves and share their concerns with others. The instructors also described the development of common ground as necessary to the facilitation of OB courses, and felt that wilderness expeditions created opportunities for students to rely on each other during physical and emotional challenges. Processing these experiences was essential to the development of positive group cultures and an integral aspect of instructors' role. These findings echo the literature identifying the importance of group culture in OAE student outcomes (e.g., [4,28]), in addition to providing support for inclusive praxis as a way to foster more inclusive group cultures.

These findings also suggest a potential communitarian approach to enhancing social justice efforts in OAE, which goes beyond the common distributive justice approaches, such as the provision of scholarships alone. Communitarian approaches to social justice aim to move beyond issues of inequitable access by focusing on the development of values and practices that fully include all of the members of a community. This focus on values was evident in the ways in which the instructors discussed the qualities of an inclusive group culture. Furthermore, the instructors noted that a process of values clarification—in combination with compassion—is what best fostered the inclusion of all of the students on their courses.

In order to work toward establishing this inclusive group culture, the instructors employed numerous other inclusive practices. For examples, the instructors' inclusive praxis was predicated on creating emotionally safe spaces that fostered open communication and freedom of expression. Creating course cultures that embodied these elements helped set the stage for finding a common ground that fosters connections between the students. Enabling the students to be genuine and build community may help enable the values clarification, which results in all of the students feeling valued. The instructors' use of these practices may be one example of a communitarian approach to social justice in OAE. The findings of this study provide initial evidence of inclusive praxis in OAE, along with the factors that influenced the instructors' efforts, and thus begins to answer Warren and Loeffler's [12] call for research explicitly aimed at enhancing social justice in OAE.

Finally, the characteristics of these instructors' inclusive praxis align with common approaches found in other educational contexts, most notably SJE [7,33,39,40]. For example, a significant premise of SJE is the facilitation of emotionally safe spaces that foster meaningful dialogue and connections between people [7,39,40], which was a key element of the inclusive praxis of the OAE instructors in this study. While largely underexplored in the OAE literature, the incorporation of inclusive praxis that

resembles the praxis of other educational contexts may be a useful next step to enhancing inclusive and equitable programming in OAE [7]. Indeed, tapping into the robust literature regarding SJE may provide OAE instructors with ample opportunities to enhance their current practices focused on inclusion and social justice [10,11].

4.3. Limitations and Future Research

Although this study provides insight into the inclusive praxis of ten Outward Bound instructors and the conditions that influenced their praxis, several limitations also demonstrate a need for further research. In-depth, semi-structured interviews can produce robust accounts of a phenomenon; however, the self-reporting nature of the interviews allows for a less objective investigation of inclusive praxis. Future researchers should consider using theoretical sampling and multiple data sources in order to increase the richness of the data. An ethnographic approach could also be used to explore the inclusive praxis in action during OAE courses experiences, offering a fuller and richer illustration of the impact of inclusive praxis for the course participants.

Although the study findings may inform the inclusive praxis in OAE, they may not apply to the entire field, or to other educational settings. The findings from this study may not be applicable to other OAE programs that do not utilize expeditionary course designs and that do not share the same commitment to inclusive praxis that organizations like OB have historically held. Future research should be conducted in order to assess the extent to which inclusive praxis is valued and implemented in the broader OAE field. This may be achieved by including OAE instructors from other organizations when conducting future studies. Finally, additional research should critically assess the extent to which the field is committed to social justice and the use of inclusive praxis to accomplish these principles.

5. Conclusions

Equity and inclusion need to be addressed in OAE; however, these issues remain understudied. To address this gap in the literature, as well as heeding the call of OAE scholars, we sought to better understand how OAE instructors aim to create more equitable and inclusive experiences for the students on their courses. Our findings suggest that myriad conditions set the stage for instructors' inclusive praxis, which—if not derailed by various barriers—focused on creating spaces that foster inclusive group cultures. Broader contemporary societal movements suggest a need for educators to address the injustices that prevent equitable and inclusive experiences for some students. As the OAE field steps up to meet this need by working toward creating more equitable and inclusive experiences for all students, the findings of this study may serve as a useful starting point for considering and enhancing the impact that instructors can make through their inclusive praxis.

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