



# Book of Abstracts

2018 conference

## The Mediation of Experiences by Technology in the Outdoors

Opening or Losing Connections with the World

**CŠOD Slovenia**

in partnership with the

**European Institute for Outdoor Adventure Education  
and Experiential Learning (EOE)**

19<sup>th</sup>- 23<sup>rd</sup> September 2018

CŠOD Bohinj, Ribčev Laz 63, 4265 Bohinjsko Jezero, Slovenia





# Usefully addicted


**C S O D**  
 CENTER ŠOLSKEH  
 IN OBŠOLSKEH DEJAVNOSTI  
 Frantopanska 9, 1000 Ljubljana  
<http://www.csod.si>, [info@csod.si](mailto:info@csod.si)



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## The Mediation of Experiences by Technology in the Outdoors

### Opening or Losing Connections with the World

Conference programme

19th – 23rd September 2018

ČŠOD Bohinj, Ribčev Laz 63, 4265 Bohinjško Jezero, Slovenia

#### Wednesday, 19th September 2018

- 13.00 – 17.00 Arrival and registration
- 17.00 – 18.00 **Branko Kumer, ČŠOD director**  
**Chris Loynes, EOE chair**  
**Majda Odar, Triglav National Park**
- 18.00 – 19.00 **Setting the Scene**  
**Domen Uršič: *Integration of School in Nature in the Slovenian school system***
- 19.00 Time for dinner
- 20.30 **Nonformal gathering, social games**

#### Thursday, 20th September 2018 - CHANGES OF TECHNOLOGY AND EXPERIENCES SINCE 1980 IN VARIOUS NATURAL SPACES SUCH AS WOODS, RIVERS, MOUNTAINS, SEA ...

- 7.30 – 8.30 Time for breakfast
- 9.00 – 10.00 **Representative of Ministry of Education, Science and Sport Slovenia**
- 10.00 – 11.00 **Keynote speech Christopher Loynes: *Outdoor Technologies: ancient and modern***  
**University of Cumbria, UK**  
Moderator Peter Becker, (delegates will need mobile phones)

11.00 – 11.30	Coffee break in the dining room			
11.30 – 12.00	The Mountain lecture room, Moderator Geoff Cooper <b>Tomas Aylward</b> Institute of Technology Tralee, Ireland <i>The changing relationship between technology and my expedition practice: the effect of choices, changes and EU policies</i>	The Lake lecture room or open-air room, Moderator Irena Kokalj <b>Anna Margret Tomasdottir</b> Camp Laugar UMFÍ, Iceland <i>No tech camp</i>		
12.00 – 12.30	<b>Martin Lindner</b> University of Marburg, Germany <i>Why should you walk along a ridge if you cannot fall down? - The risk of a total safety approach in a European perspective</i>	<b>Barbora Appelová</b> Lipka – school facility for environmental education, Czech Republic <i>Use of cave environment and speleological techniques in leisure-time education</i>		
12.30 – 13.00	<b>John Quay</b> University of Melbourne, Australia <i>Heidegger's question concerning technology and its relevance for outdoor education</i>	<b>Katja Primožič</b> ČŠOD, Slovenia <i>New Technology and the Real World Learning</i>		
13.00 – 14.30	Time for lunch			
14.30 – 15.00	The Mountain lecture room, Moderator Richard Irvine <b>Susan Porter</b> Plymouth Marjon University, UK <i>The pedagogy of technology in outdoor learning</i>	The Lake lecture room, Workshop <b>Tanja Liimatainen</b> Nuorisokeskus Metsäkartano, Finland <i>Facing nature fear with the help of modern technology. 45 min workshop</i>	Open-air room, Workshop <b>Tone Verderber</b> ČŠOD, Slovenia <i>Renewable Energy Sources – New Teaching Aids, 90 min workshop</i>	
15.00 – 15.30	<b>Mike King</b> Releasing Potential, UK <i>Opening Connections with the World: Recording Outcomes for At-Risk Children through Outdoor Education and Data Technology</i>			
15.30 – 16.00	Coffee break			
16.00 – 17.30	The Mountain lecture room, Workshop <b>Ildikó Kocsis, Gábor Imre</b> Hungarian Foundation for Experiential Learning, Hungary <i>Leave the Ground and feel the Change, 90 min workshop</i>	The Lake lecture room, Workshop <b>Yesim Tunali Flynn, Fennessy Jenny</b> Turkey <i>Exploring Biophilia : Our innate connection to nature and Life and the role of technology in connecting us back to nature and ourselves, 90 min workshop</i>	Open-air room, Workshop <b>Dragica Radjevič, Ela Rupert, Klemen Banko</b> Zavod sv. Stanislava, Slovenia <i>Unique natural patterns and My personalized pencil, 90 min workshop</i>	
17.30 – 18.30	The Mountain lecture room <b>Zoran Petrov: ČŠOD Mission - Mobile Outdoor Learning App (presentation)</b>			
18.30 – 20.00	Time for dinner			
20.00 – 20.30	The Mountain lecture room, <b>Poster presentation</b> , Moderator Zoran Petrov <b>Radek Durna</b> , Masaryk University, Czech Republic <b>Mark Lawton</b> , University of Cumbria, UK <b>Graham French</b> , Bangor University, UK	<i>The Use of Cartographic Tools in Geographical Outdoor Education at Czech Elementary Schools, 10 min poster presentation</i> <i>Acoustic Augmented Reality, 10 min poster presentation</i> <i>Going Pro: The use of POV cameras in adventure sports research, 10 min poster presentation</i>		
20.30	The Mountain lecture room, <b>Members' Market Place</b> , short presentation of participants' organisations, Moderator Zoran Petrov			
21.00	Free evening activities – campfire			

**Friday, 21st September 2018 - USES AND CONSEQUENCES OF DIGITAL EQUIPMENT IN THE OUTDOORS**

7.30 – 8.30	Outdoor breakfast, possible morning swimming	
9.00 – 9.30	The Mountain lecture room, Moderator Chris Loynes <b>Seppo Karppinen</b> University of Oulu, Finland <i>Outdoor Learning Didactics and New Technology - more than a sum of parts</i>	The Lake lecture room or open-air room, Moderator Živa Pečavar <b>Jari Kujala</b> Suomen Nuorisokeskusten yhdistys, Finland <i>Hybrid spaces of Outdoors</i>
9.30 – 10.00	<b>Hana Svobodová</b> Masarykova univerzita, Pedagogická fakulta, Czech Republic <i>ActiGraph Measurement of Primary School Pupils' Physical Activity during Outdoor Education</i>	<b>Jerca Šolar Rihtar</b> Osnovna šola Gorje, Slovenia <i>Tablets/mobile phones and spring meadow</i>
10.00 – 10.30	<b>Graham French</b> Bangor University, UK <i>More than Lifeproof: Developing digital competence through outdoor learning</i>	<b>Lili Baričič</b> ČŠOD, Slovenia <i>The Use of ICT Technology in the Project Week Entitled "Sea, Do I Know You?"</i>
11.00 – 11.30	Coffee break	
11.30 – 12.00	The Mountain lecture room, Moderator Tanja Liimatainen <b>Jørgen Eriksen</b> Norwegian School of Sport Sciences, Norway <i>Do we need digital devices in Outdoor Education?</i>	The Lake lecture room, Moderator Živa Pečavar <b>Mirjam Čebulc</b> ČŠOD, Slovenia <i>Using technology to create a thirst for knowledge with children in underprivileged Romani communities</i>
12.00 – 12.30	<b>Ilkka Ratinen</b> University of Lapland, Finland <i>Student Teachers' Visions of Learning Outdoors</i>	<b>Abigail Gurr, Stuart Watson</b> Plymouth Marjon University, UK <i>Augmented reality smart-glasses in outdoor education; exploring the potential for supporting the social and emotional development of autistic young people</i>
12.30 – 13.00	<b>Lauren Hinchman</b> Principia College, USA <i>Unplugged College Students on an Outdoor Leadership Study Abroad Program</i>	<b>Ogorevc Ahačič Katja</b> Primary school Senčur, Slovenia <i>Interdisciplinary Approach or Cross-Curricular Learning on a School Sports Day</i>
13.00 – 14.30	Time for lunch	
14.30 – 15.30	The Mountain lecture room, Workshop <b>Jussi Muittari, Anita Saaranen-Kauppinen</b> Humak University of Applied Sciences, Finland <i>Safer outdoor and adventure activities by utilising digital technology – case snow safety, 45 min workshop</i>	The Lake lecture room, Workshop <b>Katarina Kadivec</b> Faculty of Natural Sciences and Engineering, Slovenia <i>Kamen-check - learning application for rock recognition, 45 min workshop</i>
15.30 – 16.00	Coffee break	
16.00 – 17.30	<p><b>Round table discussion; experts from different fields and countries:</b>  <b>Peter Becker - bsj Marburg, Richard Irvin, Seppo Karppinen - University of Oulu,</b>  <b>Tina Bregant, MD, PhD, spec. in paediatrics, spec. in PRM</b>  <b>Nives Kreuh - National Education Institute Slovenia</b></p>	
		Open-air room, Workshop <b>Lilja Kostova</b> Bulgaria <i>Google education - tips and tricks, 45 min workshop</i>
		Open-air room <b>Mira Korošec, Dejan Putrle</b> ČŠOD, Slovenia <i>Hidden Camera</i>
		<b>Zoran Petrov</b> ČŠOD, Slovenia <i>ČŠOD Mission - Mobile Outdoor Learning App (practical experience), 60 min workshop</i>

18.30 – 20.00

Time for dinner

20.00 – 21.00

**Special Interest Groups, An opportunity to meet, exchange ideas and develop projects**

The Mountain lecture room A: **University group** - moderator Martin Lindner

The Mountain lecture room B: **European Network of Outdoor Centres, ENOC** - moderator Geoff Cooper

The Lake lecture room C: **Policy group** - moderator Chris Loynes

Teachers' Lounge: **Preschool outdoor education** - moderator Zoran Petrov

Cloud seminar room 3rd floor: **Breaking Barriers** (for young people with different disabilities) - moderator Tomas Aylward

Dining room: **Youth exchange Usefully addicted** - moderator Emil Mumei

**Saturday, 22nd September 2018 - USES AND CONSEQUENCES OF TECHNOLOGY IN THE AESTHETIC APPROACHES TO THE OUTDOORS**

7.30 – 8.30

Time for breakfast

9.00 – 9.30	The Mountain lecture room, Moderator Martin Lindner <b>Salvador Cidrás Robles, Vicente Blanco</b> Universidad de Santiago de Compostela, Spain <i>Art and Civic Education in Biodiversity</i>	The Lake lecture room or open-air room, Moderator Igor Puhan <b>Diane Collins, Barbara Humberstone</b> Journeying Gently, UK <i>Using Creative Aesthetic Technologies to Connect with the Outdoors through the Senses</i>
9.30 – 10.00	<b>Orla Kelly</b> Dublin City University, Ireland <i>Stimulating meaning-making for digital natives: a teaching &amp; learning approach using aesthetic technologies and natural settings</i>	<b>Kirsti Gurholt Pedersen</b> Norwegian School of Sport Sciences, Norway <i>Digital Narratives of Snowy Mountain Experiences: An Aesthetic Pedagogical Design to Stimulate Students' Academic Reflection</i>
10.00 – 10.30	<b>TA. Loeffler</b> Memorial University of Newfoundland, Canada, Plymouth Marjion University, UK <i>Encounters with Technology in Higher Education - Engaging Students using Social Media</i>	<b>Georgiana Keable</b> The Story of Nature and the Nature of Story, UK <i>Storytelling as contemporary and aesthetic technology mediating relations with the outdoors</i>

11.00 – 11.30

Coffee break

11.30 – 13.00	The Mountain lecture room, Workshop <b>Dag Svein Roland</b> Volda University College, Norway <i>Communicating outdoor adventure and experiences, 90 min workshop</i>	The Lake lecture room, Workshop <b>Richard Irvine</b> UK <i>Woodcraft and knife skills in outdoor programmes. A practical workshop exploring knife use and the ideas of Otto Salomon and Educational Sloyd, 90 min workshop</i>	Open-air room, Workshop <b>Geoff Cooper</b> UK <i>Using digital technology and traditional methods to connect with Nature, 90 min workshop</i>
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13.00 – 14.30

Time for lunch

14.30 – 18.00	Study visits: <b>The Savica Waterfall</b> , hiking, 4 hours, 3 € for the entrance fee Study visits: <b>The Mostnice Gorge</b> , hiking/canoes, 4 hours, 3 € for the entrance fee, max 22 persons Study visits: <b>Canoeing on Lake Bohinj</b> , 3 hours, max 19 persons Study visits: <b>Geographical and historical cycling tour of Bohinj</b> , 4 hours, max 18 persons		
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18.30 – 20.00

Time for dinner

The Mountain lecture room: **Annual general meeting EOE (for EOE members and others)**

20.00 **Special interest groups reporting**

20.30 **Study-visits presentation**

21.00 **Evening gathering around the campfire / Social evening with Slovenian folk music/**

**Sunday, 23rd September 2018 - THE MEDIATION OF EXPERIENCES BY TECHNOLOGY IN THE OUTDOORS - OPENING OR LOSING CONNECTIONS WITH THE WORLD**

7.30 – 8.30  
Time for breakfast

9.00 – 9.30	The Mountain lecture room, Moderator Tomas Aylward	The Lake lecture room or open-air room, Moderator Simona Ž. Menart
	<b>Fiona Nicholls</b> Plymouth Marjon University, UK <i>'Through the eyes of the beholder': Using student led photo elicitation for 'meaning making' in outdoor educational research</i>	<b>Heather Prince</b> University of Cumbria, UK <i>Capturing experiences in the outdoors using social networking sites through photo-elicitation</i>
9.30 – 10.00	<b>Aevar Adalsteinsson</b> University of Iceland, Iceland <i>Place based Outdoor Education - The place and the moment, the soul and the stories.</i>	<b>Eva Jeler Fegeš, Dragoš Alenka</b> Gimnazija Sentvid Ljubljana, Slovenia <i>The use of geographical applications on smartphones at the field work in schools</i>
10.00 – 11.00	<b>TA. Loeffler</b> Memorial University of Newfoundland, Canada <i>Digital as Double-Edged Sword: Reflecting on a Decade of Utilizing Digital Communications from Wild Outdoor Places, 45 min workshop</i>	

11.30 – 12.30  
**Plenary session - moderators, conference conclusion, plans for EOE 2019**

12.30  
EOE board meeting

13.00 – 14.30  
Time for lunch

14.00  
Bus transfer to Ljubljana (via Lesce-Bled railway station, Brnik-Ljubljana airport)

15.00 – 19.00  
**Post conference trip to Mount Vogel**, walking/cable car, 4 hours, 20 € for a return cable car ticket and the chairlift to Orlove glave

The Mediation of Experiences by Technology in the Outdoors, 19<sup>th</sup>- 23<sup>rd</sup> September 2018, CŠOD Bohinj

	Surname	Name	Title
1	Adalsteinsson	Aevar	Place based Outdoor Education - The place and the moment, the soul and the stories
2	Appelová	Barbora	Use of cave environment and speleological techniques in leisure-time education.
3	Aylward	Tomas	The changing relationship between technology and my expedition practice: the effect of choices, changes and EU policies
4	Banko	Klemen	My personalized pencil
5	Baričič	Lili	The Use of ICT Technology in the Project Week Entitled "Sea, Do I Know You?"
6	Blanco Mosquera	Vicente	Art and Civic Education in Biodiversity
7	Cidrás Robles	Salvador	Art and Civic Education in Biodiversity
8	Collins	Diane	Using Creative Aesthetic Technologies to Connect with the Outdoors through the Senses
9	Cooper	Geoffrey	Using digital technology and traditional methods to connect with Nature.
10	Čebulc	Mirjam	Using technology to create a thirst for knowledge with children in underprivileged Romani communities
11	Dejan Putrle	Mira Korošec	Hidden Camera
12	Dragoš	Alenka	The use of geographical applications on smartphones at the field work in schools
13	Durna	Radek	The Use of Cartographic Tools in Geographical Outdoor Education at Czech Elementary Schools
14	Eriksen	Jørgen	Do we need digital devices in Outdoor Education?
15	Fennessy	Jenny	Nature and the Soul : Exploring Biophilia our innate connection to nature and the role of technology in connecting us back to nature and our selves
16	French	Graham	More than Lifeproof: Developing digital competence through outdoor learning / GoIng Pro: The use of POV cameras in adventure sports research
17	Gurholt Pedersen	Kirsti	Digital Narratives of Snowy Mountain Experiences: An Aesthetic Pedagogical Design to Stimulate Students' Academic Reflection
18	Gurr	Abigail	Augmented reality smart-glasses in outdoor education; exploring the potential for supporting the social and emotional development of autistic young people
19	Hinchman	Lauren	Unplugged College Students on an Outdoor Leadership Study Abroad Program
20	Humberstone	Barbara	Using Creative Aesthetic Technologies to Connect with the Outdoors through the Senses
21	Imre	Gábor	Leave the Ground and feel the Change
22	Irvine	Richard	Woodcraft and knife skills in outdoor programmes. A practical workshop exploring knife use and the ideas of Otto Salomon and Educational Sloyd
23	Jeler Fegeš	Eva	The use of geographical applications on smartphones at the field work in schools





24	Kadivec	Katarina	Kamen-check - learning application for rock recognition
25	Karppinen	Seppo	Outdoor Learning Didactics and New Technology - more than a sum of parts
26	Keable	Georgiana	Storytelling as contemporary and aesthetic technology mediating relations with the outdoors
27	Kelly	Orla	Stimulating meaning-making for digital natives: a teaching & learning approach using aesthetic technologies and natural settings
28	King	Mike	Opening Connections with the World: Recording Outcomes for At-Risk Children through Outdoor Education and Data Technology
29	Kocsis	Ildikó	Leave the Ground and feel the Change
30	Kostova	Lilia	Google education - tips and tricks
31	Kujala	Jari	Hybrid spaces of Outdoors
32	Ladner	Christoph	Changes in Outdoor activities such as white-water boating and mountaineering through new technologies
33	Lawton	Mark	Acoustic Augmented Reality
34	Liimatainen	Tanja	Facing nature fear with the help of modern technology
35	Lindner	Martin	Why should you walk along a ridge if you cannot fall down? - The risk of a total safety approach in a European perspective
36	Loeffler	TA.	Digital as Double-Edged Sword: Reflecting on a Decade of Utilizing Digital Communications from Wild Outdoor Places
37	Loynes	Christopher	Outdoor Technologies: ancient and modern
38	Mark Leather	Loeffler TA.	Encounters with Technology in Higher Education - Engaging Students using Social Media
39	Muittari	Jussi	Safer outdoor and adventure activities by utilising digital technology – case snow safety
40	Nicholls	Fiona	'Through the eyes of the beholder': Using student led photo elicitation for 'meaning making' in outdoor educational research
41	Ogorevc Ahačič	Katja	Interdisciplinary Approach or Cross-Curricular Learning on a School Sports Day
42	Porter	Susan	The pedagogy of technology in outdoor learning
43	Primožič	Katja	New Technology and the Real World Learning
44	Prince	Heather	Capturing experiences in the outdoors using social networking sites through photo-elicitation
45	Quay	John	Heidegger's question concerning technology and its relevance for outdoor education
46	Radojevič	Dragica	Unique natural patterns and My personalized pencil
47	Ratinen	Ilkka	Student Teachers' Visions of Learning Outdoors
48	Roland	Dag Svein	Communicating outdoor adventure and experiences
49	Rupert	Ela	Unique natural patterns and My personalized pencil
50	Saaranen-Kauppinen	Anita	Safer outdoor and adventure activities by utilising digital technology – case snow safety



The Mediation of Experiences by Technology in the Outdoors, 19<sup>th</sup>- 23<sup>rd</sup> September 2018, CŠOD Bohinj

51	Svobodová	Hana	ActiGraph Measurement of Primary School Pupils' Physical Activity during Outdoor Education
52	Šolar Rihtar	Jerca	Tablets/mobile phones and spring meadow
53	Tomasdottir	Anna Margret	No tech camp
54	Tunali Flynn	Yesim	Nature and the Soul : Exploring Biophilia our innate connection to nature and the role of technology in connecting us back to nature and our selves
55	Verderber	Anton	Renewable Energy Sources – New Teaching Aids
56	Watson	Stuart	Augmented reality smart-glasses in outdoor education; exploring the potential for supporting the social and emotional development of autistic young people



# 1. Place based Outdoor Education - The place and the moment, the soul and the stories

**Aevar Adalsteinsson**

**Iceland National Association for Outdoor Learning, Iceland**

Time never stops. We are in the present, studying the past and thinking about the future. The development and change of our environment and surroundings; nature, daily life and ourselves are often not quite clear, but will appear if you look closer. Place Based Outdoor Education (PBOE) refers to these elements and can be used in diverse, instructive and fun ways of learning in school and leisure.

Last August a teacher and student exchange course was held in Reykjavík, Iceland, concentrating on Place Based Outdoor Education. This was an international cooperation between the University of Iceland and Marion University in Plymouth, UK, initiated through the EOE Network. The theme of this course was the sea - fishing and working at sea. It focused on the environment and surroundings of the seashore but also what PBOE exactly is and how it can be useful when we learn about the sea.

Everything has a story and new stories are always coming. History is always being made. This lecture will focus on how we can learn from our past, and use it at our present point in time to think about the future.

Ævar Aðalsteinsson works as a project manager at the Centre for Outdoor Education in Reykjavik, Iceland. In this lecture he will deal with and discuss PBOE, and his experience of the Reykjavik course. He will discuss how we can connect the present day with the past and make challenging and exciting projects and tasks for the future in school work and leisure.

## About the author

Im a leisure educator from University of Iceland and Im working as a protekt manager in Gufunesbær - Center for outdoor education in Reykjavik, the capital of Iceland. The center is driven of the school system in Reykjavik and I have bin there for 3 year.



## 2. Use of cave environment and speleological techniques in leisure-time education.

**Barbora Appelová**

**Lipka - školské zařízení pro environmentální vzdělávání Brno, příspěvková organizace, Czech Republic**

Talks about various aspects of leisure-time education in Moravian Karst. Especially the functioning of the speleological club Rock Ghosts, which has existed for the sixth year. Topics of particular years and camps. Safety of moving in karst environment and working with speleological equipment. Presentation of Czech-Slovak projects dealing with teaching in karst landscape.

Skalní duchové (The Rock Ghosts) began as a Czech attempt on the cave club, which are known mainly in Slovenia. Due to the teachers and the children, it's gradually transforming from the training of future cavemen into the countryside companion. I have been running the club for almost five years, and I would like share my experience with you.

For me caving is a method I can reach the goals partly defined by the Scandinavian Principle of Friluftsliv, namely to encourage children with a positive experience with the landscape, to offer them an individual experience and emotion with the associated landscape and to strengthen them in a democratic, sensitive and respectful relationship with nature and others.

The first cave and karst camp was organized under the influence of my work internship in Slovenia. Both the organization I was working in and the local cave culture affected me. Especially the accent on experience with the diverse landscape that CŠOD has directly in its motto. Their goal is that all children in the elementary school visit and thoroughly understand all types of slovenian landscape. That they understood its ecosystem and its vulnerability. Also important was the emphasis on learning about safe and responsible movement in the landscape, which does not exclude adrenaline sports and experiences.

When the teacher goes to the school trip and there is a dangerous place there, he stands there and takes care. When the scout group leader heads for the expedition and there is a dangerous place, he notice about it and thinks that the children will deal with that. When there's a cave club in a cave, no one's noticing about anything, because the potential danger is there everywhere.

### About the author

Mgr. Barbora Appelová (1985) studied Theatre Management and Leisure-time Pedagogy. She studied and worked for two years in Slovenia, where she dealt with nature education. For ten years she has been engaged in amateur speleology. Participates in international speleo-expeditions in Slovenia, Montenegro and Serbia. She works as a leisure-time educator.



### 3. The changing relationship between technology and my expedition practice: the effect of choices, changes and EU policies

**Tomas Aylward**  
Institute of Technology Tralee, Ireland

As a white, male, outdoor pedagogue in my middle years employed in higher education, I have had the opportunity to develop my outdoor pedagogy practice using a variety of influences over the past 25 years. Specifically, my practice involving outdoor/wilderness educational expeditions has changed from adventure tourism related expeditions in the 1990's to the educational expeditions on which I now accompany my students (some 12 since 2005).

While conventional elements of self-study (LeBowsky, 2004; Hamilton, 2005; McPhail, 2011) would indicate critical elements in the appraisal of such an evolution (autobiography; reflexivity; the input of work colleagues or a critical friend; the perceptions of the learners) another theme has effected the evolution, transformation and occasional deconstruction of that practice. That theme is technology. Being situated in a work (pedagogical) practice in the 21st century, the role of technology is a background narrative which parallels other dynamic aspects of our society (Wattchow et al., 2013).

This paper explores two educational expeditions undertaken during winter in Sub-Arctic Finland in the past 3 years. It explores some of the changes in my pedagogical practice and how they have been effected and affected by technological change. While the paper begins with an approach akin to self-study, the inferences and implications of the findings lead me to a more autoethnographic understanding of their meaning and how they potentially inform the broader study of how we work with young people make meaning from Outdoor journeys in wild(er) environments (Asfeldt & Beames, 2017).

#### References

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### About the author

Tomás Aylward is a really lucky guy. He gets to look out on the Atlantic ocean and the mountains of the west of Ireland every day as he drives to work at the Institute of Technology, Tralee. As a Lecturer in OE, they even let him go out sometimes. Tomás is a board member of EOE.



## 4. My personalized pencil

**Klemen Banko**

**Zavod sv. Stanislava, Slovenia**

The workshop, My personalized pencil (45min), is appropriate for all generations, starting with children aged 7. The participants make their own pencils from different types of wood. By choosing the best type of wood for your pencil, you learn about different characteristics of wood. During the process of making the pencil, you learn how to use some electric tools and knives, you develop your motor skills and imagination and the feeling for the aesthetic. At the end, you get your own personalized pencil. Doing that as a teacher, you teach your students how to use knives and other tools. Furthermore, you encourage your students to write, since they are more motivated for it if they use their own pencils. The activity encourages team-work, critical thinking and is a good example of cross-curriculum approach.

At the end of the workshops, we are going to present a special vehicle we made at school which is great fun to use for all generations. We will explain the process of making it and the participants of the workshops will be able to try it.

### About the author

My name is Klemen Banko. I am a teacher of Practical skills and Afternoon activities at the primary school of Alojzij Sustar in Ljubljana.

I am also a part of a school team which develops the project Outdoor Learning. I practice outdoor learning methods and activities every day, I organise different events on outdoor education for pedagogical workers and I participate at different workshops and conferences on outdoor education.

## 5. The Use of ICT Technology in the Project Week Entitled "Sea, Do I Know You?"

Lili Baričič  
CŠOD, Slovenia

In our educational centre (CSOD Burja) we are engaged in a project called "Sea, do I know you?" We had four topics: The economic importance of the sea, The protected natural areas near the sea, Distances - how far and how much energy? and The sea through the photographic lenses.

All the schools involved in this project, get the opportunity to learn about the sea from different perspectives. The students decide in which group they are going to work before their arrival. Each group has their teacher - mentor who helps them for five days. The activities during the first day are the following: the mentors get acquainted with their groups and they present the work on this project. The group members express their interests and wishes and look for ideas and suggestions. Other very important activities on the first day are to acceptance of the individual responsibilities, the cooperation and the division of work based on the individual interests and the understanding of the equal status of all the participants in the group. The mornings after the next three days are dedicated to the fieldwork according to the goals of each group. The activities are based on experiential learning which also allows the students to involve their feelings and emotions in their work. We use different means of transport to reach the chosen destinations: bikes, canoes or local buses. We also have to walk a lot. In this way our goal could be the path itself or we do some work at our final destination. When the mentors allow them, the students can use their mobile phones or cameras to make photographs for the presentation of their tasks or for their personal use. They can also use the mobile phones for their notes or to take the photographs of the data on different information points. They also use different items of modern technology to measure the distances and the consumption of energy: pedometers, navigational devices, watches with wrist-based heart rate . They often decide to use the PowerPoint on the computer for the presentation of their tasks. The internet itself is, beside books, a source of information which the students look for in their chosen tasks. We must not also neglect the documentary films as a great source of information. At the same time it is possible to use suitable applications on the smart phones which have a very quick access to different data. The task of each group on the final day is to present their findings to the other students. The mentor motivates, advises, directs and encourages students and also passes on the values which are important for the individuals and the environment. He must also develop the ability how to find the important pieces of information in the enormous amount at their disposal.

Key words: project work, sea, fieldwork, the search for information, the presentation of the task

### About the author

I have been working in this educational centre for more than 19 years. I have a degree in agronomy, and I also gained the additional pedagogical education needed for this work. In our centre I teach the students of different ages. The work in the natural environment gives constant and numerous challenges and enables us to express our creativity. My purpose in the five days in our centre is to open the eyes of the students for the natural beauties. They should learn how to accept it, not only with their senses, but also with their hearts. I want them to return home full of useful knowledge.





## 6. Art and Civic Education in Biodiversity

**Vicente Blanco Mosquera**

**Universidad de Santiago de Compostela, Spain**

In this presentation we will discuss some contributions of aesthetic approaches to a civic education in biodiversity. We will examine workshops carried out with children from preschool and primary school in Lugo, Spain, which were based in artistic processes where participants learn through direct experience, as argued by John Dewey, and engage with local landscapes and their multiple dimensions.

The exercise of artistic creation is an important tool for the development of creativity, which in turn has a social dimension worth to consider in an outdoor praxis concerned with art, citizenship and sustainability. According to the artist Bruno Munari, creative people are individuals who contribute to the community in the first place, since they are open to collaboration and innovation. Developing aesthetic sense helps individuals to value in depth their environments, to observe and act within the diversity of qualities present in these places.

From this perspective, a civic education in biodiversity through the education of the aesthetic sense help us to assess the importance of biodiversity, understood as the result of a natural process that has the right to continue its existence, as a guarantor of well-being and balance in the biosphere and its contribution to the development of human culture. The workshops took place in Galician landscapes, addressing local fauna and flora, interdependence and traditional culture by using artistic materials and different techniques. We invited participants to be artists and scientists who were investigating the place, its physical features, relationships amongst species and materials. We observed children engaged actively in the activities by using the materials to create their own interpretation of those places. Considering the challenges in formal education, in times when expression and creativity are losing space in the curriculum, we believe sharing these practices might endorse the importance of art in projects for biodiversity conservation."

### About the author

Vicente Blanco and Salvador Cidrás are both visual artists and professors by University of Santiago de Compostela, Spain. Currently, they teach in the Master in Management of Outdoor Educational Activities (Master DAEN) in the subject "Art and Nature", and belong to the Research Group Edunartex (Network RINEF-CISOC)

Ananda Casanova is educator, MA in Education (Brazil, 2014) and MA in Transcultural European Outdoor Studies (Erasmus + / Philipps-Universität Marburg, 2017). She has experience with environmental and democratic education, teacher training and preschool tracking.



## 7. Art and Civic Education in Biodiversity

**Salvador Cidrás Robles**

**Universidad de Santiago de Compostela, Spain**

In this presentation we will discuss some contributions of aesthetic approaches to a civic education in biodiversity. We will examine workshops carried out with children from preschool and primary school in Lugo, Spain, which were based in artistic processes where participants learn through direct experience, as argued by John Dewey, and engage with local landscapes and their multiple dimensions.

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## 8. Using Creative Aesthetic Technologies to Connect with the Outdoors through the Senses

**Diane Collins**

**Journeying Gently, United Kingdom**

Those of us who engage with the outdoors are probably aware that we connect through our senses. We may talk of the crash of the waves onto a beach, the drag of pebbles, the whisper of the breeze in tall grasses, the screech of the seagull, the smell of ozone and decaying seaweed or the feel of the salt spray stinging our cheeks. In addition, being in or on the water or scrambling over rocks can be experienced through not only these senses but also involve balance and touch. These are frequently neglected in Western cultures. How can we (re)present and /or re-imagine these engagements with the non- human world authentically?

Many outdoor activists and educators take photographs, keep journals or engage in painting or sketching. Using narrative approaches, we draw on the narratives of older people concerning their creations and exploring what these experiences mean to them and to their relations with more-than-human. We explore how some aesthetic activities might be developed to enable connections and well-being in more formal outdoor learning, such as outdoor residentials.

### **About the author**

Di Collins is a Leading Practitioner of the Institute for Outdoor Learning. She travelled to Australia on a Churchill Fellowship exploring making connections with nature and the outdoors. She has worked in schools, youth centres, communities and universities. She is now developing her love of the outdoors through creative activity.

NB The other presenter is Barbara Humberstone



## 9. Using digital technology and traditional methods to connect with Nature.

**Geoffrey Cooper**

**Low Bank Ground Outdoor Education Centre, United Kingdom**

The workshop takes as its starting point some discussions and activities from a recent Erasmus + programme developed by a special interest group of EOE on "Aesthetic approaches to Nature through Outdoor Learning". There will be a short discussion on the meaning and value of aesthetics in outdoor education and why this approach has been neglected.

Using this background, the group will take part in practical activities to show how simple contact with Nature through the senses can stir feelings, emotions and memories. The workshop will suggest ways to respond to these experiences through poetry, art and stories. There will be the opportunity to compare the value of a range of traditional methods with the use of digital technology in attempting to gain the interest of young people in Nature.

### **About the author**

Geoff Cooper taught in schools, colleges and a National Park before developing two outdoor education centres in the Lake District. Author of "Outdoors with Young People", he chairs the Adventure and Environmental Awareness Group, is a Board member of EOE and a Fellow of the Institute for Outdoor Learning. He writes a regular feature, "Earthwise" for "Horizons" magazine and enjoys journeys which allow time to meet people, share stories and appreciate nature.



## 10. Using technology to create a thirst for knowledge with children in underprivileged Romani communities

Mirjam Čebulc  
CŠOD, Slovenia

Together for knowledge - implementing activities of knowledge acquisition support mechanisms for members of the Roma community is a project taking place between 2016 and 2021. Its main goal is facilitating better integration of Romani children and parents into the national education system of Slovenia and empowering them for obtaining knowledge outside the classroom.

The living conditions of numerous Romani communities in Slovenia are quite poor and their technology use is limited. Nonetheless, they are increasingly embracing the use of modern information and communications technologies (ICT), especially mobile devices. To utilise this phenomenon, we decided to implement a new educational approach based on smart technology use. Basic content covering language (both Slovene and Romani), math and environmental topics was prepared in a virtual classroom and corresponding challenges were created in the mobile outdoor learning app CŠOD Misija (CSOD Mission) that was designed to improve learning by taking advantage of the motivational potential of gaming principles.

We tested the approach in July 2018 in ten Romani settlements with 72 children aged 6 to 17. The results showed that participants displayed increased motivation for learning, newfound enthusiasm for self-assessment, and a more persistent willingness for collaboration in problem solving. New knowledge was mostly gained by trial and error within the application, while some of the more motivated participants searched for the right answers in the virtual classroom. Participants showed more knowledge on the topics they explored after performing the activities. They also improved their orientation skills, as exploring the environment using the application map was a requirement for advancement.

We concluded that the use of ICT combined with gaming mechanics can be a successful approach that motivates learning in children from underprivileged communities.

### About the author

Dr. Mirjam Čebulc (1979) has been professionally engaged working in the field of education since 2003. In her career she has been working with pre-school and school children, gifted children, double exception children, children with specific learning difficulties, behavioral and emotionally problematic children and children from vulnerable groups. She has been counseling parents of all mentioned groups of children. Her works have been covering also diagnostic and the field of education to parents, educators and teachers. In 2002 she graduated in Psychology at the University of Ljubljana, continued her Master's Degree in Clinical Psychology and achieved Doctorate in 2009 (Music participation, concentration and achievements of pupils). In 2015 she graduated in Montessori Pedagogy for teachers aged 6-12 years produced by the Seton Montessori Institute in Chicago and Montessori Institute in Ljubljana. From 2012 - 2016 she was the headmaster of the Montessori kindergarten. In 2016 she began to work at CŠOD on the project Together for Knowledge with Roma families.

Note: Coauthors of the conference's contribution are also Mateja Robič, Maja Bahor and Andreja Zalokar. They have been also working at CŠOD on the Project Together for Knowledge.



## 11. Hidden Camera

Mira Korošec, Dejan Putrle  
CŠOD, Slovenia

Just as we can say that Slovenia is a paradise for the exploration of large forest animals, we can certainly say that in this regard, the Notranjska region with its Dinaric karst forests is paradise inside Slovenia. CŠOD Rak is located in the middle of these forests. Therefore, from the very beginning of its function (25 years ago), one of the activities, called Let's Become Pathfinders, is dedicated to introduction of the large forest animals. It has started with walking through the forest in search of various animal traces. These traces can also tell us a lot about animal activities. Since these large animals are certainly one of the most fascinating subjects for the children, the activity started to become upgraded with collecting a wide variety of materials. That led to an enviable collection of traces and parts of animals, through which we can bring children closer to this mysterious world. But the great desire to see big animals in their natural environment is still missing. However, this experience is almost impossible if you are in the forest with the big group of children. Thus, the idea of using an infrared night camera was born. With its help, children can learn first-hand, which animals are walking around the nearby forest while they are asleep. With the recordings, children can also be acquainted with the many behavioral characteristics of these animals. Finally yet importantly, with such recordings, children are strongly identified, and are proudly taken for their own, which of course greatly influences their motivation. Where teachers' capabilities end, we can get help of modern technology. In this case it enables us to enter into a mysterious world that the children may never be able to experience.

### About the author

Mira Korošec is a biology, chemistry and nature science teacher. She has worked as a biology teacher in school. Now she is nature science teacher at CŠOD.

(za Miro v ponedeljek sporočim morebitne popravke/dopolnitve, ker ne vem, če poznam njeno celotno biografijo)

Dejan Putrle is biologist and biology and nature science teacher. He has worked as a microbiologist, as a teacher of biology and science at school, as a nature conservationist in a protected area and as a nature science teacher at CŠOD. Now he is a head of the CŠOD Rak centre.

## 12. The use of geographical applications on smartphones at the field work in schools

**Alenka Dragoš**  
**Gymnasium Šentvid, Slovenia**

Last year we attended a workshop on the use of geographical applications on smartphones that was organised by the Department of Geography of the Faculty of Arts Ljubljana and carried out by two geography professors, dr.Blaž Repe and dr.Marko Krevs. The application is called ArcGIS online and is supported by the Esri institute.

We implemented the new method in the lessons and organised some field work with our students. We worked in the school surroundings. One group of students was searching for obstacles for disabled persons with the aid of smart phones, the other group was identifying local touristic sights. The obtained data was then analysed in the classroom. The students worked enthusiastically and were very satisfied with the lessons.

The same tasks were performed at the Research Camp in Kranjska Gora in the autumn of 2017, where it has been proven that the method can be used in an unknown environment as well.

In school year 2017/2018 two of our students successfully finished a research project »Use of mobile geographical applications for mapping of *fallopia japonica* by the Sava riverside«. For data acquisition they used ArcGIS online application on smartphone. The project was well received at the Ljubljana young researchers meeting and will be presented at the slovenian state meeting of young researchers in Murska Sobota.

By the end of May the same application will be used at the interdisciplinary school project. Literary path of Ivan Cankar will be traced in Ljubljana, since this year we celebrate a centennial of his death.

The method we use is modern. Moreover, it encourages cooperation between students to whom the use of smart phones comes naturally and therefore serves as an additional factor of motivation.

### About the author

I am a teacher of geography at Gimnazija Šentvid in Ljubljana. I am teaching already 37 years. My greatest professional experience was the participation in the national matura commission for geography, where I worked for 12 years and was also at the same time, the main reviewer for geography.



## 13. The Use of Cartographic Tools in Geographical Outdoor Education at Czech Elementary Schools

Radek Durna

Masarykova univerzita, Pedagogická fakulta, Czech Republic

Geographical part of the curriculum is usually represented by the school subject called Geography, nevertheless, in Czech context, the curriculum works with term Zeměpis (like describing the Earth). Geography (or Zeměpis) is also one of the school subjects where the outdoor education usually takes place. According to the specific educational goals and objectives in geography, the pupils should use various kinds of maps, analogue and digital tools for orienteering, smartphones, tablets, binoculars and various outdoor and sports equipment during their geographical fieldwork. Those teaching aids should help students to gain basic skills such as collecting data in the field, process their own data, assess and interpret their results. Although there is a huge amount of activities suitable for outdoor education, many of those activities start by using the cartographic tools and documents. This poster introduces the results of a survey on the topic of The usage of various cartographic tools and documents during the outdoor education at elementary schools (and lower stage of grammar schools) in Brno, Czechia. We have invited schools cooperating with Faculty of Education (Masaryk University) because at these school many of our students (authors are teachers at Department of Geography) take their first experience in practical teaching. This survey discovered that the provision of equipment tends to be no longer issue at many schools in Brno (a second most populated city in Czechia). The rate of use/non-use of outdoor equipment depends more on the of particular teachers and their qualification and pedagogical skills.

Keywords: Geography, outdoor education, teaching aids, school, teachers

### About the author

Radek Durna studied Teacher Training for Primary and Lower Secondary Schools at the Department of Geography, Faculty of Education, Masaryk University. He continues to study there as a PhD student in the field of Didactics of Geography.

Darina Mísařová studied and works at the Department of Geography, Faculty of Education, Masaryk University. She is interested in didactics of geography, cartography, modern technology, GIS and outdoor education.





## 14. Do we need digital devices in Outdoor Education?

Jørgen Eriksen

Norwegian School of Sport Sciences, Norway

Do we need digital devices in Outdoor Education?

In our daily lives, we are surrounded by many kinds of digital devices. Smartphones, app's, computers, GPS, cameras, altimeter etc. have become useful tools; we normally reflect upon their presence only when they do not work properly. The digital devices have also made their entry into the field of Outdoor Education and Outdoor Learning. At the Norwegian School of Sport Sciences (NSSS), the teachers are expected to bring several digital devices while executing trips with students, lasting for more than one day. But what is absent in this scenery is a critical discussion about the benefits and disadvantages of this technical entry; we more or less accept it without any thought for implications and consequences.

To pinpoint the discussion, we will present our usage of "Garmin inReach SE". This is a multi-functional satellite-based (Iridium) digital device that contains the possibility for two-way text messages, GPS, a tracking device, a SOS device and several other more or less useful functions. On trips without assistance from the staff, our students are required to use inReach SE. This allows us to monitor their position from distance and they can request for a rescue operation if they are in severe trouble. We can even guide them during the trip by using text-messages. Apparently, these features are all improvements when executing such education. However, there may be possible disadvantages as well? What are the consequences regarding the student's learning-process? In addition, how will this development influence the distinctiveness of Outdoor Education in Norway? The empirical basis for this presentation is the insight three experienced teachers at NSSS have acquired with such devices during the last three years.

### About the author

PhD, Associate Professor at Norwegian School of Sport Sciences

With basis in pedagogy and philosophy I work with learning and skill-development in outdoor education.



## **15. Nature and the Soul : Exploring Biophilia our innate connection to nature and the role of technology in connecting us back to nature and our selves**

**Jenny Fennessy**  
Latorium, Ireland

Biophilia : Our innate connection to nature and Life and the role of technology in connecting us back to nature and ourselves.

This workshop will present the idea of Biophilia.

Biophilia is a term coined by psychoanalyst Erich Fromm and described it as “the passionate love of life and of all that is alive.” It is essentially the idea that humans possess an innate tendency to seek connections with nature and other forms of life; while acknowledging that there has been a divergence from the natural world with the introduction of technological developments and which has impacted on human interaction with the land, protected from the elements leading to a biophobia (fear of nature).

In this practical session to provide an experiential workshop on how technology can be used to tackle this biophobia and be part of a solution focused manner of reconnecting us with ourselves, each other and to the environment in an ecocentric manner.

We explore the idea that we as humans are naturally intrigued by the aesthetics of the natural world, the diversity and richness of landscapes, the colours, natural sounds, the changing of the seasons ,the shapes and the beautiful natural metaphors for life and how we as humans aim to capture it in paintings, photos, poetry and how technology and support this process.

We intend to bring attention to the spiritual aspects of nature and its role in human growth and development and how technology can support this.

The Session will utilise indoors and outdoor space – the outdoor session will be 50 minutes in length with 20 minutes indoors at either end.

### **About the author**

Co- Facilitated

Jenny Fennessy MBPS Practitioner of nature based and expressive arts activities for human growth and development. Advocating for the use of non formal spaces for mental health and wellbeing and the development of soul and ecocentric processes. Underpinned by Community Psychology as an perspective of empowering people, and building stronger connections to individuals and their environment

Dr. Yesim Tunali Flynn Ecologist, Outdoor practitioner and advocate for nature and soul and connecting people with the natural environment



## **16. More than Lifeproof: Developing digital competence through outdoor learning / Going Pro: The use of POV cameras in adventure sports research**

**Graham French**  
**Bangor University, United Kingdom**

The first title looks at engaging with teaching digital competence through outdoor learning in line with the Welsh government's new curriculum and digital competence framework. This mandates that digital competence is taught across all subjects in a new curriculum, including outdoor and adventurous activities. This session will present findings of my work in teacher education over the last two years looking at how to get teachers to do more than just take an iPad into the woods (in a Lifeproof case) and truly develop digitally competent young people via the unique opportunities that outdoor learning offers.

The second title presents an update on the findings of a research paper published in 2016 in concerning the practicality and ethics of using point of view (POV) cameras in adventure sports research. It demonstrates that although POV cameras are widely accepted in adventure sports, there is still a change in behaviour by those participants who are filmed and that there are practical issues not faced by traditional video anthropologists.

These are two different presentations but I wanted to submit both as they fit with the conference themes. Either could be presented as a poster if an oral presentation was deemed inappropriate.

### **About the author**

Graham is the programme director of the PGCE secondary course at Bangor University and subject tutor for outdoor activities. His areas of research interest include adventure sports pedagogy and coaching, developing and implementing a pedagogical model for outdoor activities in the PE curriculum and producing resources for trainee and newly qualified teachers to make effective use of outdoor learning opportunities.

## 17. Digital Narratives of Snowy Mountain Experiences: An Aesthetic Pedagogical Design to Stimulate Students' Academic Reflection

Kirsti Gurholt Pedersen

Norwegian School of Sport Sciences, Norway

The purpose of this paper is to explore the educational potential: (1) in using every day digital technologies to engage and enhance university students' academic and pedagogical reflection; and (2) to stimulate creative and novel perspectives and methodologies to be used in the students' subject-related master-thesis research. The subject under scrutiny is Outdoor Studies, with a particular attention on landscape exploration, experience, and meaning. During a one-week fieldtrip, two cohorts of about 20 international students (n=40) of many nationalities, were exposed to 'wild', sub-Arctic winter mountains by employing an ethnographic inspired approach. The students were asked to write a diary and collect information about their particular landscape explorations; their immediate impressions, feelings, thoughts, questions, reflections, and dialogues with peer students, teachers, and other visitors in the area. In addition, they were inspired to record soundtracks, generate visual images, photos, videos, drawing/sketches, whilst exploring the snowy landscape on skis and snowshoes. Moreover, preparing food and making overnight stays outside were integral. After having returned to the university, the students were invited to rework their material through an intensive two-day guided process of digital storytelling, employing everyday technologies such as cameras, audio recordings, mobile phones, and ipads, whilst crystallizing their main experience, reflection, or meaning of the mountain experience. This paper employs an action research approach and discourse perspective, in exploring and understanding the digital narrative-approach as a tool in researching human-landscape relations and meaning.

### About the author

Kirsti Pedersen Gurholt, Professor, Dr (kirsti.gurholt@nih.no), Department of Physical Education, Norwegian School of Sport Sciences. Her research comprises cultural and gender perspectives: Gurholt, K.P. (2018). "The Wilderness Children": Arctic Adventures, Gender and Eco-cultural Criticism. In N. Goga, L. Guanio-Uluru, B. O. Hallås & A. Nyrnes (Eds.), *Ecocritical Perspectives on Children's Texts and Cultures: Nordic Dialogues*. London, UK: Palgrave Macmillan. Gurholt, K.P. (2018). Tourist and Sport Reform Dress, Friluftsliv, and Women's Right to Vote in Norway, 1880–1913. In Gray, T. & Mitten, D. (Eds.), *Palgrave Macmillan International Handbook of Women and Outdoor Learning*; Gurholt, K.P. & Broch, T.B. (2017). Outdoor Life, Nature Experience, and Sports in Norway: Tensions and dilemmas in the preservation and use of urban forest. *Sport in Society*, <http://dx.doi.org/10.1080/17430437.2017.1390938>; Gurholt, K.P. & Sanderud, J.R. (2016). Curious play: Children's exploration of nature. *Journal of Adventure Education and Outdoor Learning*, 16(4), 318–329.



## 18. Augmented reality smart-glasses in outdoor education; exploring the potential for supporting the social and emotional development of autistic young people

Abigail Gurr

Plymouth Marjon University, United Kingdom

Social Communication and Emotional Regulation are key areas of challenge for young people diagnosed with autism (Bradley & Male, 2016). Outdoor adventurous activities provide a stimulating and emotionally diverse context in which the development of these domains can be facilitated (Zachor et al., 2017). Furthermore these settings provide authentic opportunities for young people to recognise and express a wide range of emotions in themselves and others (Karoff et al., 2017).

The SCERTS model provides a developmental framework to measure, evaluate and set goals to promote the social and emotional growth of young people diagnosed with autism (Prizant et al., 2006), which has been shown to be effective in classroom and home settings (Sparapani et al., 2016; Wetherby et al., 2014). This model provides a strengths based assessment process to identify social communication and emotional regulation goals that can be most impactful for the young person by developing transactional supports for the areas of greatest challenge.

Parsons (2016) has explored virtual reality as an effective tool to support the core challenges faced by young people with autism by providing an authentic context in which learning can occur. Augmented reality extends this authenticity further by providing a layer of virtual reality in a non-simulated context (Sahin et al., 2018). Smart-glasses technology would enable this augmented reality experience to be used in an outdoor environment (Liu et al., 2017).

Considering the above, we aim to explore how emerging smart-glasses technology could be used as a Transactional Support to promote the social-emotional development of autistic young people throughout the opportunities the outdoor environment provides.

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## About the author

Abigail Gurr graduated with a degree in Outdoor Adventure Education from Plymouth Marjon University where she also ran the student kayak club. A qualified teacher, Abigail now works for the university using her enthusiasm for the outdoors and Higher Education to promote opportunities for local young people from diverse backgrounds.

Stuart Watson worked as a kayak instructor for five years before taking this outdoor experience to a specialist autism school. Having seen the benefits of outdoor education for these young people Stuart undertook a degree in Speech and Language Therapy at Plymouth Marjon University in order to develop this work in the context of evidence-based practice.



## 19. Unplugged College Students on an Outdoor Leadership Study Abroad Program

**Lauren Hinchman**

**Principia College, United States of America**

This presentation will be based on my dissertation for which I did a qualitative study of college students who were not allowed to use digital technology while studying abroad for three-and-a-half weeks. The academic focus of the study abroad program was outdoor leadership. Study abroad programs are valued in higher education as an opportunity for students to make progress in the areas of intercultural competence, global citizenship, and personal growth. In relatively recent times, digital and mobile technologies have come on the scene with little exploration of their impact on the purpose and goals of outdoor experiences and study abroad programs. Theories related to absent presence, experiential education, adventure education, comfort zones, group learning, and attention restoration theory were explored in relation to the students' experience without digital technology and the goals of study abroad programs. Data from journal entries, in-depth interviews, and the observations of the professor and the support staff member were collected and coded. Participants attributed the quality of their group dynamic, personal relationships, relationship to nature, personal growth, cultural growth, self-discovery, and mental health to the absence of digital technology during the program. The results led to questions about the potential for technology to detract from outdoor experiences and to minimize the potential growth that could be experienced from a study abroad program. The impact of digital technology on outdoor experiences and study abroad programs is an important consideration for institutions of higher education, program designers, and professors to consider as they plan and implement these programs in an age where one can be physically present without being mentally present.

### About the author

Dr. Lauren Hinchman is an associate professor and the department chair of the Outdoor and Experiential Education degree at Principia College in Elsah, Illinois in the United States. She has been engaged in residential summer camp programs, outdoor education, curriculum design, environmental education, and teacher-education for the past 17 years.



## 20. Using Creative Aesthetic Technologies to Connect with the Outdoors through the Senses

**Barbara Humberstone**  
**IOL, United Kingdom**

Those of us who engage with the outdoors are probably aware that we connect through our senses. We may talk of the crash of the waves onto a beach, the drag of pebbles, the whisper of the breeze in tall grasses, the screech of the seagull, the smell of ozone and decaying seaweed or the feel of the salt spray stinging our cheeks. In addition, being in or on the water or scrambling over rocks can be experienced through not only these senses but also involve balance and touch. These are frequently neglected in Western cultures. How can we (re)present and /or re-imagine these engagements with the non- human world authentically?

Many outdoor activists and educators take photographs, keep journals or engage in painting or sketching. Using narrative approaches, we draw on the narratives of older people concerning their creations and exploring what these experiences mean to them and to their relations with more-than-human. We explore how some aesthetic activities might be developed to enable connections and well-being in more formal outdoor learning, such as outdoor residentials.

### About the author

Barbara Humberstone, PhD, is Professor of Sociology of Sport and Outdoor Education at Buckinghamshire New University, UK. Her research interests include social and environmental injustice and embodiment, well-being and outdoor pedagogies. She is Editor of the Journal of Adventure Education and Outdoor Learning, co-editor of Routledge International Handbook of Outdoor Studies (2016) & The Changing World of Outdoor Learning in Europe (2018).





## 21. Leave the Ground and feel the Change

**Gábor Imre**

**Hungarian Foundation for Experiential Learning (kÉTTÉ Foundation ) PLAČA OSEBNO, Hungary**

Our aim is to facilitate an interactive workshop where the participants will get own experience of kinesthetic metaphors in outdoor experiential education setting. We will introduce a low rope course activity and a tree climbing challenge. Both can be used to establish an identical or parallel process between the participant's life experience and the training experience. These activities can be applied to create metaphors and therefore can enhance the transfer of learning from the training context to the participant's life.

Referring to Bacon's (1983, p10) statement: "There is no question that in well-formed metaphors there will be profound and meaningful links with isomorphic real-life experiences. People who had a metaphoric experience where in which the outcome has been successfully altered will have reorganized their typical life strategy."

Our tools - the low rope course kit as well as the wooden tree climbing grips - are particularly developed for outdoor experiential education purposes: besides addressing all safety concerns related to such activities, these tools are easy to install and also outfitted to protect the tree bark. We hope this workshop will provide new ideas and tools that will fit in your educational programs.

Min. participant 10; max 14

### **About the author**

Nature was always in the center of my life. It eventually led me to become a biologist, and then to be an outdoor trainer. Since 2016 I'm an active member of the Hungarian Foundation for Experiential Learning and I participate in different outdoor programs aiming variety of target groups.



## 22. Woodcraft and knife skills in outdoor programmes. A practical workshop exploring knife use and the ideas of Otto Salomon and Educational Sloyd

Richard Irvine

Richard Irvine Outdoor Learning, United Kingdom

The relatively simple technology of the sharp blade has been used by humans since the first flake of flint was used to gut a fish or scrape a hide. Pocket knives used to be carried and used by many children in their everyday lives. Now however, in much of the world, they are now more associated with crime and violence. It is hard to imagine living outdoors for any length of time without a sharp knife therefore outdoor education programmes have the potential provide excellent opportunities for young people to become acquainted with this ancient technology. The purpose however, can be much more than just skill acquisition and this workshop will explore the ideas of 19th Century Swedish educator Otto Salomon who developed the pedagogy of Educational Sloyd. This was not seen as vocational education but instead used practical manual craft as a means to develop the whole person. Traditionally this has been confined to the school woodwork shop but with the digitisation of design and technology as a school subject, the author believes that outdoor educators can revive Salomon's ideas in the woods, forests and riverbanks where we work.

"The teacher must pay attention to the child's reactions, behaviour and development. The child must be the focus of attention, and not the tools, the techniques or the products. What is happening to the child during the work process should be the principal interest." Salomon

### About the author

Richard Irvine is a forest educator working in South West England. After 12 years experience with groups of children and young people in long term 'Forest School' programmes, he now runs accredited forest school training courses. His new book on practical woodcrafts for outdoor educators will be published in February 2019



## 23. The use of geographical applications on smartphones at the field work in schools

Eva Jeler Fegeš  
Gymnasium Šentvid, Slovenia

Last year we attended a workshop on the use of geographical applications on smartphones that was organised by the Department of Geography of the Faculty of Arts Ljubljana and carried out by two geography professors, dr. Blaž Repe and dr. Marko Krevs. The application is called ArcGIS online and is supported by the Esri institute.

We implemented the new method in the lessons and organised some field work with our students. We worked in the school surroundings. One group of students was searching for obstacles for disabled persons with the aid of smart phones, the other group was identifying local touristic sights. The obtained data was then analysed in the classroom. The students worked enthusiastically and were very satisfied with the lessons.

The same tasks were performed at the Research Camp in Kranjska Gora in the autumn of 2017, where it has been proven that the method can be used in an unknown environment as well.

In school year 2017/2018 two of our students successfully finished a research project »Use of mobile geographical applications for mapping of *fallopia japonica* by the Sava riverside«. For data acquisition they used ArcGIS online application on smartphone. The project was well received at the Ljubljana young researchers meeting and will be presented at the slovenian state meeting of young researchers in Murska Sobota.

By the end of May the same application will be used at the interdisciplinary school project. Literary path of Ivan Cankar will be traced in Ljubljana, since this year we celebrate a centennial of his death.

The method we use is modern. Moreover, it encourages cooperation between students to whom the use of smart phones comes naturally and therefore serves as an additional factor of motivation.

### About the author

I work as a teacher of geography at Gimnazija Šentvid, Ljubljana for more than 31 years. I am a member of general matura exams examination team and author, co-author and reviewer of number of textbooks and articles. I organise different excursions within Slovenia as well as abroad for my students and colleagues.



## 24. Kamen-check - learning application for rock recognition

Katarina Kadivec

Faculty of Natural Sciences and Engineering, Slovenia

Kamen-check is a free offline application for android devices, which enables user to identify typical Slovenian rocks. It can be used for education in school system or for research purposes for interested public on hikes, trips and vacations. Due to its uncomplicated use and adapted degree of difficulty it can be a useful innovative digital learning tool for teachers in schools.

Typical Slovenian rocks are determined by the principle of answering observation based short and simple questions. Application Kamen-check is divided in to three main parts. Geological preschool enables user for recognizing different rocks by explaining basic concepts additionally, with different visualization techniques. Basic geological kit (glass jar, copper coin, nail, magnifying glass, alcohol vinegar and/or diluted hydrochloric acid) is also presented in this part. Geological kit is needed to determine the correct rock properties. The main part of the app is the rock identification key. User is guided by a simple decision key towards identification of the chosen rock. On every step where needed further explanation of identification techniques and features are accessible. Explanation includes multimedia presentations. Last part describes the rock main properties, usage and where in Slovenia it can be found.

The application can be used in classrooms for teaching about different types of rocks. We also encourage the use of app in nature, which represents a primary teaching laboratory for geology. As a proposal how to include the application as a learning tool in innovative teaching, an interactive and experimental workshop will be presented. Participants will learn how to recognize rocks with application Kamen-check and how to help their students identify the properties that are typical for each rock group. Presented workshop concept enables teachers to move towards experiential learning and thus increasing the understanding and sustainability of knowledge.

### About the author

The application is a result of student project StoneKey. Project has been funded by Public Scholarship, Development, Disability and Maintenance Fund of the Republic of Slovenia, Ministry of Education, Science and Sport and European Union from European Social Fund as a part of public call »Po kreativni poti do znanja«.



## 25. Outdoor Learning Didactics and New Technology - more than a sum of parts

Seppo Karppinen  
University of Oulu, Finland

What new can technology bring to Outdoor Education and Experiential Learning?

What is the technological advantage that can be found in the learning in the Outdoors and nature? Is it more enjoyable or effective having these instruments in the learning processes? Can the sensitive and natural experience be polluted and decrease learning by technology? This presentation investigates the concept of Outdoor education and Experiential learning and its relationships between a) educator, b) learner/participant, and c) the Outdoor Nature setting (content). How can we support the “learning triangle” between these three actors and dimensions by technological innovations? For educators, instructors and teachers and those who plan the goals and activities in the Outdoor setting the “learning / didactic triangle” is a theoretical design to figure out the complicated and multidimensional pedagogic process having technology as an approach to it.

### About the author

Seppo Karppinen, PhD, has been conducting the Finnish Outdoor Adventure education research network since 2008. He has been participating actively in EOE projects and working in Special education for years. His special interest is in Outdoor education as a rehabilitative and therapeutic approach included in public education. He enjoys developing low risk adventure education methods in public schools as an everyday instrument without any big investments or costs.



## 26. Storytelling as contemporary and aesthetic technology mediating relations with the outdoors

Georgiana Keable

The Story of Nature and the Nature of Story, Norway

I argue that storytelling is a technology that humans have used for thousands of years to mediate their relationship with the outdoors. It has been a fundamental human aesthetic practice in forming our relationships with and knowledge of the outdoors. Folktales, fairytales and myths very often include human interaction and dependence on animals, birds, trees and nature. These stories often use animals and at times even land formations or weather as protagonists triggering human empathy and identification with natural phenomena. Formal education during the last 60 years has moved away from oral transmission of this kind but a growing movement of live storytelling in Norway and elsewhere in Europe is animating young people to appreciate and learn about the outdoors. Storytelling is now being taught at University level and despite it often being viewed as a traditional form of communication today's children still respond extremely well to this live storytelling. The relatively low cost and compelling nature of well-crafted storytelling has meant it is increasingly adopted in Norway's artistic educational programme – 'The cultural knapsack'. I will describe my own and others practice taking the stories outdoors so that outdoor learning is transformed into outdoor adventure. In this natural arena the senses are being stimulated, but at the same time the stories also stimulate the imagination, the mind and the heart. Following Bennett (2001), I take an aesthetic relationship with the outdoors to be about human dispositions, moods and cultural forms that build ethical principles in society. The experience of storytelling outdoors can be powerful and the learning in the child vividly remembered. Thus through this ancient and aesthetic technology of storytelling the power of learning is multiplied and a connection with the outdoors may be formed which supports a sustainable environmental understanding.

### About the author

Georgiana is a pioneer for rebirth of storytelling in England and Norway. Story-walks in forest and mountains reach 2000 teenagers annually. She started Fortellerhuset, taught storytelling at Oslo University since 1997, founded the Storytelling festival in Norway and received Oslo's Artists Prize for outstanding contribution to cultural life of Oslo.



## 27. Stimulating meaning-making for digital natives: a teaching & learning approach using aesthetic technologies and natural settings

Orla Kelly

Dublin City University, Ireland

Concerns about children's mental and physical well-being, their disconnect from the natural world, in part facilitated by the ease in access to technology and social media and the importance of their engagement with education for sustainability has given new impetus to children learning outside the classroom. (Beames, Higgins and Nicol 2012) Furthermore, the development of respect for the natural environment is enshrined in the Convention on the Rights of the Child (UN General Assembly 1989). For children to respect their natural environment and subsequently become responsible, environmentally aware global citizens, they must first like (if not love) nature. In an effort to develop initial teacher education (ITE) students' confidence and competence in teaching outdoors and connecting children with the natural world, a CPD model was developed and trialled with 9 ITE students. The CPD model combined workshops, school-based sessions and reflective tutorials. The ITE students planned and delivered in small groups four outdoor sessions with the support of outdoor learning experts. These were delivered to 2nd class children (age 8-9) in a local Irish school in June 2017. Despite one workshop for the ITE students being dedicated to the use of digital technologies, digital technologies were generally not used in the school based sessions. The exception being the use of a digital camera to capture the children's work. Instead, the ITE students relied on the repurposing of manufactured materials; paper, laminated cards, chalk, egg-boxes, compasses and of natural materials to support the children's meaning making in the outdoor sessions. (Payne & Wattchow, 2008; Manni et al, 2017) The impact of these on both the ITE students and the children will be discussed.

### About the author

Associate Professor Orla Kelly is a senior lecturer in Social, Environmental and Scientific Education with responsibilities for science, history and geography education. She has research expertise and a strong publication record in science education, focussing on creativity in science, children learning science in the outdoors and education for sustainability.



## 28. Opening Connections with the World: Recording Outcomes for At-Risk Children through Outdoor Education and Data Technology

**Mike King**

**Releasing Potential, United Kingdom**

For children whose experiences of school have been negative, merely interacting with professionals can be a huge source of anxiety. For most of our students, placements in mainstream school and/or pupil referral units will not have worked, and, for many their experience of education will have been punctuated by long periods of absence and school refusal. Over 17 years, Releasing Potential has developed an alternative curriculum largely based on outdoor learning that works for disengaged and at-risk young people. However, currently available technology has been unable to facilitate the collection and analysis of outcomes for children for whom attendance figures and GCSE predictions cannot supply the whole picture of their development and progress. This workshop will consider the challenge of outcome tracking for the most marginalised young people in the UK and will explore two central questions. Firstly, what data can be collected on at-risk young people who often do not attend school and who are highly unlikely to undertake GCSE qualifications? Secondly, how, when large-scale information management systems cater only to mainstream education settings, can we use technology to show meaningful progress, particularly outside the classroom environment? Mike will discuss the co-development of “Learn Trek”, a bespoke data management system designed to track outcomes for children whose learning is underpinned by outdoor educational models. Mike will explore the challenges and possibilities posed by the development of the technology, and consider the ways in which research generated by this technology proves that outdoor learning improves young people’s connections with the world.

### About the author

Mike is CEO of Releasing Potential, an educational charity and Independent School. Mike has presided over the organisation’s successful transition from outdoor education outreach to a school; the first OFSTED inspection in May 2018, the school was rated as “Good”. Mike is a trustee to the Institute for Outdoor Learning.





## 29. Leave the Ground and feel the Change

Ildikó Kocsis

Hungarian Foundation for Experiential Learning (KÉTTÉ Foundation), Hungary

Our aim is to facilitate an interactive workshop where the participants will get own experience of kinesthetic metaphors in outdoor experiential education setting.

We will introduce a low rope course activity and a tree climbing challenge. Both can be used to establish an identical or parallel process between the participant's life experience and the training experience.

These activities can be applied to create metaphors and therefore can enhance the transfer of learning from the training context to the participant's life.

Referring to Bacon's (1983, p10) statement: "There is no question that in well-formed metaphors there will be profound and meaningful links with isomorphic real-life experiences. People who had a metaphoric experience where in which the outcome has been successfully altered will have reorganized their typical life strategy".

Our tools - the low rope course kit as well as the wooden tree climbing grips - are particularly developed for outdoor experiential education purposes: besides addressing all safety concerns related to such activities, these tools are easy to install and also outfitted to protect the tree bark. We hope this workshop will provide new ideas and tools that will fit in your educational programs.

Min. participants 10; max. 14.

### About the author

Considering my original profession I'm a technical manager. Considering my passion, I'm a hiker, and an outdoor experiential trainer. Since 2016 I'm learning and practicing informal education and from last September I'm involved to training tool development in the Equipped Educator startup that offers equipments for EE practitioners.



## 30. Google education - tips and tricks

**Lilia Kostova**  
**Bulgaria**

Google education

saves teachers' time

connects people to work together in real -time

provides opportunities for better teaching and learning

In times of entrepreneurship and freelance jobs, Google provides essential tools that are making easier the preparation, distribution and analysis of the results of educational programs.

As a freelancer in the Outdoor field, I already have a great amount of experience in the usage of Google tools for improving the work on programs in Bulgaria. Over the 45 minute workshop I will share my knowledge, examples and will demonstrate how Google affects the Outdoor education programs for kids.

By the Conference I will also finish my online courses, so that I can further elaborate and apply this new methodologies in my practice with kids in the outdoors and will have fresh observations to discuss with the audience.

The future of the traditional education is facing serious changes and being up-to-date with the newest technological improvements in the field of education is essential for every teacher.

### About the author

[https://edu.google.com/?modal\\_active=none](https://edu.google.com/?modal_active=none)

## 31. Hybrid spaces of Outdoors

Jari Kujala

Suomen Nuorisokeskusten yhdistys, Finland

Since the latest technological revolution started at 1995 the world has not been the same. The algorithm driven world of social networking and gaming has found its way to youth consciousness. The reward that the youth gain from gaming has been recognized by many outdoor practitioners. On this gamification the outdoor plays add systemic game elements into activities.

The gaming research has shown that digital gaming may impact on learners learning abilities and it is depended on the playing strategy that one chooses. To transfer these capacities and skills from e-world to the real may happen when learner is on a zone of proximal development. The one-sided neurological load causes trouble for the learners. The reactions that they learn when gaming don't contribute to the real world needs. Gaming develops gaming skills. The digital environment lacks of motoric, proprioceptive (muscle and joints coordination) and vestibular (balance) sense experiences. To embody the skills of the digital requires the education of these senses

### About the author

Jari Kujala is an experienced Outdoor Adventure Educator in Helsinki Finland since 1996. His work is to support the youth with less opportunities in Child Welfare department of Helsinki City



## 32. Changes in Outdoor activities such as white-water boating and mountaineering through new technologies

**Christoph Ladner**  
**Naturfreunde Austria, Austria**

(This is a proposal, I could produce out of my Master Thesis research, in case this could be an interesting contribution for the conference)

The following paper investigates human-nature relationships, in particular looking at the topic from the view point of outdoor professionals .

It contains a qualitative case study of human-nature relationships of outdoor professionals, in how far new developments and technologies have influenced them in performing their activity and further what the effect of these changes are.

### **About the author**

Born in Vienna, worked in the field of teacher education and social work since 2009.

Since 2004 Austrian Snowsportinstructor (Snowboard and Ski)

Since 2009 several Outdoor trainings in experiential learning for school, youth and adult groups and for the pedagogical school for teacher education Vienna

Since 2011 Canoe instructor (Kayak and Raft for the Naturfreunde Austria)

2015-2018 European Master in Outdoor education (Teos- Transcultural European Outdoor Studies)

## 33. Acoustic Augmented Reality

**Mark Lawton**

**University of Cumbria, United Kingdom**

Augmented Reality allows an individual to experience the real world and supplement reality without complete immersion inside a synthetic environment (Kesim & Ozarslan, 2012). Predominately visual and associated with computer technology, sound has until recently been overlooked within Augmented Reality (Wang, 2018); the purpose of this presentation is to discuss the prototype development of an Acoustic Augmented Reality (AAR) activity. ARR attempts to augment a real time event in order to enhance participant experience.

According to Akçayır and Akçayır (2017), the rapid technological growth of Augmented Reality provides great pedagogical potential, and educational researchers have increasingly recognised this. In this project, we examine the educational potential from overlaying acoustic information onto the participants' physical world through spatial audio, and using experiential learning to enhance and build engagement with nature and biodiversity (past, present and future). We do this by devising an activity whereby participants are given a variety of acoustic cues (mostly animal sounds) to encourage them to explore a woodland environment, and in the process experience a more immersive interaction with nature. This presentation analyses the initial findings from a pilot study and we will discuss the potential use of spatialized sound as a learning tool with school children and older learners.

Akçayır, M. and Akçayır, G. (2017) 'Advantages and challenges associated with augmented reality for education: A systematic review of the literature'. *Educational Research Review*, 20, pp.1-11.

Kesim, M. and Ozarslan, Y. (2012) 'Augmented reality in education: current technologies and the potential for education'. *Procedia-Social and Behavioral Sciences*, 47, pp.297-302.

Wang, W. (2018) 'Why are Acoustics Overlooked in Augmented and Virtual Reality?', *Jabil Experts Blog*, 17 April. Available at: <https://www.jabil.com/insights/blog-main/sound-in-augmented-and-virtual-reality.html> (Accessed: 26 April 2018).

### About the author

Mark is a lecturer in outdoor education at the University of Cumbria, Ambleside, England. His research primarily focuses on outdoor education and learning. He is particularly interested in journeying and how and if outdoor experience is augmented by the use of technology.



## 34. Facing nature fear with the help of modern technology

Tanja Liimatainen

Nuorisokeskus Metsäkartano, Finland

Nature does you good, we all know it and its benefits has been validated by many studies. At the same time there are many youngsters who haven't had opportunity to form natural and stress free relationship to nature. Some youngsters have fear and/or prejudice towards nature: weather, animals, silence etc.

During the workshop we use modern technologies (smart phones, cameras and gps) to help participants to create their own relationship with nature and find the ways to face fears in safe way.

### About the author



## 35. Why should you walk along a ridge if you cannot fall down? - The risk of a total safety approach in a European perspective

**Martin Lindner**  
**bsj Marburg, Germany**

How to deal with risk and with safety-provisions in the outdoor pedagogy is an on-going debate. The outdoor industry offers more and more technical equipment which should not only reduce risk in outdoor activities but which should support a total safety strategy. Additionally, this development has an influence on all pedagogical (educational) situations in the outdoors. If outdoor pedagogues follow this approach and avoid any risk for example in the mountains, “the experience to be had is only of a sportive nature, no longer a holistically human one” (Messner, 2013). In other words, the educational approach and the adventurous pattern get lost and the experience is one-sided. The global debate is not the same in every country. The manner in which the issue of safety and risk is dealt with always varies in different cultures.

An explanation of danger and risk and the tension area between risk, risk management, and pedagogical responsibility are in the focus of this presentation. To illustrate different approaches in Europe case studies from European countries are presented as well. A discussion about the similarities and differences in other countries should broaden the horizon.

### **About the author**

Martin Lindner, a freelancer with many years of experiences in youth work and adult education and as a lecturer and programme coordinator at the University of Marburg;

main interest: concepts of Bildung in outdoor and adventure education, communitization in adventurous journeys and adventure education and youth work.



## 36. Digital as Double-Edged Sword: Reflecting on a Decade of Utilizing Digital Communications from Wild Outdoor Places

TA. Loeffler

Memorial University of Newfoundland, Canada

TA Loeffler has spent the last decade climbing high peaks, paddling remote rivers, skiing across frozen lands, and teaching outdoor education with the goal of inspiring young people around the world. TA used digital photography, blogs, animations, satellite phones, SPOT device, and an interactive website to have her expeditions be “More than a Mountains.” This presentation combines theories of reflection, visual anthropology, experiential education, and expedition communication to explore the use of these digital technology in the outdoors. Through narratives from TA’s field experiences, this presentation will highlight the values, logistics, technologies, challenges, and cautions of these tools in outdoor education. The presentation will conclude with practical hints for integrating these powerful tools into outdoor programs while identifying the challenges and cautions of doing so.

### About the author

T.A. Loeffler is an avid outdoor adventurer, hockey player, and technophile who teaches outdoor education at Memorial University of Newfoundland. T.A. has a reputation at Memorial University because her students are more likely to be chasing icebergs or following compass bearings than sitting in a classroom.





## 37. Outdoor Technologies: ancient and modern

**Christopher Loynes**

**University of Cumbria, United Kingdom**

The human story is intimately linked to our technologies throughout history. The quantity, diversity and capabilities of these devices has accelerated beyond imagination in modern times and continues to do so. Outdoor technologies are no exception. This is problematic as the energy and resources they require are not sustainable. In addition, we are harming the other than humans with who we share this world. In the developed world, outdoor life is largely recreational life. I will argue that, whilst some of the values underlying these lifestyles reproduce mainstream values, others work as a counter-culture. Some of these practices have been adopted as outdoor education. To what degree do educators adopt the normative meanings and potentials of the outdoors and to what degree do they take up the counter-cultural potentials? What part might this play more widely in our cultural evolution?

### **About the author**

Dr Chris Loynes is reader in Outdoor Studies at the University of Cumbria. He also consults in the UK and internationally for universities and experiential education organisations. He was recently an Educational Adviser working with the Paul Hamlyn Foundation Initiative 'Learning Away'. He has long held an interest in both adventure and environmental education. He currently lectures on the Erasmus Mundus MA Transcultural European Outdoor Studies. Dr Loynes is a Fellow of the Royal Geographical Society and the founding editor of the Journal of Adventure Education and Outdoor Leadership from 1980-2000. He has been the chair of the EOE Network for the last 6 years.



## 38. Encounters with Technology in Higher Education - Engaging Students using Social Media

**Loeffler TA. Mark Leather**

**Plymouth Marjon University, United Kingdom**

In this presentation, two case studies are compared and contrasted where university tutors in Plymouth England and Newfoundland Canada, have mediated outdoor education experiences using social media. These experiences are designed so that social media enhances and engages students, particularly when teaching in, on or about seascapes, and where social media are a key feature of the pedagogical approach. The use of social media for teaching and learning (Seaman & Tinti-Kane, 2013), in order to capture, enhance and share powerful outdoor experiences, is a significant aspect of the professional practice of both authors.

The first case in Plymouth examines place based outdoor education. Drawing on A pedagogy of place (Wattchow & Brown, 2011) students are provided with opportunities to explore the rich maritime heritage of Plymouth and explore their attachment to their temporary home. Social media are utilised in enhancing the students' lived experiences, by sharing images and videos of the fieldwork as well as historical and archive data. Sailing in Plymouth Sound allows students to experience the same seascapes as Francis Drake, The Pilgrim Fathers, James Cook and Charles Darwin. The second case examines how the tutor utilises social media as a teaching tool to nurture a deeper sense of community as well as adventurous learning in undergraduate students. Building on strong social media representations of Newfoundland, the rugged North Atlantic island in tourism recruitment, students capture and explore their learning experiences of the seascape in visually-based learning portfolios executed through blogs and social media. These have proven to be a powerful reflective tool that both tutor and students utilise to further cross-curricular connections to the seascape, Newfoundland culture, and places of historical significance.

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Wattchow, B., & Brown, M. (2011). A pedagogy of place: Outdoor education for a changing world. Melbourne: Monash University.

### About the author

Dr Mark Leather

Mark is a senior lecturer of Adventure Education and Outdoor Learning and leads the programme at the University of St Mark & St John, Plymouth, Devon, UK. He enjoys fieldwork with students touring Plymouth's many significant historical sites, visiting archives, museums, and exploring seascapes, mainly from a sailing boat.

Dr TA Loeffler

TA is a full professor of Outdoor Education at Memorial University of Newfoundland, St. John's, Newfoundland, Canada. TA has developed a reputation for excellence in experiential education because her students are more likely to be outside chasing icebergs than sitting in a classroom.



## 39. Safer outdoor and adventure activities by utilising digital technology – case snow safety

Jussi Muittari

Humak University of Applied Sciences, Finland

When outdoor and adventure activities are carried out in educational settings, safety deserves attention. Winter conditions pose some very specific safety risks which outdoor and adventure education professionals should be aware of. When instructing groups and carrying out different activities in challenging winter conditions, snow safety skills are needed.

In the project “Developing snow safety education and increasing avalanche knowledge” administered by Humak University of Applied Sciences, a training system called FINLAV, Finnish Avalanche Education, was established. The practical findings of the project suggest that using digital technology supports people in making decisions in challenging winter conditions.

In the field of snow and avalanche safety education, checklists and decision-making cards are commonly used. Similarly, in this project a checklist card was created: The aim of the card is to help people to consider key aspects of safety, and in addition, to encourage them to utilise digital technology.

However, snow safety is only one area of professional safety expertise. There are a wide range of outdoor activities, conditions, and terrains where digital technology is and could be utilised in order to improve safety. Developing checklist cards may be one way to link people and digital technology in the outdoors.

In the workshop, an introduction to safety-related decision-making supported by digital technology is provided by giving an example from the snow safety project and the checklist card. Firstly, the purpose of the workshop is to discuss the example. Secondly, the aim is to share knowledge about strengths, risks, and practices in using digital technology in outdoor and adventure education and activities. Furthermore, e.g. the role of aesthetic digital technology in relation to safety may be discussed.

### About the author

Jussi Muittari, Senior lecturer in Adventure and Outdoor Education, Humak



## 40. 'Through the eyes of the beholder': Using student led photo elicitation for 'meaning making' in outdoor educational research

Fiona Nicholls

Plymouth Marjon University, United Kingdom

Students currently studying Adventure Education and Outdoor Learning at Plymouth Marjon University (18 years +) constantly record and interact with the world that they live in through their smart phones.

Without prompting, students 'exhibit [ed] a strong desire to capture every nuance of the excitement, intensity, and learning of the new activity or environment' (Loeffler, 2005, p. 346); photographing or videoing their experiences to share with a wider audience through social media applications such as instagram or snapchat and to a lesser extent twitter and facebook (Leather & Nicholls, 2016).

As educators we can battle against this interaction with technology as an unnecessary distraction to conventional ways of making sense of the world, or we can accept it and ask 'how can we better work with today's young people [...] [and to understand] how our learners are changing [...]'

(Beames, 2017).

Using examples from personal, past and present research projects, this presentation encourages educational researchers in the outdoors to use 'photo elicitation', or in other words the photographs and videos taken and submitted by students as a type of data, which under the right circumstances can provide valuable insight into how an individual or group may make sense of their outdoor experiences (Loeffler, 2005; Leather & Nicholls, 2016).

Beames, S. (2017) Educating Generation Z. [Online] Available from: <https://www.youtube.com/watch?v=1Qkt2neC4zs> [accessed 28 April 2018].

Leather, M & Nicholls, F. (2016). More than activities: using a 'sense of place' to enrich student experience in adventure sport. *Sport, Education and Society*.

Loeffler, T. A. (2005). Looking deeply in: Using photo-elicitation to explore the meanings of outdoor education experiences. *Journal of Experiential Education*, 27, 343–346.

### About the author

Fiona Nicholls is a lecturer in Adventure Education and Outdoor Learning at Plymouth Marjon University in the UK. With 30 years of outdoor teaching and centre management experience she continues an active interest in developing outdoor learning projects in Plymouth's schools where research theory can be applied to practice.



## 41. Interdisciplinary Approach or Cross-Curricular Learning on a School Sports Day

Katja Ogorevc Ahačič  
Slovenia

Interlinking of school subjects (cross-curricular approach) in the Primary School of Šenčur was a real challenge for all teachers involved. We wanted to include and connect as many teachers as possible, as many school subjects as possible, and at the same time to motivate pupils additionally by using modern technology they feel familiar with.

This article presents the cross-curricular learning on a school sports day. In the introduction part of the article, the cross-curricular approach is defined briefly in the light of the lesson plan, being one of the teaching methods putting the pupil first.

In the main part, sports and cross-curricular teaching goals are presented. The organizational and thematic aspect of the implementation of the cross-curricular method on the school sports day – the orientation march – are described. It is explained why a march was organized instead of a race. The implementation is described based on the themes which are dealt with in an interdisciplinary way, from different aspects of different school subjects. Most of the teachers of the majority of school subjects take part in the activities. Also, modern technology is included. By means of the QR Code Generator, QR barcodes are generated, through which pupils are instructed how to fulfill tasks on checkpoints. As additional motivation, the results of all groups are calculated adding to the scores to reflect the best class of the current school year.

In the conclusion part, it is established that the cross-curricular approach provides pupils with a new dimension of learning. The touch of modern technology brings learning closer to pupils' lifestyle and enhances their work motivation.

Keywords: cross-curricular learning, school sports day, QR Code Generator

### About the author

When I was younger I used to alpine ski.

After graduating on Gimnasium Kamnik I signed into Universe for sports in Ljubljana. I graduated in 1996 and got the name of dipl. professor of sports and dipl. alpine skiing trainer.

During study I also get a name of swimming, cross country skiing teacher and alpine skiing trainer.

In the time of study I was teaching, leading and organizing skiing courses in alpine skiing club Domžale.

I've been attending International conferences for ISIA licence all the time. I'm also the owner of MOU licence.

I have been employed as a gym teacher on a Primary school Šenčur for 20 years. I lead and participate summer and winter school in nature, interest activities and sports days.



## 42. The pedagogy of technology in outdoor learning

Susan Porter

Plymouth Marjon University, United Kingdom

Aim

1. To gain insight into the decision making of students for the purpose of formative review using GoPro video footage
2. To give an opportunity for students to review their own actions individually and with a peer group using GoPro video footage
3. To give insight to educators about how their own teaching impacted on student behaviour by reviewing the GoPro video footage

The role of reflection is long established as pertinent in learning (Dewey, 1933) and the use of video feedback is known to be a useful tool in improving teaching practice (Penny & Coe, 2004). Use of video for self-assessment is embedded in other degree courses which have a significant proportion of non-classroom based education such as allied health and medicine courses. Video based self-assessment has been found to significantly improve academic performance and course satisfaction whilst increasing self-awareness of strengths and weaknesses in undergraduate nursing students (Yoo et al, 2009). Use of student self-video of performance with tutor feedback and guided reflection was found to increase students' ability to reflect and self-evaluate in physiotherapy undergraduates (Maloney et al, 2013). Much of the Outdoor Adventure Education degree is non classroom based where students are engaged with learning/practicing outdoor skills. Use of the video allows students to reflect on their own learning without the distraction of their engagement with the teaching session and educators to assess how effective their teaching has been in order to inform future practice.

Methods

- First year undergraduate students of Outdoor Adventure Education were provided with GoPro video cameras for use on an off-site orienteering task that formed part of an Experiential Learning module.
- Students wore their cameras on a head-strap enabling the students to take part in the activity hands-free and to reduce the effect on behaviour in the presence of the cameras.
- GoPro video footage was uploaded, watched and reflected upon by staff and students both individually and amongst peers.

### About the author

Su Porter MEd, AMI, LPIOL, FHEA

Su works on the BA (Hons) Outdoor Adventure Education programme, Plymouth Marjon University. She has extensive experience combining, education informal and formal in the outdoors. Su continues her practical professional involvement as an active MIA and MTUK Course Director. Su is a keen mountaineer who enjoys taking part outdoor adventures with friends.



## 43. New Technology and the Real World Learning

**Katja Primožič**  
**CŠOD, Slovenia**

At CŠOD Breženka microscopes are used in science classes, which make it possible to look at the specimen through the eyepiece as well as to look at it on the computer screen.

Studies are done with new, improved microscopes with camera that can be connected to different types of devices like computer monitors, television screens, LCD projectors etc. in combination with classic optical microscopes. It can be concluded that a few of these microscopes make the process of teaching easier and enable students:

- A better perception of the specimen they look at (what is an animal, a plant, an organism or a cell),
- comprehend the inner structure of a living microorganism and observe individual organs like heartbeat, peristalsis of a digestive tract, leg movement etc.,
- if specimens are insufficient (the absence of organisms in different seasons, in bad weather etc.) saved images and videos are available.

The new technology used in science classes helps create image and awareness about the living organisms in a drop of water. By that the importance of protecting the environment is stressed. Knowing the biodiversity and abundance of life in a drop of water, individuals will realize the harm they cause to the ecosystem when water is polluted with chemicals and detergents, mineral oils etc. and therefore they may not do it.

When we learn outside and the classes take a form of fieldwork where a group of students explores the sea shore, their focus is primarily on the diversity of population in different living zones of the shore. Students' tasks consist of observing flora and fauna specimens and their adaptations for living in different zones of the shore. It is documented with photos taken by digital camera. Photography represents a non-destructive sampling technique and documentation of biodiversity of the sea shore, which has enabled us to collect an extraordinary set of data on different species of marine organisms in a short period of two years.

We hope students continue to respect, observe, photograph and research organisms as well as protect their natural habitat.

A new technology was applied when learning about algae - lamination. The device used laminates prepared sheets of dry algae with the plastic foil for better protection and durability.

Humans mainly organize their lives according to their own ideas and wishes. It is important not to lose connection with natural laws and the environment when using new technologies. Humans have to be aware of the partnership between living organisms and their habitat, respect healthy environment so that they can live in harmony as well.

### About the author

Katja Primožič is a teacher of biology. She has been teaching nature science in outdoor center for several years. She is also a recreational scuba diver and explores sea and dry land nature in her professional and private life.



## 44. Capturing experiences in the outdoors using social networking sites through photo-elicitation

**Heather Prince**

**University of Cumbria, United Kingdom**

Social networking sites (SNSs) such as Facebook and Instagram are relatively recent and latterly contested phenomena. With images and text of people's lives posted across many mediums, the ability to keep ourselves 'updated' appears to have more intrinsic importance and is changing the way we see ourselves. The line between our digital and real lives is becoming increasingly blurred in the public representation of ourselves and in the portrayal of the 'possible' self.

This interpretive phenomenological research investigates the ways in which people capture their experiences in the outdoors through photographs, and how they select those to post on SNSs. The purpose was to ascertain whether there are differences between males and females in the choices they make, and the perceived intrinsic importance for them of sharing photographs on open or private sites. The data illustrate the reasons for taking and posting photographs and the influence of social recognition and reaction. A pilot study comprised a layered analysis of photo-elicitation semi-structured interviews with four females and four males using photographs taken by them of their outdoor experiences. The photographs were analysed using symbolic interaction and data were coded into eight categories and four themes: outdoor activity, outdoor environment, themselves and friends. Females were more likely to post photographs of the environment and to edit these for colour enhancement; males were more likely to post photograph of the outdoor activity and friends and were unlikely to edit their photographs. Gender differences were evident across the environment – people/activity domains. The importance of images containing friends by male participants constituted a difference to previous photo-elicitation research in this context but may illustrate the strong influence of SNSs. To test the reliability of these data, this study will be extended in 2018, and include the effect of participants' cultural background in Europe.

### About the author

Heather Prince is Associate Professor of Outdoor and Environmental Education and Principal Lecturer in Collaborative and Experiential Learning, University of Cumbria, UK. She is co-editor of the International Handbook of Outdoor Studies and Associate Editor of JAEOL, committed to EOE, and loves participating in outdoor activities in wild places.





## 45. Heidegger's question concerning technology and its relevance for outdoor education

**John Quay**  
**University of Melbourne, Australia**

Why engage with Heidegger's essay "The Question Concerning Technology"? Because Heidegger's concerned questioning of technology pushes through layers of sedimented thinking to aid comprehension of the source of that major contemporary dilemma: the continued ravaging of this planet - which is, of course, a major concern for outdoor education. Heidegger's concern is not with how particular technological devices mediate our lives. Instead, he digs deeper in search of "the essence of technology," which "is nothing technological" (1977/1949, p. 35).

Two traditional definitions of technology which "belong together" (p. 4) provide "the instrumental and anthropological definition of technology" (p. 5) which we are generally familiar with. "One says: Technology is a means to an end. The other says: Technology is a human activity" (p. 4). But this understanding does not get to the essence of technology, and as such, "the merely instrumental, merely anthropological definition of technology is ... untenable" (p. 21).

Heidegger continues to question, primarily concerned with "modern technology," which he sees as "something incomparably different from all earlier technologies" (p. 14) - a point not clearly made via an instrumental/anthropological understanding of technology. Instead, modern technology is different because it is "based on modern physics as an exact science" (p. 14). It is this influence of science that underpins technology.

Perhaps the most fundamental assumption of modern physics and other sciences is that existence is, at its most basic, comprised of things interacting in various ways, to be understood as organised and ordered via cause and effect relations. This is the starting point of modern science, as Dewey (1925) also argues via his "instrumentalism" (p. 372). And it is possibly the main way in which the world is revealed to us today.

This mode of revealing is the essence of technology, according to Heidegger. In this presentation I shall further elucidate this understanding and its consequences - and possible ways forward.

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Dewey, J. (1925). The development of American pragmatism. In Dept. of Philosophy Columbia University, Studies in the history of ideas, Vol. 2 (pp. 353-377). New York: Columbia University Press.

### About the author

John Quay is an associate professor in the Graduate School of Education at the University of Melbourne, Australia. His research interests include outdoor and environmental education, physical education, curriculum theory and philosophy of education.



## 46. Unique natural patterns and My personalized pencil

**Dragica Radojevič**

**Zavod sv. Stanislava, Slovenia**

The first workshop, Unique natural patterns (45min), focuses on using natural materials for making unique pictures on plain T-shirts or pieces of cloth. The workshop is appropriate for all generations, beginning with children aged 6. It involves observing the natural world around you, choosing different natural materials and with them and some colours, creating unique patterns on a plain T-shirt or on a piece of cloth, which can be later framed. The activity develops your imagination, motor skills, the feeling for the aesthetic, cooperation and critical thinking. As a teacher, you can use this activity for teaching maths, science and art. Furthermore, the activity is a good example of cross-curriculum approach.

The second workshop, My personalized pencil (45min), is appropriate for all generations, starting with children aged 7. The participants make their own pencils from different types of wood. By choosing the best type of wood for your pencil, you learn about different characteristics of wood. During the process of making the pencil, you learn how to use some electric tools and knives, you develop your motor skills and imagination and the feeling for the aesthetic. At the end, you get your own personalized pencil. Doing that as a teacher, you teach your students how to use knives and other tools. Furthermore, you encourage your students to write, since they are more motivated for it if they use their own pencils. The activity encourages team-work, critical thinking and is a good example of cross-curriculum approach.

At the end of the workshops, we are going to present a special vehicle we made at school which is great fun to use for all generations. We will explain the process of making it and the participants of the workshops will be able to try it.

### About the author

I am a teacher at Alojzij Sustar Primary school in Ljubljana. In my teaching, I use experiential learning methods at science and at other subjects. Together with the team of teachers, we created our outdoor learning classroom, which is located in the vicinity of our school. I actively participated at a two-year international project Outdoor Learning, in which we cooperated with our Norwegian colleagues. Simultaneously, I attended different seminars abroad regarding outdoor education (in Iceland and Sweden). With my colleagues, I organised a seminar and an international conference on outdoor education for pedagogical workers. I share the examples of good practice with some other organisations, like Forest Kindergarden and Permaculture Society. I cooperate with the students from the Faculty of Education in Ljubljana, who come and observe my lessons as part of their studies.

## 47. Student Teachers' Visions of Learning Outdoors

**Ilkka Ratinen**

**University of Lapland, Finland**

Sustainability education and out-of-school-settings in learning are current topics in Finnish education system. Crucially, the basic education has been reformed through the new national curriculum (2014), which has brought transformative elements for learning. It emphasizes for example pupils' agency, and participation, sustainability, learning outside the classroom, and digitalization as learning environment. Also, sociocultural learning is defined as the philosophy of learning. Thus, there is a great need for transformative activities at schools, and also in teacher training due to new requirements of the curriculum reform.

In this paper, we will present our recent research of the first and second year student teachers (=46) who are attending sustainability and outdoor education emphasized teacher training in Finland. The questions here explored are 1. What kind of learning spaces student teachers give prominence to? 2. What kind of advantage does learning outdoors give to pupils according to student teachers? 3. What kind of teaching methodologies teacher student prefer and what they think is the content of learning? The methodology used here is content analysis and it is qualitative research.

The student teachers emphasized nature, surrounding environments included build environment and unbuilt environment and locality as a learning environment. As a teaching methods they see appropriate sustainability education, active learning, participated learning, making observations and multidisciplinary of learning. However, the technology, and digitalization were not emphasized in the results. According to the results, the student teachers have rather strong preliminary knowledge base of learning spaces outdoors, and on the other hand also visions, and strong will for conducting learning outdoors.

### About the author



## 48. Communicating outdoor adventure and experiences

**Dag Svein Roland**

**Volda University College, Norway**

The need for a better understanding of young people's outdoor experiences and their mediation of these experiences form the basis for the Outdoor Media Production course at Institute of Film and Animation at Volda University College. The focus of the course is learning how to document and communicate outdoor life experiences using video and still photography. Students participate in hiking and exploring outdoor life, and work in a context strongly influenced by the traditional definition of "outdoor life" (friluftsliv).

In this presentation I will look at how the students are introduced to the thematics of the course. During a three day trip in the mountains, they are challenged both to mediate their experience of being in nature, as well as saying something about their personal relationship to nature. Working in teams of three, each create their own individual expression of the subject matter in a short video. Then they combine the three stories to say something more about the theme.

The question of the presentation is both to find out more about how young people express themselves using new technology for storytelling and sharing, but also how this way of working with outdoor life and mediation of experiencing the outdoors may have an impact on how students ultimately see themselves in relationship to nature.

This presentation may be combined with a 90 minute workshop where the participants at the EOE 2018 Conference are introduced to the exercise and given the tools to use the same approach with their own students (of any age groups, really). If the workshop is on the first or second day of the conference, the participants may present their work at the end of the conference. All the individual stories will be edited together in one piece. 15-30 seconds each, depending of the number of participants.

### About the author

Dag Roland is an assistant professor at Volda University College, and the leader of the course "Outdoor Media Production". By profession a screenwriter and documentary filmmaker, on his private time a 5 Star Sea Kayak Coach and Advanced Sea Kayak Leader Trainer & Assessor with the Norwegian Canoe Association.

More info about the program and the course at [outdoorstories.no](http://outdoorstories.no)



## 49. Unique natural patterns and My personalized pencil

Ela Rupert

Zavod sv. Stanislava, Slovenia

The first workshop, Unique natural patterns (45min), focuses on using natural materials for making unique pictures on plain T-shirts or pieces of cloth. The workshop is appropriate for all generations, beginning with children aged 6. It involves observing the natural world around you, choosing different natural materials and with them and some colours, creating unique patterns on a plain T-shirt or on a piece of cloth, which can be later framed. The activity develops your imagination, motor skills, the feeling for the aesthetic, cooperation and critical thinking. As a teacher, you can use this activity for teaching maths, science and art. Furthermore, the activity is a good example of cross-curriculum approach.

The second workshop, My personalized pencil (45min), is appropriate for all generations, starting with children aged 7. The participants make their own pencils from different types of wood. By choosing the best type of wood for your pencil, you learn about different characteristics of wood. During the process of making the pencil, you learn how to use some electric tools and knives, you develop your motor skills and imagination and the feeling for the aesthetic. At the end, you get your own personalized pencil. Doing that as a teacher, you teach your students how to use knives and other tools. Furthermore, you encourage your students to write, since they are more motivated for it if they use their own pencils. The activity encourages team-work, critical thinking and is a good example of cross-curriculum approach.

At the end of the workshops, we are going to present a special vehicle we made at school which is great fun to use for all generations. We will explain the process of making it and the participants of the workshops will be able to try it.

### About the author

My name is Ela Rupert, I am professor of English language, graduated at the Faculty of Arts in Ljubljana, Slovenia, with MA in English language and literature. I've been working as an English second language teacher for 11 years, teaching various age levels of students, from kindergarden to adults. Since 2012 I've been teaching at Alojzij Sustar Primary school in Ljubljana, where I was also a project manager of an international two-year Outdoor Learning project, which was a great success. During the project, I have gained lots of experience regarding outdoor education methods, organised various workshops for teachers and an international conference on outdoor education.



## 50. Safer outdoor and adventure activities by utilising digital technology – case snow safety

**Anita Saaranen-Kauppinen**  
**Humak University of Applied Sciences, Finland**

When outdoor and adventure activities are carried out in educational settings, safety deserves attention. Winter conditions pose some very specific safety risks which outdoor and adventure education professionals should be aware of. When instructing groups and carrying out different activities in challenging winter conditions, snow safety skills are needed.

In the project “Developing snow safety education and increasing avalanche knowledge” administered by Humak University of Applied Sciences, a training system called FINLAV, Finnish Avalanche Education, was established. The practical findings of the project suggest that using digital technology supports people in making decisions in challenging winter conditions.

In the field of snow and avalanche safety education, checklists and decision-making cards are commonly used. Similarly, in this project a checklist card was created: The aim of the card is to help people to consider key aspects of safety, and in addition, to encourage them to utilise digital technology.

However, snow safety is only one area of professional safety expertise. There are a wide range of outdoor activities, conditions, and terrains where digital technology is and could be utilised in order to improve safety. Developing checklist cards may be one way to link people and digital technology in the outdoors.

In the workshop, an introduction to safety-related decision-making supported by digital technology is provided by giving an example from the snow safety project and the checklist card. Firstly, the purpose of the workshop is to discuss the example. Secondly, the aim is to share knowledge about strengths, risks, and practices in using digital technology in outdoor and adventure education and activities. Furthermore, e.g. the role of aesthetic digital technology in relation to safety may be discussed.

### About the author

Jussi Muittari, Senior lecturer in Adventure and Outdoor Education, Humak University of Applied Sciences, Finland.

Anita Saaranen-Kauppinen, Principal lecturer in Adventure and Outdoor Education, Humak University of Applied Sciences, Finland.

## 51. ActiGraph Measurement of Primary School Pupils' Physical Activity during Outdoor Education

Hana Svobodová

Masarykova univerzita, Pedagogická fakulta, Czech Republic

Physical activity is an inseparable part of human life and one of the crucial needs of every child (pupil). We are living in a time of decline of the population's level of physical fitness, while physical activity is being replaced by passive forms of entertainment (e.g. playing computer games, watching television). The international HSBC study comparing physical activity of European pupils shows that the number of European pupils lacking adequate physical activity is increasing.

However, it is possible to naturally integrate activities involving movement into most subjects taught at schools, school being the place where a child spends the majority of their day. Apart from PE which is a compulsory school subject, activities involving movement may be incorporated via different forms of outdoor education. Based on the authors' own data, acquired by ActiGraph accelerometer (including heart rate gauge), it is possible to claim that outdoor education can lead to a healthier lifestyle and help improve the physical activity level of the pupils.

The aim of this paper is to analyse the results of the data concerning the level of physical movement of a representative group of elementary school students during various forms of education: standard education, education concerning PE and outdoor education.

The data sample of pupils was limited to ten pupils each from Grade 5 and Grade 8, due to the availability of the ActiGraph monitoring devices. Out of all the functions which the device can measure, we focused on the amount of energy burned [Kcal], the metabolic rate [MET] and the sedentary analysis (sedentary time in minutes detected during different types of education).

Afterwards, a complex questionnaire survey with the pupils of both model classrooms was administered. The goal of this survey was to determine the pupils' attitudes to the movement in standard and outdoor education classes.

### About the author

Hana Svobodova, Radek Durna and Darina Misarova work at the Department of Geography, Faculty of Education, Masaryk University. They are interested in didactics of geography, modern technologies including GIS and outdoor education.



## 52. Tablets/mobile phones and spring meadow

**Jerca Šolar Rihtar**

**Primary school Gorje, Slovenia**

The Outdoor education is one of the best possibilities to learn through the adventure. Pupils don't need much motivation to go outside and explore. Teachers have to prepare the lesson/time in nature precisely and carefully. What to take with us in the field is always a question. We usually combine classical technology, digital technology, and aesthetic technology. Intelligent use of different tools can make outdoor learning interesting and interactive.

We have had a day in the outdoors. We visited a meadow near the school. Children were divided into groups of four. Each group had a handout, a tablet/mobile phone, colored pencils/crayons, paper and biological tools for observation. The purpose of use of different technologies was to involve all children in the group. We built up a net in the group and gained cooperation. Teacher mentored exploration, discovering, experiencing and learning. The main objective was to identify different flowers and to differentiate them in the spring meadow.

Different technologies influenced our outdoor learning positively. We all gained knowledge on using digital technology and knowledge on flowers.

In my oral presentation, I will give the description of all-day outdoor learning in the meadow. I will compare work with and without digital technology.

### **About the author**

I am a primary school teacher. I teach in the four grade, my pupils are 10 years old. My diploma work was a research software programs for the pupils in lower classes in primary school.

My professional improvement was more in sport and outdoor education. I gain diplomas in mountain guide, cross country trainer, and alpine ski trainer. Through outdoor sport I start to learn about outdoor education. I participate the seminar in Iceland The outdoor education. I organized several outdoor camps in mountains for pupils in our school. The Real World Learning in Planica 2013 enthused me. Last year I fully participated in International conference in Bohinj Forest - the best and the beauties classroom. Last but not least I lead my pupils outdoor as many times as possible.



## 53. No tech camp

**Anna Margret Tomasdottir**

**Iceland National Association for Outdoor Learning, Iceland**

Recreational youth camp (outdoor centre/school camp) can today act to support youth education through playing an important role in providing youth with unique experience to spend time relaxing offline and have greater connection with their school mates in person. It is essential “to get offline” to be able “to make contact” and to be in the present moment with the people you are with.

This presentation (paper) is built on a research on Camp Laugar that was carried out during the 2014. In this presentation the focus is on how Camp Laugar is working as a “Non tech camp”. Camp Laugar offers schools a 5 days camp experience for their students, with specialised program and relaxation from everyday life.

The camps in western societies can be traced to the mid-19th century in the wake of increasing urbanization which was thought to be having a negative effect on children. Since then, it seems often that the ideology in camps is working to address some of the big social challenges affecting youth in society and how the camp program can make life better for young people. Today one of the big challenges is lack of interpersonal connections between young people, social development and self-esteem.

The following questions will be used as guide in the presentation:

- How does Camp Laugar give youth the opportunity of educational experiences that support the traditional work within the school system?
- What methods does the camp use and how do the youth and teachers feel about it.
- How does the unfamiliar experience of going without technology, avoiding use of smartphones and computers affect young people and their school mates?

Camps in Iceland appear to have been constructed in accordance with a Nordic model, and initially, only by non-governmental organizations. The first Icelandic summer camp was established by the YMCA in 1922, but the first government run school camp was only in 1988. The evolution of these camps seems to have followed the zeitgeist in each period and currently it is felt that youth- and recreational camps can actively support the formal education and maturing of young people.

### About the author

Anna Margrét Tómasdóttir is a pedagogue and has M.Ed. degree in pedagogy and leisure. Anna has been Camp Manager in Camp Laugar since 2006. She has been an active member in youth work as a scout leader and on the board of Iceland National Association for Outdoor Learning since 2013 and on the board for the International Camping Fellowship since 2017.

## **54. Nature and the Soul : Exploring Biophilia our innate connection to nature and the role of technology in connecting us back to nature and our selves**

**Yesim Tunali Flynn**  
**Latorium, Ireland**

This workshop will present the idea of Biophilia.

Biophilia is a term coined by psychoanalyst Erich Fromm and described it as “the passionate love of life and of all that is alive.” It is essentially the idea that humans possess an innate tendency to seek connections with nature and other forms of life; while acknowledging that there has been a divergence from the natural world with the introduction of technological developments and which has impacted on human interaction with the land, protected from the elements leading to a biophobia (fear of nature).

In this practical session to provide an experiential workshop on how technology can be used to tackle this biophobia and be part of a solution focused manner of reconnecting us with ourselves, each other and to the environment in an eco-centric manner.

We explore the idea that we as humans are naturally intrigued by the aesthetics of the natural world, the diversity and richness of landscapes, the colours, natural sounds, the changing of the seasons, the shapes and the beautiful natural metaphors for life and how we as humans aim to capture it in paintings, photos, poetry and how technology and support this process.

We intend to bring attention to the spiritual aspects of nature and its role in human growth and development and how technology can support this.

The Session will utilise indoors and outdoor space – the outdoor session will be 50 minutes in length with 20 minutes indoors at either end.

### **About the author**

Dr. Yesim Tunali Flynn: Freshwater ecologist, outdoor practitioner and advocate for nature and soul and connecting people with the natural environment.

Co- Facilitated by Jenny Fennessy MBPS Practitioner of nature based and expressive arts activities for human growth and development. Advocating for the use of non formal spaces for mental health and wellbeing and the development of soul and ecocentric processes. Underpinned by Community Psychology as a perspective of empowering people, and building stronger connections to individuals and their environment



## 55. Renewable Energy Sources – New Teaching Aids

**Anton Verderber**  
**CŠOD, Slovenia**

As a teacher of physics and technology I have always aimed towards students gaining knowledge through practical workshops. At CŠOD Lipa Centre we work with pupils from 1st to 5th grade of primary schools, as well as with gifted students. Lately my emphasis has been on energy – mainly on renewable sources. In teaching I use models of wind and hydro power-generators, technical construction sets for motion and sets for gaining electrical current from burning units.

I would like to present two teaching sets that I have designed and which have been well received by pupils and teachers alike.

### 1. WIND RATTLE

In modern times wind rattles have been losing its use for repelling birds from farming areas, but they have not lost their appeal for pupils. A wind rattle is constructed of 24 wooden elements and 29 screws and wing nuts. I have prepared eight sets, so that pupils can work in groups of two to four. They construct a wind rattle in a classroom and test it out-of-doors. At the end of the workshop the pupils disassemble the rattle and put the elements back into boxes.

### 2. SOLAR COLLECTORS

Solar collectors are a concrete way of conserving energy and using a renewable source – the sun. I have prepared four sets of solar collectors. Each consists of 14 elements (four frame pieces, the bottom, glass, two pieces of rubber tube, two clips, a water reservoir, a pump, a thermometer, solar panels). Through my oral instructions and demonstrations (adjusted to age of pupils) they construct the collectors, choose the best location and measure water temperature in relation to time. After final measurements, the pupils disassemble the systems.

### About the author

I have a degree in teaching physics and technology. I taught these two subjects in a primary school for 14 years, and now I have been working as a science teacher in CŠOD Lipa Centre for 21 years. In my work I »utilize« nature that surrounds our centre as much as possible. I include many physics and technology topics in a way that enables pupils to be constantly active.

## 56. Augmented reality smart-glasses in outdoor education; exploring the potential for supporting the social and emotional development of autistic young people

Stuart Watson

Plymouth Marjon University, United Kingdom

Social Communication and Emotional Regulation are key areas of challenge for young people diagnosed with autism (Bradley & Male, 2016). Outdoor adventurous activities provide a stimulating and emotionally diverse context in which the development of these domains can be facilitated (Zachor et al., 2017). Furthermore these settings provide authentic opportunities for young people to recognise and express a wide range of emotions in themselves and others (Karoff et al., 2017).

The SCERTS model provides a developmental framework to measure, evaluate and set goals to promote the social and emotional growth of young people diagnosed with autism (Prizant et al., 2006), which has been shown to be effective in classroom and home settings (Sparapani et al., 2016; Wetherby et al., 2014). This model provides a strengths based assessment process to identify social communication and emotional regulation goals that can be most impactful for the young person by developing transactional supports for the areas of greatest challenge.

Parsons (2016) has explored virtual reality as an effective tool to support the core challenges faced by young people with autism by providing an authentic context in which learning can occur. Augmented reality extends this authenticity further by providing a layer of virtual reality in a non-simulated context (Sahin et al., 2018). Smart-glasses technology would enable this augmented reality experience to be used in an outdoor environment (Liu et al., 2017).

Considering the above, we aim to explore how emerging smart-glasses technology could be used as a Transactional Support to promote the social-emotional development of autistic young people throughout the opportunities the outdoor environment provides.

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## About the author

Abigail Gurr graduated with a degree in Outdoor Adventure Education from Plymouth Marjon University where she also ran the student kayak club. A qualified teacher, Abigail now works for the university using her enthusiasm for the outdoors and Higher Education to promote opportunities for local young people from diverse backgrounds.

Stuart Watson worked as a kayak instructor for five years before taking this outdoor experience to a specialist autism school. Having seen the benefits of outdoor education for these young people Stuart undertook a degree in Speech and Language Therapy at Plymouth Marjon University in order to develop this work in the context of evidence-based practice.



### Participants of the conference

Name	Surname	Organisation	Country
John	Quay	University of Melbourne	Australia
Larissa	Breitenegger	Larissa Breitenegger - grüntrieb	Austria
Christoph	Ladner	Naturfreunde Austria	Austria
Sofie	Lesk	Verein IOA Outdoorprojekte für Bildungsinstitutionen	Austria
Susanne	Lesk	Verein IOA Outdoorprojekte für Bildungsinstitutionen	Austria
Marlies	Maczejka		Austria
Lilia	Kostova		Bulgaria
TA.	Loeffler	Memorial University of Newfoundland	Canada
Eric	MacDonald	HKIS	China - Hong Kong
Dragana	Pavičić	Nacionalna zaklada za razvoj civilnog društva	Croatia
Toni	Elezović	Odred izviđača pomoraca Posejdon	Croatia
Ivana	Galić	Odred izviđača pomoraca Posejdon	Croatia
Barbora	Appelová	Lipka - školské zařízení pro environmentální vzdělávání Brno	Czech Republic
Vladislava	Kolářová	Lipka - školské zařízení pro environmentální vzdělávání Brno	Czech Republic
Radek	Durna	Masaryk University	Czech Republic
Darina	Mísařová	Masarykova univerzita, Pedagogická fakulta	Czech Republic
Hana	Svobodová	Masarykova univerzita, Pedagogická fakulta	Czech Republic
Heli	Eischer	Finnish Youth Centre Association	Finland
Eija	Pietilä	Finnish Youth Centre Association	Finland
Jussi	Muittari	Humak University of Applied Sciences	Finland
Anita	Saaranen-Kauppinen	Humak University of Applied Sciences	Finland
Tanja	Liimatainen	Nuorisokeskus Metsäkartano	Finland
Kim	Lindblad	Suomen Humanistinen ammattikorkeakoulu Oy	Finland
Jari	Kujala	Suomen Nuorisokeskusten yhdistys	Finland
Ilkka	Ratinen	University of Lapland	Finland
Seppo	Karppinen	University of Oulu	Finland
Peter	Becker	bsj Marburg	Germany
Martin	Lindner	bsj Marburg	Germany
Jochem	Schirp	bsj Marburg	Germany
Peter	Wilde	bsj Marburg	Germany
Alexandra	Steiner	Klamath Outdoor Science School	Germany
Marion	Hedtke	Querfeldein	Germany
Gábor	Imre	Hungarian Foundation for Experiential Learning (KÉTTÉ Foundation)	Hungary
Ildikó	Kocsis	Hungarian Foundation for Experiential Learning (KÉTTÉ Foundation)	Hungary
Aevar	Adalsteinsson	Iceland National Association for Outdoor Learning	Iceland



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Anna Margret	Tomasdottir	Iceland National Association for Outdoor Learning	Iceland
Orla	Kelly	Dublin City University	Ireland
Tomas	Aylward	Institute of Technology Tralee	Ireland
Dave	Gaughran	Institute of Technology Tralee	Ireland
Jenny	Fennessy	Latorium	Ireland
Yesim	Tunali Flynn	Yesim Tunali Flynn	Ireland
Ilaria	Mardocco	ASSOCIAZIONE CULTURALE EUFEMIA	Italia
Alice	Taronna	ASSOCIAZIONE CULTURALE EUFEMIA	Italia
Agne	Dirmantaite	Silale Simonas Gaudesius gymnasium	Lithuania
Elena	Pinciene	Silale Simonas Gaudesius gymnasium	Lithuania
Katja	Kleinveld	ONTDEKK	Netherland
Jørgen	Eriksen	Norwegian School of Sport Sciences	Norway
Kirsti	Gurholt Pedersen	Norwegian School of Sport Sciences	Norway
Gunnar	Hegstad	Overhalla Kommune	Norway
Johannes	Rosenvinge	Overhalla Kommune	Norway
Georgiana	Keable	The Story of Nature and the Nature of Story	Norway
Dag Svein	Roland	Volda University College	Norway
Marta	Jonca	Centrum Edukacji Nieformalnej i Outdooru	Poland
Paulo	Guerreiro	Centro Ciência Viva de Lagos	Portugal
José	Agostinho	Propósito Inadiável-Associação para Costumes Futuros	Portugal
Altino	Barradas	Propósito Inadiável-Associação para Costumes Futuros	Portugal
Liuba	Anghel	Asociatia de Educatie si Cultura Outdoor	Romania
Marian	Anghel	Asociatia de Educatie si Cultura Outdoor	Romania
Ileana Doriana	Toma	Asociatia de Educatie si Cultura Outdoor	Romania
Antonius	Eftenoiu	Asociatia Scout Society	Romania
Ciprian	Sfirlogea	Asociatia Scout Society	Romania
Juansa	Cheng	Ministry of Education, Singapore	Singapore
Dean	Othman	Outward Bound Singapore	Singapore
Mirjam	Čebulc	ČŠOD	Slovenia
Mojca	Petek	ČŠOD	Slovenia
Katja	Primožič	ČŠOD	Slovenia
Dejan	Putrle	ČŠOD	Slovenia
Nina	Vajt	ČŠOD	Slovenia
Anton	Verderber	ČŠOD	Slovenia
Lili	Baričič	ČŠOD	Slovenia
Katarina	Kadivec	Faculty of Natural Sciences and Engineering	Slovenia
Alenka	Dragoš,	Gimnazija Šentvid	Slovenia
Eva	Jeler Fegeš	Gimnazija Šentvid Ljubljana	Slovenia
Jerca	Šolar Rihtar	Osnovna šola Gorje	Slovenia
Katja	Ogorevc Ahačič	Primary school Šenčur	Slovenia
Irena	Hergan	Univerza v Ljubljani Pedagoška fakulteta	Slovenia
Klemen	Banko	Zavod sv. Stanislava	Slovenia
Dragica	Radojevič	Zavod sv. Stanislava	Slovenia



Ela	Rupert	Zavod sv. Stanislava	Slovenia
Lara	Kastelic		Slovenia
Darja	Skribe Dimec		Slovenia
Maja	Fajdiga Komar	Triglav National Park	Slovenija
Anže	Krek	Triglav National Park	Slovenija
Salvador	Cidrás Robles	Salvador Cidrás, Universidad de Santiago de Compostela	Spain
Vicente	Blanco Mosquera	Vicente Blanco, Universidad de Santiago de Compostela	Spain
Erik	Backman	Dalarna University	Sweden
Graham	French	Bangor University	United Kingdom
Barbara	Humberstone	IOL	United Kingdom
Diane	Collins	Journeying Gently	United Kingdom
Geoffrey	Cooper	Low Bank Ground Outdoor Education Centre	United Kingdom
Richard	Irvine	Low Bank Ground Outdoor Education Centre	United Kingdom
Abigail	Gurr	Plymouth Marjon University	United Kingdom
Fiona	Nicholls	Plymouth Marjon University	United Kingdom
Susan	Porter	Plymouth Marjon University	United Kingdom
Stuart	Watson	Plymouth Marjon University	United Kingdom
Mike	King	Releasing Potential	United Kingdom
Mark	Lawton	University of Cumbria	United Kingdom
Christopher	Loynes	University of Cumbria	United Kingdom
Heather	Prince	University of Cumbria	United Kingdom
Hamish	Wilson	University of St Mark & St John	United Kingdom
Lewis	Hunt	Klamath Outdoor Science Schools	United States of America
Lauren	Hinchman	Principia College	United States of America

### Organisation team

Maja	Bahor	CŠOD	Slovenia
Irena	Brajkovič	CŠOD	Slovenia
Robert	Franjič	CŠOD	Slovenia
Boštjan	Gradišar	CŠOD	Slovenia
Tina	Grm	CŠOD	Slovenia
Ida	Kavčič	CŠOD	Slovenia
Irena	Kokalj	CŠOD	Slovenia
Tatjana	Mlinar	CŠOD	Slovenia
Emil	Mumel	CŠOD	Slovenia
Živa	Pečavar	CŠOD	Slovenia
Zoran	Petrov	CŠOD	Slovenia
Igor	Puhan	CŠOD	Slovenia
Mateja	Robič	CŠOD	Slovenia
Peter	Šabec	CŠOD	Slovenia
Teo	Trifkovič	CŠOD	Slovenia
Domen	Uršič	CŠOD	Slovenia





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Andreja	Zalokar	CŠOD	Slovenia
Marija	Zupanc	CŠOD	Slovenia
Simona	Žibert Menart	CŠOD	Slovenia
Matjaž	Žmitek	CŠOD	Slovenia

