

This material was collated and prepared by Dr Robyn Zink in 2011 as part of an EOTC resources initiative, a collaboration between Education Outdoors NZ (EONZ) the NZ Association for Environmental Education (NZAEE) and the NZ Mountain Safety Council (MSC). The material was originally housed on [Te Kete Ipurangi](#) (TKI).

Any outdated information or material with broken links were removed at the time of placing on the EONZ website in June 2017.

## Research Readings

Here you will find research articles listed under various topics to help you get started on answering some of the questions you have about EOTC. We have selected the topics based on what teachers are asking for information on, what has been identified as some of the current trends or issues in EOTC, and on areas that schools are being asked to do more work on in bringing the curriculum alive. The articles listed here represent some of the recent work that has been published and we hope you find this to be a good starting point for your own research journeys. This is by no means an exhaustive list, nor are we suggesting this is the 'best' work in the field by listing it here. If you come across articles or references that you think other teachers will be interested in share them around by posting up the references and a short description on the EONZ Facebook page linked off the EONZ website at [www.eozn.org.nz](http://www.eozn.org.nz). You will find articles under the following topics:

- [Overview of New Zealand Research](#)
- [Teaching and Learning in the Outdoors](#)
- [Treaty of Waitangi and cultural issues](#)
- [Sustainability and environmental education](#)
- [Place-based education](#)
- [Critical research](#)
- [Risk and safety](#)

NB: All of this work should be accessible through university libraries. The articles with a doi (Digital object identifier) number can be found by putting the doi into a search engine, which then links you to the appropriate database that houses the article. Some of these articles can also be found on Google Scholar <http://scholar.google.co.nz/>

### Overview of New Zealand research

Booth, K.L. and Lynch, P.M. (2010). *Outdoor Recreation Research Stocktake: Synthesis*. Prepared for Sport and Recreation New Zealand by Lindis Consulting, Christchurch.  
<http://www.sparc.org.nz/Documents/Research/Stocktake/Outdoor%20Recreation%20Research%20Stocktake%20-%20synthesis.pdf>

Booth, K.L., Lynch, P.M. and Lizamore, C.A. (2010). *Outdoor Recreation Research Stocktake: Bibliography*. Prepared for Sport and Recreation New Zealand by Lindis Consulting, Christchurch.

<http://www.sparc.org.nz/Documents/Research/Stocktake/Outdoor%20Recreation%20Research%20Stocktake%20-%20Bibliography.pdf>

- A stocktake of all New Zealand based outdoor recreation research; including outdoor education research undertaken between 1995 and 2010, was published in 2010. This is an excellent resource as it summarises all of the research related to New Zealand outdoor recreation and outdoor education, identifies current gaps in the research, and has a comprehensive bibliography of published research.

Cosgriff, M. (2008). What's the story? Outdoor education in New Zealand in the 21<sup>st</sup> century. *Journal of Physical Education New Zealand*, 41, 3, 14-25.

<http://researchcommons.waikato.ac.nz/handle/10289/3424>

- This gives an overview of outdoor education in the Health and Physical Education curriculum in New Zealand.

Haddock, C., Thevenard, L., Reddish, P. & Phillips, K. (2009). [EOTC Leader Training and Qualification Needs: Research Report](#). Ministry of Education, New Zealand.

- This report identifies the training and qualification needs of teachers taking students outside the classroom.

Haddock, C. (2007). [Education outside the classroom \(EOTC\) survey: Primary schools report](#). Ministry of Education: New Zealand

Haddock, C. (2007). [Education outside the classroom \(EOTC\) survey: Secondary schools report](#). Ministry of Education: New Zealand

- Cathye Haddock surveyed primary and secondary schools in 2007 to get a national picture of what is happening in EOTC in schools.

Boyes, M. & Zink, R. (2005). *Education Outdoors in New Zealand Schools: Research Report to the NZ Ministry of Education*. University of Otago, New Zealand.

- Teachers were asked about their EOTC practices and some of the beliefs and values they have about EOTC.

[www.eotc.tki.org.nz/content/download/1550/6296/file/oe\\_in\\_nz\\_report.pdf](http://www.eotc.tki.org.nz/content/download/1550/6296/file/oe_in_nz_report.pdf)

## Teaching and Learning in EOTC

Here are a number of articles that look at different aspects of teaching and learning in EOTC. The first group examine a range of issues around teaching in the outdoors and how to support teachers to feel more confident about teaching outside. The second group look at some subject specific research examining how outdoor learning can support and enhance the curriculum.

### Teaching outside the classroom

Hill, A. (2010). Reflections on beliefs and practices from New Zealand outdoor educators:

Consistencies and conflicts. *The Australian Journal of Outdoor Education*, 14(1), 30-40.

<http://www.freepatentsonline.com/article/Australian-Journal-Outdoor-Education/228675709.html>

- Hill explores the complex relationships between teachers' beliefs, values, and self-perceptions and pedagogical practice.
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Humberstone, B., & Stan, I. (2011). Outdoor learning: primary pupils' experiences and teachers' interactions in outdoor learning. *Education 3-13*, 1-12. doi: 10.1080/03004279.2010.487837

- This paper highlights the importance of teachers' interactions with children on residential programmes in providing democratic, shared, and positive learning.

Jones, B., & Iredale, N. (2010). Enterprise education as pedagogy. *Education and Training*, 52(1), 7-19. doi: 10.1108/00400911011017654

- This article explores a pedagogical approach to enterprise education that involves engagement with the community.

Moffett, P. V. (2011). Outdoor mathematics trails: an evaluation of one training partnership. *Education 3-13*, 39(3), 277-287. doi: 10.1080/03004270903508462

- This paper reports on a partnership project in which student teachers worked alongside classroom teachers to create outdoor activities in primary mathematics.

Odom, A. L., & Bell, C. V. (2011). Distinguishing among declarative, descriptive and causal questions to guide field investigations and student assessment. *Journal of Biological Education*, 1-7. doi: 10.1080/00219266.2010.549495

- This provides a guide for teachers to help students formulate biology research questions and discusses assessment forms to measure science literacy.

Roberts, J. W. (2011). *Beyond learning by doing: Theoretical currents in experiential education*: London: Routledge.

- This book explores a range of theoretical perspectives on experiential education and the implications these have for practice.

Tal, T., & Morag, O. (2009). Reflective practice as a means for preparing to teach outdoors in an ecological garden. *Journal of Science Teacher Education*, 20, 245-262. doi: 10.1007/s10972-009-9131-1

- Explores the role reflective practice has in supporting teachers to gain confidence to teach outdoors.

## Subject specific research

Amos, R., & Reiss, M. (2011). The benefits of residential fieldwork for school science: Insights from a five-year initiative for inner-city students in the UK. *International Journal of Science Education*, 1-27. doi: 10.1080/09500693.2011.585476

- This study evaluates residential fieldwork of 33 000 London school students (11-14years). They found that students benefit from exposure to learning environments that promoted authentic practical inquiry.

Boaventura, D., Faria, C., Chagas, I., & Galvao, C. (2011). Promoting science outdoor activities for elementary school children: Contributions from a research laboratory. *International Journal of Science Education*, 1-9. doi: 10.1080/09500693.2011.583292

- This study analyses the promotion of scientific literacy through practical research activities in a marine science laboratory and identifies children's conceptions about scientists and how they do science.

Fancovicova, J., & Prokop, P. (2011). Plants have a chance: Outdoor educational programmes alter students' knowledge and attitudes towards plants. *Environmental Education Research*, 17(4), 537-551. doi: 10.1080/13504622.2010.545874

- Outdoor educational programmes are examined to see if those focused on practical work with plants influence participants' knowledge of and attitudes towards plants.

McDonnell, C., Ennis, P., & Shoemaker, L. (2011). Now for the science bit: implementing community-based learning in chemistry. *Education and Training*, 53(2/3), 218-236. doi: 10.1108/00400911111115744

- Community based training in chemistry was found to increase students' engagement and confidence, and their appreciation of real-world applications of chemistry. The study points to limits in the development of critical thinking and the level to which community needs are met.

## Treaty of Waitangi and Culture

Teaching and learning in New Zealand requires teachers to engage with the principles of the Treaty of Waitangi and with the question of how to incorporate Maori pedagogical and cultural concepts into schooling. Schools also have to respond to the increasing cultural diversity in New Zealand. The readings listed below examine some of these issues

Bishop, R. & Berryman, M. (2006) *Culture speaks: Cultural relationships and classroom learning*. Wellington: Huia Publishers.

Carter, L. (2005). Naming to own: Place names as indicators of human interaction with the environment. *Alternative – An International Journal of Indigenous Scholarship*, 1(1), 6–25.

Cohn, I. (2011). Indigenous ways - fruits of our ancestors. *Journal of Adventure Education and Outdoor Learning*, 11(1), 15-34. doi: 10.1080/14729679.2010.532992

- Explores common characteristics of indigenous practices and the potential these have to inspire fundamental change in outdoor education.

Erueti, B. & Hapeta, J. (2011). Ko Hauora raua ko Te Ao Kori: He Whānau Kotahi. Holistic well-being and the world of Māori movement: One family. In S. Brown (Ed.). *Issues and controversies in physical education*. (pp. 125-136). Auckland, New Zealand: Pearson.

- Discusses the implementation of *Hauora* for mainstream secondary school environments.

Fitzpatrick, K. (2009). Indigenous perspectives in HPE curriculum: Contradictions and colonisation. In M. Dinan Thompson (Ed.), *Health and physical education: Issues for curriculum in Australia and New Zealand* (pp. 120-144). Victoria, Australia: Oxford University Press.

Hemara, W. (2000). *Maori pedagogies: A view from the literature*. Wellington: New Zealand Council for Educational Research.

- This review of traditional and contemporary Maori pedagogies from a wide range of records and publications explores traditional teaching, learning, and child rearing practices and how they apply within the European context.

Irwin, D. (2010). Weaving the threads: Exploring identity through bicultural outdoor education experiences. *New Zealand Journal of Outdoor Education: Ko Tane Mahuta Pupuke*, 2(4), 66-86.

<http://search.informit.com.au/documentSummary;dn=545294885485243;res=E-LIBRARY>

- This paper discusses biculturalism in education for sustainability within an outdoor education context and argues that collaborative bicultural outdoor education experiences create spaces for students to explore their identity.

Legge M. (2010). Education outside the classroom: An autoethnographic narrative in support of Māori identity. *New Zealand Journal of Outdoor Education: Ko Tāne Mahuta Pupuke*, 2 (4), 87-104.

Macfarlane, A. H., Glynn, T., Grace, W., Penetito, W., & Bateman, S. (2008). Indigenous epistemology in a national curriculum framework? *Ethnicities*, 8; 102-127. Sage Publications.

<http://www.sspa.org.nz/conference/resources/ethnicities%20article.pdf>

- In this article, a group of four indigenous Māori educators and one non-Māori educator comment on a proposed amendment to the New Zealand National Curriculum Framework to replace the current separate sets of skills, values and attitudes with five generic performance-based key competencies.

Park, G. (2006). *Theatre country – Essays on landscape and whenua*. Wellington: Victoria University Press.

Simon, J., & Smith, L. T. (Eds). (2001). *A civilising mission? Perceptions and representations of the Native Schools system*. Auckland: Auckland University Press.

Smith, L.T. (1999). *Decolonizing methodologies: Research and indigenous people*. London: Zed Books.

- This New Zealand text examines the history of research on indigenous people and sets a new indigenous research agenda. It concludes with an excellent section on Kaupapa Maori Research.

McMurchy-Pilkington, C. & Trinick, T. (2008). Potential and possibilities. In V. Carpenter, J. Jesson, P. Roberts, M. Stephenson (Eds). *Nga kaupapa here: Connections and contradictions in education*. Albany: Cengage Learning New Zealand, 133-144.

## Place-based pedagogies

Outdoor education in New Zealand has a strong tradition of an activity and outdoor pursuits focus. More recently some of the assumptions that underpin this focus have been challenged and the possibilities that open up in EOTC when place is taken seriously as a pedagogical tool are explored.

Dubel, M. and Sobel, D. (2008). Place-based teacher education. In D. Gruenewald and G. Smith. (Eds.) *Place-based education in the global age* (pp. 309-344). New York: Lawrence Erlbaum.

Gruenewald, D. (2003). The best of both worlds: A critical pedagogy of place. *Educational Researcher*, 32, 4, pp. 3-12.

<http://www.ingentaconnect.com/content/routledg/ceer/2008/00000014/00000003/art00007>

- A critical pedagogy of place challenges all educators to reflect on the relationship between the kind of education they pursue and the kind of places we inhabit and leave behind for future generations.

Hill, A. (2010). Connection to place as a central theme for sustainable outdoor education. *New*

*Zealand Journal of Outdoor Education: Ko Tāne Mahuta Pupuke*, 2 (4), 26-47.

<http://search.informit.com.au/documentSummary;dn=545238986571469;res=E-LIBRARY>

- Using interview data, this article explores cultural assumptions present in outdoor education and how these influence connection to place.

Penetito, W.T. (2008). Place-based education: Catering for curriculum, culture and community. *New Zealand Annual Review of Education*, 18, pp. 5-29.

<http://www.victoria.ac.nz/nzaroe/1996/.%5C../2008/pdf/01text-penetito.pdf>

- This article explores some of the theories and practices embedded in a place-based education for Aotearoa New Zealand and recommends a set of principles for advancing the practice.

Straker, J. (2010). Unearthing 'the outdoors' in outdoor education. *New Zealand Journal of Outdoor Education: Ko Tane Mahuta Pupuke*, 2(4), 103-124.

<http://search.informit.com.au/documentSummary;dn=545332151427760;res=E-LIBRARY>

- Explores different definitions of the term “outdoors” and how to support students to come to develop deeper connections to the outdoors.

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

- This book discusses theories of place based pedagogies and presents a series of case studies examining how teachers are engaging with place in their teaching.

## Sustainability education

Schools are required to integrate the principles of sustainability throughout the curriculum and in their everyday practices. The research work conducted in this area is connected with the work on place-based pedagogies so if you are interested in sustainability have a look at the work listed in the section above.

Arthur, M.A. (2011). *Developing action competence using education for sustainability in a New Zealand School*. Unpublished Master's Thesis. Waikato University.

<http://researchcommons.waikato.ac.nz/bitstream/10289/5376/3/thesis.pdf>

- This thesis explores whether an intervention carried out in a senior secondary school Environmental Science class was able to develop action competence in Education for Sustainability in the students.

Ernst, J., & Theimer, S. (2011). Evaluating the effects of environmental education programming on connectedness to nature. *Environmental Education Research*, 1-22. doi: 10.1080/13504622.2011.565119

- This study describes the effects seven environmental education programmes had in connecting participants to nature.

Fresque, J., & Plummer, R. (2009). Accounting for consumption related to outdoor recreation: An application of ecological footprint analysis. *Leisure / Loisir*, 33(2), 589-614. doi: 10.1080/14927713.2009.9651454

- This paper explores consumption related impacts from outdoor recreation by combining ecological footprint analysis with the technique of scenario planning.

Ritchie, J. (2010). Fostering communities Ecological sustainability within early childhood education, *Early Education*, 47, 10-14.

<http://search.informit.com.au/documentSummary;dn=587442666471292;res=IELHSS>

- This article reports on 'Titiro Whakamuri, Hoki Whakamua. We are the future, the present and the past: Caring for self, others and the environment in early years' teaching and learning". This study had the aim of investigating how early childhood centres can work with their local communities in fostering ecologically sustainable practices. This project utilised a philosophical framework grounded in kaupapa Maori notions such as manaakitanga (caring) and kaitiakitanga (stewardship), along with an ethic of care.

Tan, M., & Pedretti, E. (2010). Negotiating the complexities of environmental education: A study of Ontario teachers. *Canadian Journal of Science, Mathematics and Technology Education*, 10(1), 61-78. doi: 10.1080/14926150903574320

- This article explores the complexities teachers face as they try to implement environmental education into their school programmes.

## Critical Research

One of the functions of research is to question the assumptions made about a practice and to challenge people to think differently about some their theoretical perspectives and their current practices. Engaging in critical research is one of the ways to keep EOTC alive and vibrant, and ensure that EOTC practices are appropriate given the changing world we live in and the changing learning needs of our students. Below is a very small selection of the varied and rich body of critical research.

Barratt, P. (2011). Vertical worlds: technology, hybridity and the climbing body. *Social and cultural geography*, 12(4), 397-412. doi: 10.1080/14649365.2011.574797

- The author argues that climbing provides insight and critique about the role of human / non-human agency and the role of technology in this.

Bowers, C. A. (2008). Why a critical pedagogy of place is an oxymoron. *Environmental Education Research*, 14, 3, pp. 325-335.

<http://www.ingentaconnect.com/content/routledg/ceer/2008/00000014/00000003/art00008>

- Some of the assumptions made in place-based pedagogies are examined and challenged in this article.

Brown, M. (2010). Transfer: Outdoor adventure education's Achilles heel? Changing participation as a viable option. *Australian Journal of Outdoor Education*, 14(1), 13-21.

<http://www.freepatentsonline.com/article/Australian-Journal-Outdoor-Education/228675707.html>

- Examines some of the assumptions made in outdoor education about the ability to transfer learning from one context to another and argues that learning is more contextual than theories of transfer often allow.

Brown, M. (2008). Comfort zone: Model or metaphor? *Australian Journal of Outdoor Education*, 12(1), 3-12.

<http://www.freepatentsonline.com/article/Australian-Journal-Outdoor-Education/181685151.html>

- This article examines some of the assumptions that underpin the comfort zone model and finds there is not strong support for the model in educational literature and therefore should not be used as a model to underpin programming or pedagogy.

Mills, S. (2011). Scouting for girls? Gender and the scout movement in Britain. *Gender, Place and Culture*, 18(4), 537-556. doi: 10.1080/0966369X.2011.583342

- Explores the complexity of gender politics in the scouting movement with the introduction of girls.

Ruitenbergh, C. (2005). Deconstructing the experience of the local: Towards a radical pedagogy of place, *Philosophy of Education*, 212-220.

<http://ojs.ed.uiuc.edu/index.php/pes/article/view/1623/357>

- This article challenges some of the assumptions of place pedagogies and presents some radical re-thinking of these.

Weaver-Hightower, M. B. (2010). Oatmeal facials and sock wrestling: the perils and promises of extra-curricular strategies for 'fixing' boys' education. *Discourse: Studies in the Cultural Politics of Education*, 31(5), 683-697.

- Examines boys education and explores outdoor education as a site that can reproduce dominant masculine regimes, but also holds the potential to be a place to re-imagine these dominant regimes.

Zink, R. (2010). Asking 'Who are you?' when going *into the wild*: Moving beyond an individualised form of outdoor education. *Journal of Adventure Education and Outdoor Learning*, 10(1), 19-32.

[http://eric.ed.gov/ERICWebPortal/search/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=EJ892538&ERICExtSearch\\_SearchType\\_0=no&accno=EJ892538](http://eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ892538&ERICExtSearch_SearchType_0=no&accno=EJ892538)

- Uses the story of *Into the Wild* to examine how we come to understand ourselves through our relationships with others.

## Risk and Safety

Risk and safety have received a lot of attention, both as a pedagogical tool and as a pragmatic process. An annual report is published based on data from the National Incident Database (NID), describing trends in incidents and accidents and analysing some of these in detail. The following reports are available on: <http://www.incidentreport.org.nz/reports.php>

Hill, A. (2011). *National Incident Database Report 2010: Outdoor education and recreation*. Prepared for Mountain Safety Council Research Programme.

Cessford, G. (2010). *National Incident Database Report 2009: Outdoor education and recreation*. Prepared for Mountain Safety Council Research Programme.

Cessford, G. (2009). *National Incident Database Report 2007-2008: Outdoor education and recreation*. Prepared for Mountain Safety Council Research Programme.

Andrew Brookes has produced a series of articles examining fatalities in outdoor education in Australia. These provide some very useful insights for outdoor education in New Zealand.

Brookes, A. (2003a). Outdoor education fatalities in Australia 1960-2002. Part 1.

Summary of incidents and introduction to fatality analysis. *Australian Journal of Outdoor Education*, 7(1), 20-35.

<http://www.freepatentsonline.com/article/Australian-Journal-Outdoor-Education/148768175.html>

Brookes, A. (2003b). Outdoor education fatalities in Australia 1960-2002. Part 2.

Contributing circumstances: supervision, first aid, and rescue. *Australian Journal of Outdoor Education*, 7(2), 34-42.

<http://www.freepatentsonline.com/article/Australian-Journal-Outdoor-Education/146935705.html>

Brookes, A. (2004). Outdoor education fatalities in Australia 1960-2002. Part 3.

Environmental circumstances. *Australian Journal of Outdoor Education*, 8(1), 44-56.

<http://www.freepatentsonline.com/article/Australian-Journal-Outdoor-Education/146935721.html>

Another perspective on risk and safety emerges through research exploring attitudes toward risk and safety and how this influences teaching practices.

Jones, M. (2011). *The influence of perceived risk on participation in outdoor education activities by pre-teen age school children in New Zealand*. Unpublished Master's Thesis: Auckland University of Technology.

<http://aut.researchgateway.ac.nz/bitstream/10292/1450/3/JonesM.pdf>

- This study investigates how parents and teachers perceive risk and what influence this may be having on participation rates and programming for outdoor education.

Sullivan, R., Carpenter, V. & Jones, A. (2011). 'Dreadful things can happen': Cautionary tales for the safe practitioner. *Australian Journal of Outdoor Education*, 15(1), 14-23.

- Examines the different ways primary school teachers talk about risk and safety and the implications this has for their teaching practice.

Sullivan, R. (2006). The danger of safety in outdoor education. *New Zealand Journal of Outdoor Education: Ko Tāne Mahuta Pupuke*, 2 (1), 5-17.

- The author explores some of the assumptions in the ways risk and safety are talked about and how these assumptions shape outdoor education practices.