

MINIMAL IMPACT EDUCATION: turning technique into discovery, learning and understanding

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ABSTRACT

Outdoor education has an important place in school curricula through its ability to develop and maintain positive and healthy relationships. Yet, in many instances, an active education program focusing on appropriate outdoor behaviour is not incorporated. Why? Minimal impact education is more than the instruction of techniques designed to walk softly or tread lightly in natural environments. It is an opportunity to learn from nature to protect nature.

Minimal impact education aims to create an awareness of the environment and the impacts that recreators have on it. Done correctly, minimal impact education can play an important role in providing experiences which contribute towards the development of active and informed members of society. This paper outlines a process for promoting environmental awareness, and appropriate outdoor behaviour through discovery, learning and understanding of natural environments.

INTRODUCTION

Outdoor education has many benefits: awareness, knowledge, skills, attitudes. In school curricula, it directly contributes to the key learning areas of Environment, Personal Discovery, Community and Outdoor Activity (Blades & McKenna 1998). Environmental education may also encompass similar outcomes. In fact, the two are often linked. For example, outdoor education aims to "produce environmentally conscious citizens that develop lifelong knowledge, skills and attitudes for using, understanding and appreciating natural resources and for developing a sense of stewardship for the land" (Ford 1981:18). It aims to assist people to understand their natural world and their role in it. And in addition, allow people to develop and maintain positive, healthy lifestyles (Blades & McKenna 1998). However, the conduct of an outdoor education program may lead to the ecological

degradation of a site (Batt 1990). As a result, many outdoor educators support and recommend that programs adopt and follow a "minimal impact" code of practice, believing this is a step in the right direction to the minimising of program impacts.

While the concept of "minimal impact" is encouraged by many practitioners, is the message getting across? (Parkin 1997). Many areas used for outdoor education exhibit signs of wear and tear while other sites continue to deteriorate. Why should minimal impact education be a priority for outdoor educators? For one, minimal impact education can play an important role in providing experiences which contribute towards the development of active and informed members of society who are capable of managing the interactions between themselves and their social and physical environments (Blades & McKenna 1998).

And secondly, appropriate outdoor behaviour is looked upon favourably by land managers as reduced impact saves valuable resources in both time and money (Parkin 1997). This in turn, decreases the constraints and restrictions placed on people wishing to use natural areas for outdoor recreation or outdoor education opportunities. However, the development of positive environmental attitudes and practices amongst school children (and adults) are not overnight discoveries. It is an evolving process which should follow the progression of a child's learning during their compulsory school years and onto senior studies. It is a process which should contribute to the participant's development as an active, informed citizen.

So let each of us, put away our outdoor gear and look at nature for all its worth. This is the only way we can provide program participants with the long term commitment to act constructively for the environment, as programs designed to 'teach' minimal impact techniques may have limited success. This is because minimal impact practices pay too much attention to technical aspects thus overshadowing environmental interactions (Hogan 1992).

PROGRAM DEVELOPMENT

Designing a program

The role of an outdoor educator is to communicate messages and meanings to their clients, to show participants how things fit together into the bigger picture. Facts need to be used to support points. However, a program should not purely apply such information. Minimal impact education should be more relaxed in nature than formal education. To be

successful, minimal impact education should incorporate pleasure, relevance, organisation and a take home message (or theme) into the process (Ham 1992).

The overriding philosophy for programs conducted in natural settings should be to learn from nature and to protect nature. Not strategies which reduce impacts. To be effective, minimal impact education needs to promote change in the individual. A three tied system is offered (Bauchop & Parkin 2000) (Figure 1). Firstly, information to create an understanding and an awareness of the area is given to a novice audience. Secondly, a knowledge of ecological issues is presented and finally, opportunities to act for the betterment of the environment is provided (Knapp 1995). This process will lead to an attitude and behaviour change.

In designing a program, it is important to remember that minimal impact education should be pleasurable in order to hold participants attention. To be relevant, it must be both meaningful and personal. Meaningful so as to relate to something the participants already know and care about, personal enough to relate to and connect the topic to personalities or past experiences. Programs should be organised to reduce confusion, allow ease of understanding and encourage continued interest. It should be like a story, having an introduction, body and conclusion. A theme answers the question "So what?". This is the message which participants take away with them at the conclusion of the program.



Figure 1: **Minimal Impact Behaviour Change Model** (adapted from Knapp 1995:22)

It is also important when designing a program to impart information, outdoor educators must consider how participants learn. Favoured learning styles are termed modalities and an individual will learn, and take in information much easier if presented through “their” modality (Christensen 1994). There are four major modalities: visual, auditory, kinaesthetic and symbolic/abstract. The “auditory” learners respond to speech, sound, music and song. The “visual” learners enjoy pictures, slides, props, drawings, films, videos and graphics while the “kinaesthetic” favour dance, gesture, touch, movement or anything that allows physical participation. And finally, the “symbolic/abstract” group learn best through programs which cater for their reading, writing and arithmetic traits and respond well to programs which incorporate poems, stories, and problem solving (Christensen 1994). Children also learn, understand concepts and solve problems at different stages in their formative years. A minimal impact education program should utilise a number of styles in any one presentation to cater for all participants and their stage of learning and understanding. To assist in the development of positive growth, details of socially acceptable behaviour, along

with an explanation of how, when and where to perform such behaviour is required. A discussion of the negative consequences of undesirable behaviour should also be incorporated into an minimal impact education program. Outdoor educators should also remember that the informational component of an minimal impact education program should be presented to encourage “mindful processing”. The informational component should contain variety of repetition to increase memory retention and relate to what the group already knows. For school groups, build upon what they have learnt at school. For older groups build upon past experiences. The level of information should be within the moderate to high range. Too little information does not answer all questions and too much leads to confusion. Program conclusions should be detailed and feedback obtained to evaluate program success.

Techniques to consider when presenting the information to make it relevant and interesting include vividness and a novel or unexpected situation. The use of analogies, similes and metaphors can relate past participant experiences to the information presented and

role playing can put participants directly into the environmental situation. The incorporation of environmental objectives which address the key concepts of awareness, knowledge, attitudes,

skills and participation into the program will also assist in the development of an environmental ethic amongst participants (Table 1).

Table 1: **Key environmental concepts for outdoor education**
(source: adapted from UNESCO-UNEP 1978:3)

Awareness:	by encouraging participants to acquire sensitivity and appreciation of the environment through first hand experience in the out-of-doors.
Knowledge:	by encouraging participants to gain experience and understanding of the environment from Programs conducted in natural settings.
Attitudes:	by encouraging participants to acquire values and feelings of concern for the environment by promoting an environmental ethic through structured learning experiences.
Skills:	by encouraging participants to acquire the skills for identifying and understanding environmental impacts and for developing methods for minimising such impacts.
Participation:	by providing participants with the opportunity to act constructively for the environment during present and future outdoor activities.

A model program

This section does not propose to give a step by step program format, rather, it gives an outline of the components a program should include to encourage minimal impact behaviour amongst participants. It is also important when planning a program to incorporate the information previously presented in this paper (including Knapp's model, the components of attitude, modalities), techniques to encourage mindful processing and the required informational component. Allowances should also be made for the age group of the participants.

1. Develop an appreciation amongst participants of the natural area. Encourage participants to utilise their senses: look, listen, feel, imagine. Use magnifying glasses, environmental scopes, blindfolds. Make individuals feel their input and participation is important. Issue them with special name tags, encourage them to ask questions, get them involved. Chat with the group, point out special features of the area.
2. Encourage participants to develop a sense of ownership of the natural area, to feel that it is their park. Draw or paint pictures, build a

micro-national park so the group can show what they find special about the area. Ensure participants are praised for their efforts.

3. Shock participants by physically walking all over their ideas (pictures, etc.). In other words, play the role of the devil's advocate. Such actions are unexpected and show impacts in a dramatic light. Utilise this moment of shock and surprise, explain that this is what happens when we go into natural areas. Ask the group how they felt about the trampling, ask them for details of appropriate behaviour. Such an activity asks participants the question "Are you going to walk all over our natural treasures?" (Flenady 1991). Such a technique is known as 'hot interpretation'. (If participants are at that awful "know all" age, an alternative is to play on their emotions in general conversation. This age group are young adults and should be treated as such).

For adults, personal stories about awful sights and experiences which contrast with the scenic beauty and environmental integrity of an area also work well. Many people will be able to relate these stories to past experiences. Stories can be real or hypothetical. Think about staging an event which your participants may come across in real life. For example, include a planned encounter with a non-environmentally friendly character, or arrive at a site that looks more like a rubbish dump than a natural area. After the event discuss the relevant issues with the group. Ask them also for details of expected behaviour.

4. Provide participants with detailed information of the how, when, and why of the appropriate behaviour. However, avoid straight out provision of information. Make it interesting and fun, but educational. For example, cook pancakes over a small fuel stove instead of a fire to explain why a fuel stove is preferable to constructing a campfire. Look for rubbish at a campsite or attempted to be burnt in a fireplace to explain the importance of carrying out all rubbish. Show them exposed faeces, count the number/types of blowflies present on each deposit (a blowfly index to the spread of disease!) and explain how poor sanitation may lead to the spread of diseases such as *gastro* and *ghardia*.
5. Develop positive attitude schema's, that is, an automatic response to a situation. Utilise role plays and storytelling. Encourage the audience to develop a list of rules they would be prepared to enter into a contract to support. Pledges and personal promises to the environment work well with children. For teenagers and adults, other techniques to gain a commitment may be necessary.
6. At the culmination of the outdoor education program, reinforce the 'theme' and promote a positive behaviour change. Issue awards or certificates for reinforcement, provide take home information. Always provide participants with opportunities to act for the betterment of the environment.

Minimal impact education is an opportunity to educate participants and contribute to a lifestyle change through relevance, participation and reflection. Experiences need to be authentic and meaningful to the learner to provide

relevance. The provision of first hand experiences will empower the participant to partake in their own learning while opportunities for reflection will allow participants to retain learning outcomes and transfer this learning to other situations (Blades & McKenna 1998).

When researching for a program, develop an awareness of the types of resources and activities that are available (Appendix 1). When pursuing literature, keep an open mind and avoid looking at just the content of the activities. It is preferable to look at the concepts referred to and how these can be adapted to suit a minimal impact program. As outdoor educators we have a moral responsibility to protect the environments which we use. We also have a self interest in maintaining the quality of those environments for continued outdoor education use. This can only be achieved through the promotion and instruction of a sound environmental ethic.

It takes time and detailed thought to prepare and conduct a well structured minimal impact education program. Especially for participants of varying age groups and experience. It is also a cyclic process of continual evaluation and redesign, taking the good aspects from each program and continuing with these while discarding the sections that did not work. Eventually, the perfect program will develop.

CONCLUSION

Minimal impact education is more than teaching “techniques”. It is an opportunity to be innovative. Storytelling, theatre and self discovery are some of the strategies which can be used to teach minimal impact concepts and practices to participants of varying ages. It has

the potential to contribute to positive environmental attitudes amongst vast numbers of outdoor recreators. Not an easy task though, considering the short time frame some educators have with participants and that the instillation of a minimal impact ethic involves the construction of a preferred set of behavioural traits.

Positive environmental ethics are extremely important. The overuse and inappropriate use of many protected areas has caused many negative impacts. However, recreational degradation can be dramatically reduced through appropriate minimal impact practices. To encourage appropriate minimal impact behaviour, remember that knowledge is not the same as understanding, and that wonder is not the same as environmental ethic. An important consideration for an outdoor educator planning to ‘teach’ their audience is to question whether their own environmental ethic is up to scratch and to model excellent environmental behaviour in all situations.

The ability of the outdoor educator to give participants a rewarding and satisfying experience while minimising ecological impacts will be determined by program objectives and the program setting. By conducting programs in appropriate settings and through the promotion of an environmental ethic, practitioners will significantly contribute to the development of the knowledge, skills and attitudes considered desirable. However, if outdoor education programs fail to address the ideologies of environmental education then the conduct of programs in natural settings will be incompatible in terms of the setting, the activity, and the objectives.

Admittedly, natural environments differ in their degree of resistance and resilience to outdoor education induced impacts. Program participant's behaviour and their potential to impact on the natural environment also differ. However, the interaction of environmental conditions and program participant's behaviour creates predictable patterns of resource impact (Hammitt & Cole 1987). This includes trampling of vegetation, loss of ground cover and soil erosion. Wildlife disturbance is another likely impact.

It is through the outdoors that participants (and our) values, knowledge and experience can be developed. However, skills are not enough, nor are good attitudes without implementation. Minimal impact education is not a panacea. It should be applied in combination with other methods to develop positive environmental attitudes and behaviour. This paper has attempted to provide some direction and structure in a very difficult, and often overwhelming situation. Good luck to all those who take up the challenge.

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**Appendix 1: List of sample publications that may be of use
or adapted to suit a minimal impact education programme**

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| Brisbane Forest Park (1995), <i>Forest Community activities.</i> | Gould League of Victoria (1994), <i>Arts and the environment.</i> |
| Department of Natural Resources (1996), <i>Land, water, forests activity booklet</i> , Qld Govt. | Gould League of Victoria (1996), <i>Weeds: A weeds activity kit for schools.</i> |
| Department of Natural Resources (1996), <i>Weedbuster activity kit</i> , Qld Govt. | Great Barrier Reef Marine Park Authority (1988), <i>Project Reef-Ed: Great Barrier Reef Educational Activities.</i> |
| Flenady, I. (1994), <i>Rainforest Discovery Kit: A kit for primary schools</i> , Qld Govt. | Hennessy, M.B. (1992), 'The Impact Monster - A skit for teaching wilderness use ethics' in Ham, S., <i>Environmental interpretation: A practical guide for people with big ideas and small budgets</i> , pp.211-214. |
| Gould League of Victoria (???), <i>A model primary environmental education program.</i> | Tasmanian Land, Parks and Wildlife (1986), <i>Phantom Walker</i> , Activity sheets and teacher's notes. |
| Gould League of Victoria (1988), <i>Environmental Songs.</i> | Tasmanian Lands, Parks and Wildlife (1988), <i>Phantom Walker: The one who walks and leaves no trace</i> , Minimal Impact Bushwalking educational computer software. |
| Gould League of Victoria (1989), <i>Gould League guide to protecting the environment.</i> | |
| Gould League of Victoria (1989), <i>Monsters and mini-beasts.</i> | |
| Gould League of Victoria (1992), <i>Environmental investigator kit.</i> | |