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A Residential Outdoor Education Camp and Environmental Attitudes:



A thesis submitted for the degree of Master of Physical Education of the University of Otago, Dunedin, New Zealand

20 February 2004



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ABSTRACT

Whilst many outdoor educators are confident their residential outdoor education (ROE) camp programmes improve participants' environmental attitudes, research findings are inconclusive. This study seeks to explore the effects of a ROE camp and sociodemographic variables (age, gender, number of siblings, environmental worldview, preferred recreational activities, and previous outdoor and environmental education experiences) on environmental attitudes. It also examines camp elements that may be influential upon environmental attitudes and attempts to shed light upon the process of attitudinal change.

Twenty-eight intermediate school students (aged 11 - 13 years) participated in a fourday ROE camp that included environmental education activities. A mixed method approach was utilised where Mackay's (1981) modified version of the Millward Ginter Outdoor Attitude Inventory (MGOAI) was used to gather quantitative data from pre and post-tests. Qualitative insights were also gathered using participant observation, interviews and a focus group with: (1) three students; (2) the school's Head of Outdoor Education and; (3) a parent volunteer.

Results from a repeated measure ANOVA and constant comparative qualitative methods suggested that the camp led to a positive improvement in environmental attitudes. Gender and previous experiences in outdoor and environmental education activities were also found to be influential. Students felt that environmental games, tramping and minimal impact camping practices had influenced their attitudinal improvement. The process of attitudinal changes corresponded with Hanna's (1995) Theory of Intention In and For the Wilderness. Issues of imbalance in outdoor education curriculum foci are addressed, and a framework for future practice and research is suggested.











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"Sustainability is our Responsibility"

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"Hidup ini suatu pengembaraan, tiada penghujung, tiada noktah!"

Life is like a never-ending journey









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CHAPTER ONE

Debates over environmental issues have been rife over the last quarter of a century. Every day, humans are exposed to the impact of environmental degradation throughout the world (Caiazza & Barrett, 2003; Eberstadt, 2000). Greenhouse gases, heat waves, longlasting droughts and ozone depletion have killed thousands of people (Grove, 2002). Most of these appear to be caused by human exploitation of natural resources, fuelled by a widening sense of human-nature separation (Suzuki, 1999). Aware of these consequences, environmental groups and individuals have long proposed heightening positive environmental attitudes, and to once again make connections with the natural environment.

Environmental attitudes develop from feelings of concern towards the environment (Charpentier, 1992). They are learned and expressed through affective, behavioural and cognitive domains (Szagun & Pavlov, 1995). Several studies have identified that environmental attitudes are formed at an early age, influenced by socio-demographic factors such as gender, place of residence and lifestyle, as well as previous outdoor experiences (Atkinson, 1990; Bechtel, 1997; Bogner, 1998; Dunlap & Heffernan, 1975; Halloran, 1967; Keighley, 1997). pustakaupsi.edu.my

The enhancement of environmental attitudes has been identified as an important precursor to solving environmental issues, as attitudes may influence human behaviour (Fishbein & Ajzen, 1975). It has been hypothesised that a person with strong environmental attitudes will act positively towards the natural environment (Cothrell & Graefe, 1997). In supporting this hypothesis, the United Nations Educational, Scientific and Cultural Organization (UNESCO), through The United Nations Environmental Programme (UNEP), has promoted the importance of environmental attitudes as part of a strategy for protecting the natural environment (Centre for Educational Research and Innovation, 1995; Fuller, 1998).

In New Zealand, positive environmental attitudes are becoming more common and have a special place in social contexts. The Green Party¹, which has influence within the ruling government, has long highlighted the importance of environmental attitudes among New Zealanders. Through the activities of The Department of Conservation (DoC) and the introduction of a 'Clean Green' image campaign of the Environmental 2010 Strategy, the government has targeted New Zealand to be one of the most environmentally sustainable countries in the world (Ministry for The Environment, 1994). In trying to achieve this target, the government has also given serious attention to New Zealand's educational sector. This is

¹ New Zealand's Green Party is a political party which specifically focuses upon environmental protection.







evidenced by the introduction of environmental education in the formal curriculum, the establishment of Education Outside the Classroom (EOTC) programmes and the introduction of outdoor education activities in the Health and Physical Education curriculum (Ministry of Education, 1992, 1999a, 1999b). Each of these curriculum areas propose that environmental attitudes are best developed in an outdoor educational context.

Outdoor education has been defined as education in, about and for the outdoors (Ford, 1986; Priest, 1986). As a unique and evolving learning medium, outdoor education can be viewed as a process, a place, a purpose and/or a topic (Ford, 1986). Outdoor education has three main foci: (1) environmental studies or environmental education; (2) social and personal development, and; (3) outdoor pursuits skills. All of these foci emphasise holistic individual development through mind, body and spirit (Dahlgren & Szczepanski, 1998).

New Zealand boasts vast areas of wild, open spaces in relation to its population base which present a wonderful context for outdoor education. The National Park network for example, protects fully one quarter of New Zealand's land mass (Department of Conservation, 2002). These protected spaces, along with reasonable access to privately owned land, to coastlines, lakes and rivers suggest the outdoors should be an integral part of learning for New Zealanders. The bridging of Maori culture with European – New Zealanders (Pakeha) virtues similarly suggests outdoor education could (and should) involve strong observations between humans and the natural environment, the development of holistic approaches to learning and the use of the environment as a medium of curriculum enrichment (Boyes, 2000; Legge, 1998; Patterson, 1994). Some researchers further suggest that the introduction of EOTC and outdoor education (ROE) centres throughout the country, might has promoted the development of outdoor education in New Zealand (Abbott, 1990; Boyes, 2000; Lynch, 1999).

For the purposes of this study, a ROE camp is defined as students spending at least one night in an outdoor setting with a curriculum based programme. The settings can range from basic campsites to well-equipped residential centres (Hayllar, 1990). In New Zealand, ROE centres were developed either by the government, non-profit organisations, churches, and educational institutions or by individuals (Lynch, 1999). One of the purposes of these centres is in providing every New Zealand child with human-nature direct interactions, thus promoting the development of positive environmental attitudes (see Sir Edmund Hillary Outdoor Pursuits Centre (OPC) mission statement at <u>http://www.opc.org.nz</u>).

A number of researchers have questioned the relationship between a ROE camp and the improvement of environmental attitudes. These questions emerged as a number of studies conducted in the outdoor education field found insignificant environmental attitude improvements (Leberman, 1989; Mackay, 1981; Paxton & McAvoy, 2000; Shepard &

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Speelman, 1986). For example, Mackay (1981) found insignificant improvement among students who participated in ROE camps in Canterbury. Leberman (1989) similarly found that another New Zealand residential camp failed to develop conservation attitudes among the participants. Supporting these findings Eagles and Demare (1999) found an insignificant correlation between past camping experiences and environmental attitudes among 12 years old students.

Law (1998) critiques current outdoor education practices as being too much focused on outdoor pursuits, and social and personal development. These practices have resulted in the environmental strand of outdoor education being left behind. The emphasis upon adventurous activities in some outdoor education programmes has created the perception of the outdoors as something to be conquered for personal satisfaction and thus has fostered a sense of human-nature separation (Martin, 1999).

Significance of the study

Over the last 30 years many studies have been conducted examining the effects of ROE camps on the improvement of environmental attitudes (Crompton & Sellar, 1981; Driver & Johnson, 1984; Gillett, Thomas, Skok, & McLaughlin, 1991; Leberman, 1989; Mackay, 1981; Millward, 1974; Mittelstaedt, Sanker, & VanderVeer, 1999; Perdue & Warder, 1981; Shepard & Speelman, 1986). However fewer studies have been conducted subsequent to the 1990's. Ewert (1987), supported by Leeming, Dwyer, Porter, and Cobern (1993), proposed that one of the main reasons for the declined of this research activity is the complicated relationship between outdoor education and environmental attitudes. Socio-demographic factors (e.g. age, gender, social environment), previous outdoor experiences, and programme elements themselves have all been found to affect the results of the studies (Eagles & Muffitt, 1990; Perdue & Warder, 1981; Shepard & Speelman, 1986).

Haluza-Delay (1999) and Law (1998) both suggest that environmental awareness and positive environmental attitude development has not been a serious focus in outdoor education programmes. This may be related to less research among researchers, who are more interested in examining the outcomes of other outdoor education foci such as outdoor pursuits and social and personal development. In addition, almost 50 percent of studies conducted in the outdoor environmental education field found non-significant outcomes as a result of inappropriate measurement tools, lack of a specific environmental education focus in the programmes, single method boundness, and sampling error (Eagles & Demare, 1999; Leberman, 1989; Mackay, 1981). Such findings may also have created a sense of uncertainty among researchers about further examination into environmental attitudes. It appears there is some uncertainty for outdoor education program directors and teachers as to how best to approach the issue of developing environmental attitudes within outdoor



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education. Furthermore, few recent studies have examined the specific elements of ROE camps and how these might influence the improvement of environmental attitudes. To better understand environmental attitudes and their formation within outdoor education, empirical research is needed.

The purpose of the study

This investigation consisted of a two-part study designed to examine environmental attitudes within outdoor education. The first purpose was to identify the effects of a ROE camp on a group of New Zealand intermediate school (Year Eight = 11 to 13 years) students' environmental attitudes. The second purpose was to identify camp elements that might influence the changes of environmental attitudes. A combination of both quantitative and qualitative methods were employed to answer the following research questions:

- 1. Does a residential outdoor education (ROE) camp cause a change in students' environmental attitudes?
- 2. If so, how are changes in the students' environmental attitudes influenced by the socio-demographic variables of:

(a) gender

(b) number of siblings

- (c) environmental worldview (biocentric, ecocentric)
- (d) preferred recreational activities
- (e) previous experiences in outdoor and environmental education
- 3. What elements of a residential outdoor education camp do the students perceive as influencing their environmental attitudes?
- 4. If changes in environmental attitudes take place, when and how do they occur?

This study utilised a combination of quantitative and qualitative methods with a *concurrent triangulation strategy* (Creswell, 2003). A *concurrent triangulation strategy* is a combination of both quantitative and qualitative methods for the purpose of gaining optimally useful data. The collection of data is concurrent and within a single phase of the research study. The data is analysed separately using appropriate qualitative and quantitative data analysis techniques and, finally, results are compared in order to answer the research questions. This method was adopted for its logistical expediency, its ability to provide thick rich data, and to minimise biases from a single method approach (Greene, 2001).

The *Millward Ginter Outdoor Attitude Inventory* (MGOAI) was used to assess environmental attitude changes through pre and post test techniques. The MGOAI instrument has been used previously to determine the improvement of environmental attitudes in ROE camp settings (Mackay, 1981; Millward, 1974; Mittelstaedt et al., 1999). In



addition, a socio-demographic questionnaire was used to assess students' demographic backgrounds that potentially influence the students' environmental attitude changes. Field observation, a reflective journal and in-depth interviews were used to examine the elements of camp that may have influenced the improvement of environmental attitudes.

As a popular learning process in outdoor education, a ROE camp setting was utilised in this study. It is believed that a ROE camp provides greater opportunities for living and working in the natural environment, which may influence the development of human-nature relationships (Wright, 1997). Intermediate school students were the focus of this study as previous researchers have identified that students of this age (11 to 13 year age group) are very receptive to learning about the environment (Centre for Educational Research and Innovation, 1995; Eagles & Demare, 1999; Fishbein, 1967). It was envisaged that working with intermediate school students in a ROE camp setting might maximise the environmental attitudes developmental process and provide an ideal research environment.



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