An Evaluation of a Cross Section of Australian Schools Outdoor Education Program Outcomes

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Abstract

This study examined the effect outdoor educators have on producing desired outcomes in Outdoor Education programs.

The desired program outcomes were developed by the schools in conjunction with a private provider (OEG). Half the programs were lead by outdoor educators who had been trained specially to focus on the development of these outcomes (experimental group). The control group undertook the same program however the outdoor educators were not exclusively asked to teach the desired outcomes rather “let the mountains speak for themselves”.

To determine a difference between the instructor effectiveness of the control and experimental group life effectiveness skills were investigated. The factors of life effectiveness examined were time management, social competence, achievement motivation, intellectual flexibility, task leadership, emotional control, active initiative and self-confidence.

This study also looked at whether there was an overall change in life effectiveness skills across all the participants and which factors of life effectiveness developed the most significantly over the duration of the outdoor education program. This study was conducted on three Australian year nine secondary school outdoor education programs, both single sexed schools and co educational schools were involved.

Results showed that the outdoor education program significantly increased the participants’ self-perceived life effectiveness skills. Time management, social competence, task leadership, emotional control and intellectual flexibility all increased significantly after the participants attended the program.

The major focus of this study was the outdoor educators' affect on the school's desired outcomes. One of the two desired outcomes chosen by the schools (time management and task leadership) showed a significant difference between the groups types. Time management was found to improve significantly for the experimental group (with the outdoor educators who focused on the desired outcomes) as compared to the control group. However although task leadership also improved the difference was not significant.

The outdoor education profession can take some solace from the findings of this study, which indicate that, to some extent, "the mountains do speak for themselves". The results of this study support previous research which has found that an increase in a number of life effectiveness skills can be expected from students who participate in outdoor education programs. There is also an indication from this current research that if the outdoor profession wishes to achieve specific outcomes during their programs, they will have a greater chance of doing so if staff are trained and the program is set up accordingly.

Introduction

The purpose of this study is to improve the understanding of the impact that Outdoor Educators' teaching has on the development of the life effectiveness skills of participants during outdoor education programs. This study also looks to further the understanding of which of the life effectiveness skills develop the most significantly during an outdoor education program.

Outdoor Education and Personal Development

Outdoor education has for much of its professional history made claims to be able to contribute to the personal development of its participants. Factors of personal development are considered to work around the main concepts of self-concept, self-esteem and identity (Dusek, 1996). Problem solving, decision making, social skills and self confidence are all characteristics which Surtees (2000) believes are a part of personal development. Pickett and Polley (2001) believe that outdoor education has the potential for personal growth, group skill development, development of environmental sensitivity and social change.

A number of researches list a varied number of outcomes that Outdoor Education programs can achieve, many of these relate closely to qualities of personal development. The outcomes of outdoor education programs are evident in Neill and Richards (1998) meta-analysis. Reviewing studies already completed and representing over twelve thousand (12,000) participants, Neill and Richards discovered that outdoor education programs make a valuable contribution to a person's sense of themself. Neill and Richards found that 65% of those who participated in outdoor adventure programs were better off than those who did not participate. The outdoor adventure programs made a valuable contribution to a person's sense of her or himself (Neill & Richards, 1998). Surtees (2000) refers to outdoor education as development courses used for holistic personal development, which enhance a wide variety of skills, from problem solving to self reflective learning.

Allen-Craig & McLeod (2005) found that factors such as time management, social competence, task leadership and emotional control increased significantly after participation in a variety of outdoor education programs. Cooper's study in 2004

found that outdoor education programs have the potential to build self-confidence and self-esteem, encourage personal responsibility and develop teamwork and co-operation skills (Cooper, 2004). Harris (2000) noticed that the students' self concept significantly improved after participation in a five day outdoor education program compared to normal school lessons.

Outdoor Education also has a role in contributing to the environmental awareness of students, as well as the potential to develop a relationship with the natural world and the community in which students are operating. In Nicol's study, he states that outdoor education consists of outdoor activities that help with the process of personal and social development, as well as environmental education (Nicol, 2003).

Many aspects of personal development relate closely to the factors of life effectiveness which are time management, social competence, achievement motivation, intellectual flexibility, task leadership, emotional control, active initiative and self confidence (Neill, 2000). As part of this study it is these factors that will be examined as they are some of the recognised desirable outcomes for Outdoor Education programs.

Adolescence, the School Environment and the Year Nine Student

Adolescence is not only a time of transition (from childhood to adulthood), it can also be a time when adolescents are highly vulnerable to emotional maladjustment and associated health risks, such as depression, suicide, drug use, delinquency and dropping out of school (Heaven, 2001). The major physical changes that occur during puberty are known to have an influence on an adolescent emotionally, socially and psychologically (Hay & Ashman, 2003). The main transition tasks for all adolescents are identity formation (Hay & Ashman; Muuss & Porton, 1998; Heaven) and the development of awareness and acceptance of self (Heaven).

Social and personality development is influenced by not only close friends but also the wider peer group (Heaven, 2001; Muuss & Porton, 1998; Gallahue & Ozman, 2002). Peer groups form a vital and often useful avenue by which adolescents make

the transition from the family to the wider world (Heaven). The school community is the best place for this to occur, if for no other reason than it occupies the greatest portion of an adolescent's time (Gallahue & Ozman). Heaven agrees that schools have a major influence on adolescent development.

Sharing experiences in this 'temporary community' while undertaking the challenging activities offered by outdoor education programs (such as adventurous activities, problem solving or team work tasks) helps form a foundation for personal development, especially personal reflection and learning (Owen, Fletcher & Richards, 2001). Higgins (2003) refers to a 'reality in the out-of-doors' similar to the concept of a 'safe environment' in helping personal development. He believes that the out-of-doors environment helps construct a place ideal for personal development. "The out-of-doors provides.... an arena where many of the relationships (between self, other, environment and workplace) which occur in day-to-day life can be modeled and explored and the message taken home." (Higgins, 2003, p. 135)

At year nine, students are generally between the ages of fourteen and sixteen years, which is considered part of their adolescent years. "Year nine is often discussed as the year level which the influence of the peer group is beginning to become more important than the influence of parents" (Quay, 1999, p.4). Year nine is a major focus for schools in terms of developmental programs as adolescents at this age begin to form their own identities (Heaven, 2001). The correlation that exists between year nine students and significant adolescent changes is perhaps the reason why so many developmental programs are offered at this year level. This is the year level that will be examined in this study.

The role of an Outdoor Educator

Outdoor educators are a vital part of delivering effective outdoor program outcomes. Hayllar (2005) believes it is self evident that effective outdoor educators can make the difference in the success of a camping program. A good Outdoor Educator not only sets the direction of the experience, but also maximizes the potential for learning through the experiences (Hayllar).

An outdoor educator needs to be able to fulfil a number of different roles throughout the course of a program, from a friend to a counsellor to an advisor to an authority figure (Priest & Gass, 1997). Using these different roles effectively at the right time can determine if the program is a success or not (Sport and Recreation Victoria, 2000). “Arguably, effective leadership and facilitation skills are axiomatic for successful outdoor learning experiences.” (Hayllar, 2005)

Outdoor Education programs and outcomes

“At worst, an outdoor education program can be disorganized, inappropriately designed and poorly facilitated. This could cause participants to lose more than they could have ever gained from the experience”. (Neill, 2000, p. 2) On the other hand, outdoor education programs can be well-conceived and can also provide meaningful integration of the academic curriculum for adolescents. When a camping program is carefully facilitated, adolescent development can occur in a supportive outdoor environment (Neill).

Depending on the type of program and goals desired by the schools, outdoor educators can alter the nature of the programming, planning, facilitation or leadership of a camping program. It is recommended for programs intending to help adolescents with their transition into adulthood for the leadership team and schools involved to be mindful of the outcomes and plan the camp type and purpose appropriately (Henderson & Barnett, 2001).

Programs can vary from very effective to much less effective (Neill, 2004). They can be planned and programmed exceptionally well (Quay, 1996). However, if the leader is not effective in the way they run the camp or in their ability to deal with any situation that arises or to understand the groups’ needs, then the program is destined to fail (Priest & Gass, 1997).

Many programs may claim to deliver personal development through the outdoors but they may be ineffective. No program should assume success without rigorous

evaluation of program effectiveness (Neill, 2004). Nor is it sufficient to rely on past success. Outdoor educators need to show continuous improvements in the quality of the outdoor experience they provide (Tuker, 2003).

An effective camping program is one that enhances the participants' learning experiences. Proven factors that promote an effective camping program include leader expertise, quality of content and an appropriate sequence of the activities for the group (Philpott, 2005).

This study evaluated instructor effectiveness and program outcomes. Changes of life effectiveness skills in adolescents undertaking outdoor education programs were also examined.

Methodology

Program design and program outcomes

The schools in this study used a private provider of outdoor education programs called The Outdoor Education Group (OEG). OEG is an independent non profit organisation, which organises and runs a variety of outdoor education programs for schools across Victoria and New South Wales within the schools' formal curriculum. OEG recently developed an approach to running their camps to help focus on desired outcomes pre-determined by the schools involved. The Educational Outcomes Framework, developed by OEG, offers schools a variety of program outcomes around three components of life skills. These are self, others and the natural world.

The schools in this study in conjunction with OEG designed programs incorporating a number of outcomes from the Educational Outcomes Framework, this being dependent on the focus the school wanted their camp to have. The schools could chose outcomes such as personal organisation, personal responsibility, social competence, achievement motivation, intellectual flexibility, task leadership, emotional resilience, active initiative and self confidence.

Concentrating on the 'self' aspect of OEG's Education Outcomes Framework, this research was conducted on the outcomes of the programs and changes in life effectiveness skills. Eight of the factors in the 'self' section of the Educational Outcomes Framework relate directly to the eight factors of the LEQ. Hence the LEQ was the most effective tool for measuring these types of outcomes. In order to evaluate the impact the outdoor educators had on developing life effectiveness skills of the students, the Life Effectiveness Questionnaire (LEQ) and a Social Validation Questionnaire (SVQ) were utilised. The LEQ focuses on eight factors of life effectiveness: time management, social competence, achievement motivation, intellectual flexibility, task leadership, emotional control, active initiative and self confidence (Neill, Marsh & Richards, 1997). The SVQ is a qualitative measure, which focuses on the same eight factors of life effectiveness. It was used to strengthen and complement the results obtained from the LEQ.

Participants

The sample was one of convenience and involved three secondary schools across Victoria and New South Wales. The sample involved one hundred and ninety six (197) year nine students across the three schools. The sample comprised fifty-five (55) females and one hundred and forty-two (142) males. The age range of the participants was between thirteen and fifteen years old (*M*= 14 years old).

The Program

The schools participated in similar camping programs, in order to control the variables and limit the effect of external factors. The camping programs were:

- 5 days in duration;
- Water-based; all camping programs were on a river setting;
- Journey style, meaning that the participants began at a starting position, and by the end of the week needed to reach the selected destination; and
- All camps were conducted in a five week timeframe, to limit the effects of maturation throughout the year or other external factors.

All of the leaders used on the camps were qualified Outdoor Educators. The experimental group leaders were given extra training in the delivery of specific

outcomes based on OEG's Educational Outcomes Framework. The extra training conducted by OEG focused on a number of different teaching strategies to best implement these outcomes within the program.

The Control Group

The control group for this study participated in a camping program which was planned, facilitated and lead outside OEG's Educational Outcomes Framework. The control groups were randomly chosen from students of the three participating schools. The schools wanted all students to develop the desired outcomes; however, the control group's instructors did not focus in particular on these outcomes, but let 'the mountains speak for themselves'.

The Experimental Group

The experimental group for this study participated in a camping program that was planned, facilitated and lead in more of an educational and developmental manner when compared to the control group.

Each school decided on a number of specific outcomes from the Educational Outcomes Framework (EOF) that they wanted their students, in both the experimental and control groups, to explore and achieve while on the program. The experimental group however, were the only group whose instructors focused and directed learning on these outcomes throughout the program.

The all boys' school and the co-ed school chose task leadership and leading a group respectively. For this outcome, the relevant LEQ factor was task leadership. All three schools chose Personal Responsibility as their 'self' outcome. Personal responsibly is defined in the Educational Outcomes Framework as the extent to which the individual takes responsibility for his/her own actions. Primarily, time management is linked to personal responsibly, as during the camp all the participants are required to deal with the consequences of their actions if they do not plan their time well enough throughout the day.

Before the leaders attended an experimental camp, they were trained on the Educational Outcomes Framework method of running camp. Prior to camp, the

leaders were also given information regarding the background to the schools' past outdoor educational experiences, as well as their camp's focused outcomes and examples of how the leaders could implement them.

Social Validation Questionnaire (SVQ)

Allen-Craig and McLeod (2005) in a similar study, looking at life effectiveness of a year nine program at a private boys' school in Melbourne, developed a Social Validation Questionnaire (SVQ) to strengthen and compliment the results obtained from the LEQ. Allen-Craig and McLeod's Social Validation Questionnaire was used for this study.

The SVQ consists of eight open-ended short answer questions relating to the program and the eight factors of the LEQ. It will strengthen the results provided by the LEQ and give a greater understanding of the participants' responses.

Results

Due to an error made in the implementation of the leaders training program the Kambala data was only used when testing students' overall improvements in life effectiveness skills and in inter-school comparison of LEQ factor scores. The Kambala data was not used when comparing control and experimental groups.

Changes in Overall Life Effectiveness

Overall, the students scored significantly higher when tested post camp (M= 149.35, SD= 22.41) compared to pre camp (M= 143.44, SD= 20.79), as shown in figure 1.1.
The experimental group had significantly higher post LEQ scores (*M*= 153.56, SD= 2.20) compared to the control group (*M*= 146.77, SD=2.29), as shown in figure 1.2.

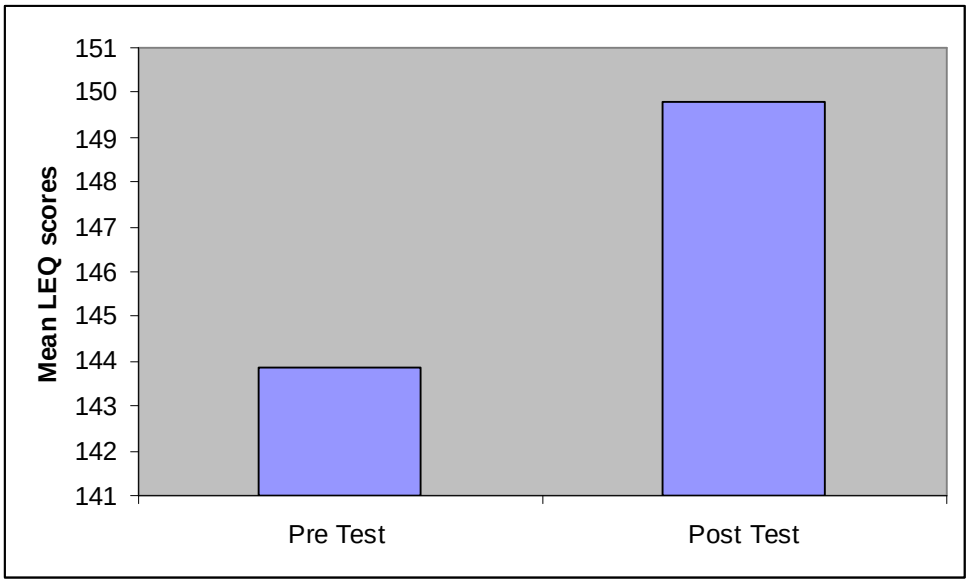

Figure 1.1. Comparison of Overall Life Effectiveness between Pre Test and Post Test.

The participant's overall life effectiveness skills significantly improved ($p < .05$) from the pre camp test to the post camp test.

The experimental group scores were higher than the control group pre and post test as can be seen in Figure 1.2.

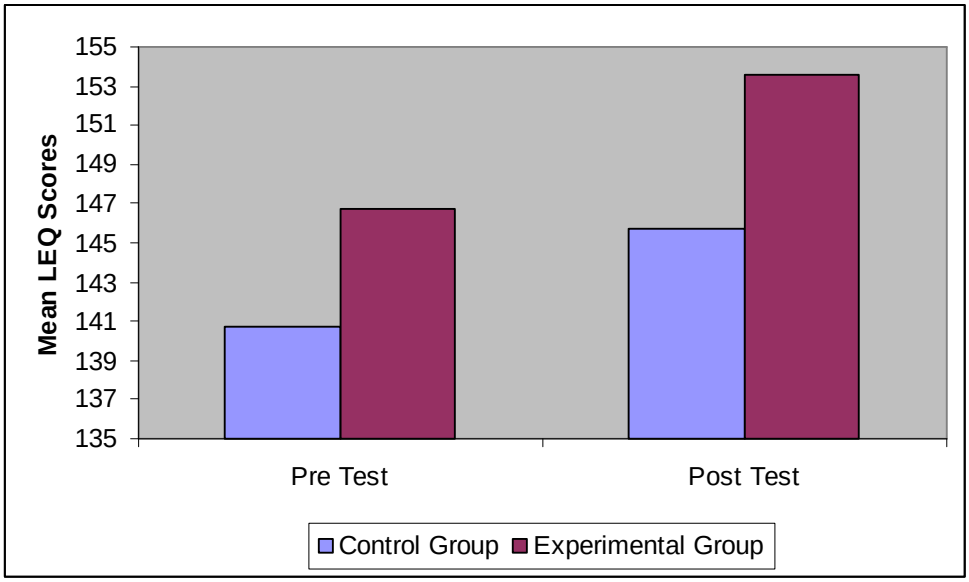

Figure 1. 2. Descriptive statistics for Control and Experimental Groups for Life Effectiveness from Pre Test to Post Test.

Both groups (control and experimental) showed a significant improvement from pre to post tests.

The difference in the total improvement score pre to post test time based on which group (control, experimental) the participants were in, was not significant ($p > .05$). Meaning that there was no difference found between the two groups when comparing total LEQ change scores from pre to post test, however this was not expected as only two of the eight factors were chosen to be a focus during the programs.

Changes in the components of Life Effectiveness compared to group type

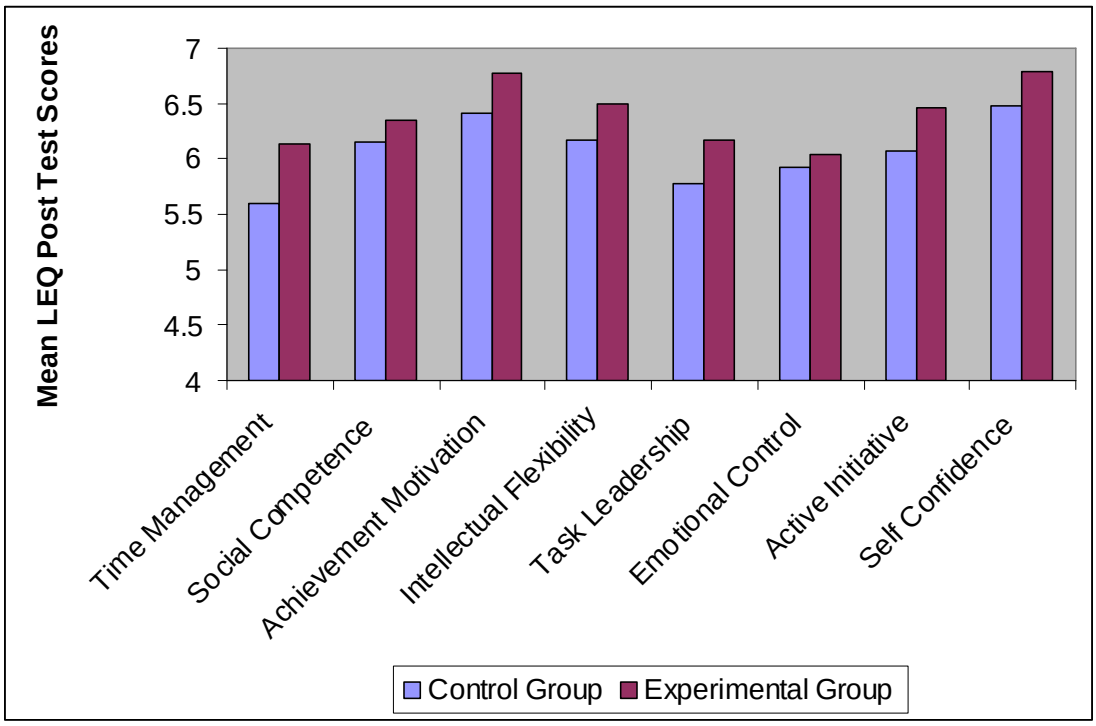

Figure 1.3. Post Test descriptive statistics for experimental and control group for the eight factors of the LEQ.

As can be seen in Figure 1.3 the experimental group achieved higher (not significantly higher) mean LEQ post test scores for all eight of the LEQ factors compared to the control group.

Even though the experimental group scored higher in each category, they did not achieve statistically significant LEQ change scores (difference between their pre to post test) when compared with those that the control group obtained. The

experimental groups mean change score was more than the control groups for six of the eight factors within the LEQ. The mean LEQ change scores for both groups can be seen in figure 1.4.

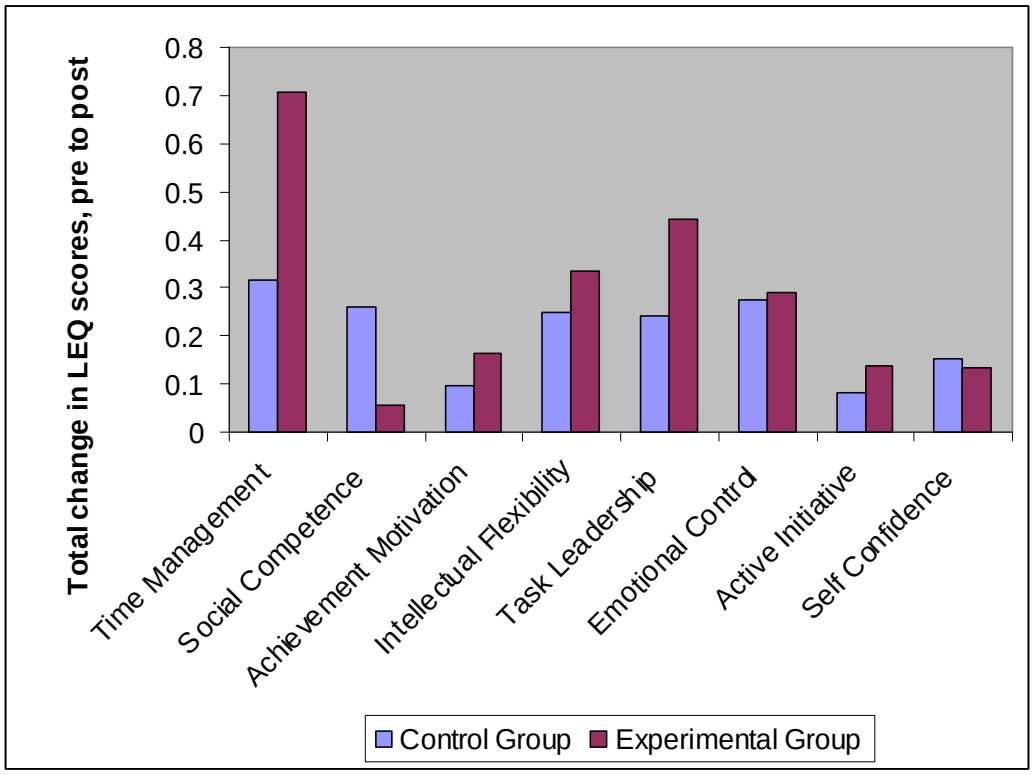

Figure 1.4 Total Change from Pre test to Post test, for control and experimental groups.

The experimental groups for both the co-ed school and the all male school pre-determined two LEQ factors to focus on; both schools chose (1) time management and (2) task leadership.

(1) Time Management

Time management was significantly different (p value =.004) when compared to time of test and group type. The experimental group's time management mean scores improved more after attending the camp, when compared to those of the control group.

(2) Task Leadership

Task leadership did not differ significantly (p value = 0.714) between groups types (experimental and control) and test time. Task leadership as mentioned above, was

one of the two factors the schools chose to focus on, hence was hypothesised the experimental group would score significantly greater change scores compared to the control group. Although the experimental groups task leadership change score was greater than the control group (refer to figure 1.4), the difference was not enough to prove a significance change.

Analysis of the eight components of Life Effectiveness without Group type

Investigating the three schools together, scores for all LEQ factors increased from pre to post test. The descriptive statistics for each of the components are illustrated in figure 1.5. The factors that increased significantly ($p < .05$) were time management, social competence, intellectual flexibility, task leadership and emotional control.

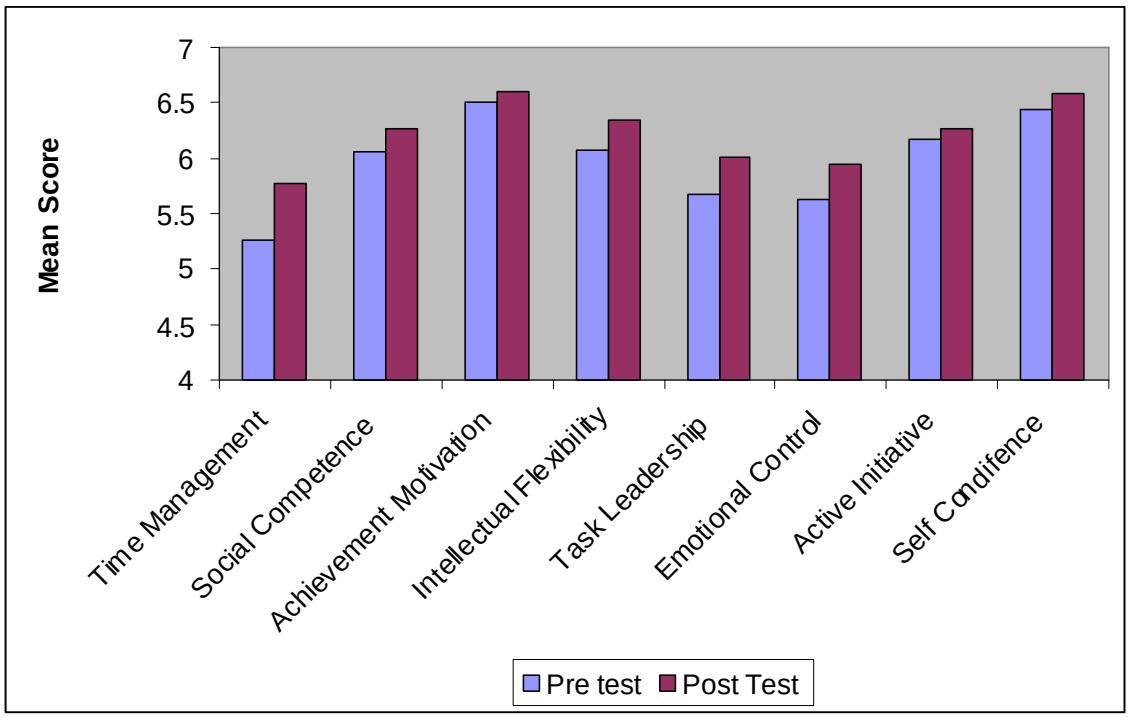

Figure 1.5. Mean pre and post test scores for the 8 components of Life Effectiveness.

It can be seen from Figure 1.5 that all LEQ factors increased from the initial testing time to the testing time after the students had attended the camp. It should also be noted that time management started with the lowest score and achieved the largest

increase pre to post test. While achievement motivation starting with the highest score, it acquired the smallest increase pre to post test.

Qualitative (Social Validation Questionnaire)

The results obtained from the Social Validation Questionnaire (SVQ) reflect the participants' personal feelings in words and are used to support and give greater depth to the answers obtained from the Life Effectiveness Questionnaire in the discussion.

Discussion

Changes in overall life effectiveness

The results from figure 1.1 show a mean increase of the participants' self-perceived life effectiveness skills, which was significant at the .05 level.

These findings are consistent with those of many past studies. Results showing positive influences on participants' self concept and personal awareness after attending an outdoor education program have been reported by Cooper (2004), Garst, Scheider & Baker (2001), Harris (2000) and Neill & Richards (1998).

In a study with over five thousand (5000) participants, Neill (1999) reported an increase in participants' self-perceived life effectiveness skills after they attended outdoor education programs. Responses from the SVQ support this.

> *"I now know that I have much more potential than I once thought."*
>
> (Control group, co-ed school)

> *"This camping program has definitely influenced the amount of confidence I have in my abilities by strengthening me mentally and using this to succeed in difficult circumstances."* (Control group, all-boys school)

The majority of the responses given were positive. However, some were not. Examples of responses which imply the participants did not gain increases in life effectiveness skills included:

> *"Camping hasn't helped me with anything. I really dislike camping."*
>
> (Experimental group, all-girls school)

> *"I have always been confident, therefore (camp) has done nothing. I have always been able to communicate thoughts/ideas easily."*
>
> (Experimental group, all-girls school)

> *"This camp hasn't affected the way I plan and make use of my time as I do both well."*
>
> (Experimental group, all-boys school)

These results support the view of Gray & Perusco (1993) that the participants must show willingness to change and the acceptance for change before any positive results will occur.

Changes in the components of Life Effectiveness compared to group type

It was not expected that the control group would obtain higher total change scores for all of the eight life effectiveness factors compared to the experimental group.
It was hypothesised that the experimental group would experience greater positive change after camp for the specific outcomes chosen by the schools. Time management (personal responsibility) and task leadership were the two factors that both schools wanted their camp to focus on. Time management improvements being found to be significantly higher in the experimental group compared to the control group (refer to figure 1.4).

The results in figure 1.3 show that the experimental group achieved higher, but not significantly higher, mean LEQ post test scores for all of the eight factors of life

effectiveness compared to the control group. However, figure 1.4 shows that the experimental groups total '*change'* value of the LEQ (total post score – total pre score) was larger (but not significant) for six of the eight LEQ factors compared to the control group. These factors were (1) time management, (2) achievement motivation, (3) intellectual flexibility, (4) task leadership, (5) emotional control and (6) active initiative

Experimental groups and chosen outcomes

(1) Time Management

Time management was the factor on the LEQ that was closely linked to the outcome of personal responsibility from OEG's Educational Outcomes Framework. Both require participants to take responsibility for their actions. If a participant cannot effectively manage their time, they end up setting up or cooking in the dark (or worse affecting the safety of others). All which affects the whole groups time at camp. Time management was the only factor that was significantly different between the group types (control, experimental) and test time. Participants from the experimental groups made comments to support this result:

> *"I think that this camp has affected my ability to plan and make use of time. It has helped me to be organised and structure my day properly."*
>
> (Experimental group, all-boys school)

> *"Definitely because of the way the camp is run it makes you have to plan and use time far better than home. This should help me with organisation for homework."* (Experimental group, all-boys school)

> *"This camp has made me more aware of how it is important to use time wisely and plan it accordingly.* (Experimental group, all-boys school)

It became apparent reading SVQ responses from the experimental group that the outdoor educators were to some extent effective in their teaching of personal responsibility. The personal responsibility outcome of OEG revolves around the

concept of actions and consequences, and several of the students noted this concept in their responses, thereby demonstrating that the leaders had some effect.

> *"Everything counts, 'actions and consequences'. Whatever you do has an outcome so put the extra effort in and you just might achieve something."*
>
> (Experimental group, co-ed school)
>
> *"It has influenced me a lot because you have to make decisions for the whole group which could have good or bad consequences."*
>
> (Experimental group, all-boys school)

> *"It's improved my ability. During the program I realised the consequences on waking up late, mucking around and just being disorganised. By the end of the program I felt that I knew how to manage."*
>
> (Experimental group, Co-ed school)

(2) Task Leadership

Both of the schools chose task leadership, as well as time management, as an outcome on which they wanted the experimental group to focus. Task leadership was not found to have a significant difference between the group types. Figure 1.4 however shows that the experimental groups task leadership changed considerably more than the control group.

The control groups' camps, were to a large extent controlled by the outdoor educators. The educators made the major decisions of camp, thereby giving the participants little responsibility. This appeared to affect many participants from the control group. Many of them mentioned in their SVQ responses that they did not get a chance to lead and that their task leadership skills were not affected by their camping program.

> *"I didn't really lead much so it didn't affect me much."*
>
> (Control group, all-boys school)

> *"I was not a leader at any stage of this camp."*

(Control group, all-boys school)

In the experimental groups' camps, on the other hand, the staff focused on task leadership because it was one of the outcomes chosen by the school. The following SVQ responses support the significantly higher change scores for the experimental group compared to the control group.

> *"Having different people as leaders of the group each day helped me to be a better leader by seeing other people's leading styles."*
>
> (Experimental group, all-girls school)

> *"I have improved my leadership skills. I now know that it is essential for myself to get motivated first before we are able to make others feel the same."*
>
> (Experimental group, all-girls school)

The fact that the experimental group did not demonstrate significant improvement in task leadership over the control group could be attributed to a number of difference reasons. The instructor intervention strategies, for a number of reasons, may have been ineffective in enabling the students to develop the focused outcomes. This will be discussed further in limitations.

It also should be noted that during the pre-test time, students in the experimental groups rated themselves as having high life effectiveness skills. During this testing time, the students are in a familiar place within the school community, following a familiar day to day structure, where they know what to expect. At the post-testing time, the students have just participated in a week long experience very different from their everyday school life. The students may have been unsure what to expect next during camp and may have been pushed beyond their initial comfort zones, hence on reflection of their performance rated their life effectiveness skills lower.

Some comments made in the SVQ by the participants in the current study support the opinion of Owen, Fletcher and Richards' (2001) that the participants' expectations of themselves increased after the program, causing them to put more effort in to achieve their best.

"I have always put 100% to all my objectives but now I can work at 110%."

(Experimental group, all-boys school)

"I thought I was okay at canoeing, turns out I wasn't, but I got better at it."

(Experimental group, all-girls school)

"I thought that coming into the camp I was already a great leader so I didn't feel that I need to work on it. But going to the camp helped me be better at it."

(Control group, all-boys school)

Limitations

Outdoor Educator training

During personal communication with OEG staff (2005) it was discovered that the leaders for the all-boy, all-girl and co-ed schools underwent very different training due to time constraints.

The all boys' school was the first school to attend camp. The organisation and planning for the Educational Outcomes Framework documents were given to the leaders and very little training took place for a few of these leaders (Personal Communication with OEG staff, 2005). Many of the leaders in this group only had the document to work by. The reason for such limited training was time restrictions between the organisation and planning phase and the beginning of camp. Problems were discovered and resolved after the camps were held for the all boys' and all girls' schools. By the time the co-ed school's camp was held (the last camp of the study), the documents had been fine tuned and plenty of time was available to train the leaders as required.

All the outdoor educators should have received the same training before they attended each school camp. The effect the leaders' training had on the findings of the current study is noticeable. The difference between the all-boys' school's control and experimental group was minor which could be reflective of their leaders' limited

training. The outdoor educators of the co-ed school had thorough training and the co-ed school's experimental group scored a lot higher change scores compared to their control group. Comparison of the results of the co-ed schools' experimental and control groups were very close to being significant, with a p value of *.059*. The extent and type of training each of the schools' outdoor educators (experimental group) received varied and hence the results are not necessarily as reflective of the instructor effectiveness on program outcomes as hoped.

Testing errors

The testing error referred to in the methodology section occurred with the all-girls school. Half of the outdoor educators were supposed to go through the Educational Outcomes Framework training so they could lead the experimental group. Unfortunately, all outdoor educators working with the school received this training. This meant that the all-female school had no control group. The data from this school could not be used for any analysis using group type (control, experimental). The all-girl school data was only used when testing students' overall improvement in life effectiveness skills and in the school comparison of LEQ factor scores. This may also have contributed to the higher overall LEQ scores pre-to post-test of all three groups when combined.

Random selection

Initial higher pre test scores for the experimental groups poses the question about how random the selection of participants for each group was. The teachers at the school may have subconsciously separated the groups into stronger students with more proficient life effectiveness skills versus students with less proficient life skills.

Upon personal communication with school staff (2005), it was discovered that one of the schools had to change locations for one of their camps, due to the drought at the time. Since the new river was much less challenging than the river originally intended to be used, the school staff admitted that weaker students were placed in groups using the new river. This streaming of students may have impacted on the results, causing some of the control groups to start with lower LEQ scores.

Control Group

As a result of the knowledge and past experience of the outdoor educators of the control groups, many of the instructors may have naturally focused on issues which would normally be perceived as desired outcomes for an outdoor education program. Outdoor Educators in the control groups have previously lead many camping programs and may have included activities they knew worked based on their own personal experiences. It was intended that the control groups' debrief sessions would be directed by the educator with no self direction from the students. However, this is not how many of the educators in the control groups may traditionally operate. No constraints or post camp checks were run to ascertain the fine detail of how every aspect of each program operated. Some overlap in a number of the facilitation and debriefing skills utilised by both the experimental and control groups' instructors would be expected. This in turn would affect the development of program outcomes.

Other limitations included:

- Participants attitudes to filling out questionnaires
- Return of consent forms
- Administration of testing, pre and post
- Use of a non-validated social validation questionnaire
- Staff testing on participant change

Conclusion

The aim of this study was to improve the understanding of the impact that Outdoor educators' teaching has on the development of the life effectiveness skills of participants during outdoor education programs. The study also aimed to further contribute to the understanding of which components of life effectiveness skills develop the most significantly during an outdoor education program, as well as examining the overall changes of life effectiveness skills after participation in an outdoor education program.

There was a significant change in the overall LEQ scores of the participants after attending the outdoor education program.

The experimental group showed a significantly greater positive change score after camp for one of the two specific life effectiveness skills chosen by the school, compared to control group. Time management was one of the two factors chosen by the schools as focus goals. Task leadership was the second of the two factors chosen by the schools as focus goals. The experimental group was not found to have significantly greater positive change compared to the control group for task leadership. Even though the experimental group did change more compared to the control group for task leadership, it wasn't enough to give a statistical significance. This result, in part, may reflect the inconsistency in leadership training.

The outdoor education program for both groups had a significant positive impact on the participants' self-perceived skill level for (1) time management, (2) social competence, (3) task leadership and (4) emotional control and (5) intellectual flexibility.

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Implications for future research

In light of these research findings the outdoor education profession can take comfort in the fact that, to some extent, "the mountains do speak for themselves". These results support previous research in finding that students who participate in outdoor education programs can be expected to have an increase in a number of life effectiveness skills. This research builds further on this knowledge, while also indicating that outdoor educators who wish to focus on specific outcomes may have a greater chance of achieving their desired outcomes with effective staff training and program delivery. The staff need to be given the skills and opportunities to focus on the school's desired outcomes throughout the duration of the program.

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Changes in the individual components of Life Effectiveness for all students

Analysis of the eight components of life effectiveness was conducted on all students participating on the camp and did not take into consideration which group type they were in. Five of the eight factors demonstrated significant increases on the participants self-perceived life effectiveness skills from pre to post test.

Time Management

Time management refers to the ability to plan and make optimum use of time (Neill, 2000). Time management was one of the five factors to improve significantly from pre to post test. Figure 4.5 shows that time management had the largest increase pre to post test of all the eight factors. These result supports findings from previous research by Neill (1999) and Allen-Craig & McLeod (2005), who both used the LEQ and found that time management compared to the other factors showed the most improvement after the outdoor education program in their studies.

The majority of the students referred to time management in the SVQ as something they realised they had to improve, or something they did improve while at camp.

> *"I think I will use my time a lot more effectively back home now I've been on camp."* (Experimental group, all-boys school)

> *"I am now able to manage my time much more effectively thanks to our OEG leader. I understand and respect the fact that time anywhere is a virtue."* (Control group, all-boys school)

Even though the majority of the responses reflect the positive effect the camp had on their time management skills or on the participants' realisation that they need to

improve their skills, not all students believed their time management skills improved from camp. Some felt that camp had no effect on their time management skills.

> *"It has done nothing to help plan time and make use of it, I believe you can't be taught to get moving, you either do or don't."*
>
> (Experimental group, all-girls school)

> *"I think that I make use of time the same as I did before camp."*
>
> (Control group, co-ed school)

Social Competence

Social Competence refers to the ability of an individual to function effectively when interacting socially (Neill, 2000). Social competence was another of the five factors found to improve significantly. Neill (1999) refers to social competence as one of the traditional claims of outdoor education programs, along with task leadership, self confidence and emotional control. The results of the current study support similar findings by Neill (1999) and Allen-Craig &McLeod (2005). Some of the responses from the SVQ that elaborate this result are:

> *"To be honest, (the camp affected me) a lot, I feel as if I have come out of my shell a lot more and have made a number of friends through the trip."*
>
> (Control group, all-boys school)

> *"I think that (camp) has improved my socialising skills because before the camp I couldn't talk to people now I have a lot of confidence to talk to people."*
>
> (Experimental group, all-boys school)

Most students commented on making friends with people they do not talk to often at school. Where students felt there was no effect on their social competence, they often attributed this to existing personality traits. For example, participants stated they were very social people to begin with or did not always need the company of others.

"I feel that I was already a very confident person when it came to communicating and socialising with the other people in my group."

(Control group, all-boys school)

"Not much (effect from camp), I love people but I like solidarity."

(Experimental group, co-ed school)

Task Leadership

Task leadership is defined as the abilities to take on and perform in a leadership role effectively and productively (Neill, 2000). Task leadership is another of the factors which Neill (1999) claims to be a traditional component of personal development within outdoor education programs. In the current study, it was found to improve significantly. The following participant responses from the SVQ confirm this.

"The camp has made me put my hands up in time when the group needs something done. Therefore I feel more confidence in taking control in group situations." (Experimental group, co-ed school)

"It gave me the opportunity to lead in a different context. It forces you to try new things and be more efficient because everyone is relying on your judgement." (Control group, co-ed school)

Not all students' comments supported the result; some students did not feel their leadership skills improved on camp. This comment was often made by students who also felt they were not good leaders to begin with. Some of the students' ability to shelter behind other students' leadership skills was shown in the comments made.

"I'm not much of a leader, even with the camp I haven't improved"

(Control group, co-ed school)

"I have never been good as a leader because I don't really talk much and I am kind of quiet and shy." (Control group, all-boys school)

"Not much because I hide behind the other leaders."

(Control group, all-boys school)

How the participants perceive themselves could affect how they rated their leadership abilities.

Emotional Control

Ability to deal with and control emotions when faced with difficult or potentially stressful situations is recognised as emotional control (Neill, 2000). Emotional control is another traditional component outdoor education programs claim to achieve the best results (Neill, 1999). This current study supports this finding as emotional control was one of the five factors to improve significantly pre to post test. The following SVQ responses are examples of how some individual, experienced the benefit.

"It taught me that you have to stay calm no matter what happens and just face it because you have to try and change that situation instead of panicking because there's not much point doing that." (Experimental group, all-girls school)

"I think I look at difficult situations differently. Instead of just complaining and crying, I do something about it or learn for next time."

(Experimental group, co-ed school)

"The program really points out your weaknesses as well as strong-points and I think the program showed me that I have (to) be patient with tough situations."

(Experimental group, co-ed school)

Those participants who felt they did no change in their improvement blamed this on the fact that they did not feel as if they faced many stressful or difficult situations. Examples of this kind of attitude are:

"In this camp we didn't face anything difficult or stressful."

(Control group, all-boys school)

"It wasn't an incredibly stressful camp." (Control group, co-ed school)

Intellectual Flexibility

The aptitude to adapt thinking and accommodate new information from changing conditions and different perspectives is identified as intellectual flexibility (Neill, 2000). The LEQ results for intellectual flexibility suggested the participants improved significantly pre-test to post-test. Participants' responses on the SVQ support this finding, with the majority commenting that they came to realise their idea was not always right and it was good to listen to others in case their idea was better.

"Camp helped me be open and flexible to new ideas because if you tried something and it didn't work you had to be willing to try other ideas."
(Experimental group, all-boys school)

"You needed flexible thinking on this camp. If you didn't have flexible thinking then your way was the only way and in a group environment that is wrong."
(Control group, all-boys school)

However, not all responses were supportive of the findings. Some examples include:

"I don't think it affected me at all I've never been rigid in my ideas if there's a better one out there." (Experimental group, co-ed school)

Achievement Motivation

Motivation and putting effort into actions to achieve excellence is defined as achievement motivation (Neill, 2000). Achievement motivation was not found to improve significantly from pre test to post test. This may be because achievement motivation started with the highest score pre test of all eight life effectiveness factors. Students perceived themselves to have high achievement motivation before camp started and therefore had less room to improve during the camping program. Neill (1999) discovered the same situation where factors initially started high, meaning

participants had less room to grow. The camp did not have negative effects on the participants; there was just not as much scope for improvement. Responses from participants of the current study support these findings.

> *"Not really, I feel that before the camp I tried to do the best and that the camp hasn't changed anything."* (Experimental group, all-boys school)
>
> *"I always try 110% in everything I do before and after this camp."* (Experimental group, all-boys school)

With the LEQ results showing a non-significant change in achievement, it is interesting that the SVQ responses did not support this finding. A large number of participants felt that camp improved their motivation levels.

> *"I put in more effort now because on camp I saw the more effort you put in the better the results."* (Experimental group, all-boys school)

> *"Camp made you put in 100% if you didn't you would fall short of your mark. If you did put in 100% you would gain more fun out of it and be more confident in doing it again."* (Control group, all-boys school)

Active Initiative

The ability to initiate actions and thoughts in new situations involves the concept of active initiative (Neill, 2000). Active initiative did not increase significantly from pre-test to post test. Some reasons for this lack of improvement might be found in the SVQ responses. In particular, several participants considered themselves to have adequate active initiative skills before camp.

> *"It really hasn't effected (sic) my ability to initiate the first move or share my thoughts because I (already) share them anyway."* (Experimental group, all-girls school)

Other participants considered it was not always the best option to initiate the first move or share their thoughts in the group.

"I think that it hasn't had all that much effect on me. I will always be quiet."

(Experimental group, co-ed school)

"I still don't initiate the first move and probably never will."

(Control group, all-boys school)

There were still, however, many participants who considered the camping program to have a positive influence on their active initiative skills and commented on their new view of making the first move or sharing their thoughts.

"I am now more open to other (peoples') ideas and I am now more confident in expressing my own views and opinions." (Control group, all-boys school)

"This camp has certainly helped me when it comes to expressing my opinions. It got me to express my opinions to a range of different people who don't have to listen to you, but they did." (Experimental group, all-boys school)

Self Confidence

Self confidence is defined as confidence in ability and the success of actions (Neill, 2000). This low increase for the current study's improvement could be due to the fact that with the group, self confidence was the second highest pre test score and therefore had less room for improvement. The following examples of SVQ responses support this suggestion that the participants already believed they had high self-confidence.

"I think that I always have confidence when I do anything. Camp helped bring it out and confirm that I can be a leader and be confident when doing it."

(Control group, all-boys school)

"Not much because I have always had confidence in my abilities."

(Experimental group, all-boys school)

A majority of the SVQ, however, contrary to the LEQ results suggested that they actually improved their self confidence after attending camp.

> *"The camping program has helped me greatly in the confidence area. Before camp I wasn't that confident to do anything but after camp my confidence, I think has risen."* (Control group, all-boys school)

> *"I have greater confidence in my abilities now because I did things I didn't know I could."* (Experimental group, all-boys school)

Limitations

Outdoor Educator training

During personal communication with OEG staff (2005) it was discovered that the leaders for the all-boy, all-girl and co-ed schools underwent very different training due to time constraints.

The all boys' school was the first school to attend camp. The organisation and planning for the Educational Outcomes Framework documents were given to the leaders and very little training took place for a few of these leaders (Personal Communication with OEG staff, 2005). Many of the leaders in this group only had the document to work by. The reason for such limited training was time restrictions between the organisation and planning phase and the beginning of camp. Problems were discovered and resolved after the camps were held for the all boys' and all girls' schools. By the time the co-ed school's camp was held (the last camp of the study), the documents had been fine tuned and plenty of time was available to train the leaders as required.

All the outdoor educators should have received the same training before they attended each school camp. The effect the leaders' training had on the findings of the current study is noticeable. The difference between the all-boys' school's control

and experimental group was minor which could be reflective of their leaders' limited training. The outdoor educators of the co-ed school had thorough training and the co-ed school's experimental group scored a lot higher change scores compared to their control group. Comparison of the results of the co-ed schools' experimental and control groups were very close to being significant, with a p value of *.059*. The extent and type of training each of the schools' outdoor educators (experimental group) received varied and hence the results are not necessarily as reflective of the instructor effectiveness on program outcomes as hoped.

Testing errors

The testing error referred to in the methodology section occurred with the all-girls school. Half of the outdoor educators were supposed to go through the Educational Outcomes Framework training so they could lead the experimental group. Unfortunately, all outdoor educators working with the school received this training. This meant that the all-female school had no control group. The data from this school could not be used for any analysis using group type (control, experimental). The all-girl school data was only used when testing students' overall improvement in life effectiveness skills and in the school comparison of LEQ factor scores. This may also have contributed to the higher overall LEQ scores pre-to post-test of all three groups when combined.

Random selection

Initial higher pre test scores for the experimental groups poses the question about how random the selection of participants for each group was. The teachers at the school may have subconsciously separated the groups into stronger students with more proficient life effectiveness skills versus students with less proficient life skills.

Upon personal communication with school staff (2005), it was discovered that one of the schools had to change locations for one of their camps, due to the drought at the time. Since the new river was much less challenging than the river originally intended to be used, the school staff admitted that weaker students were placed in groups using the new river. This streaming of students may have impacted on the results, causing some of the control groups to start with lower LEQ scores.

Control Group

As a result of the knowledge and past experience of the outdoor educators of the control groups, many of the instructors may have naturally focused on issues which would normally be perceived as desired outcomes for an outdoor education program. Outdoor Educators in the control groups have previously lead many camping programs and may have included activities they knew worked based on their own personal experiences. It was intended that the control groups' debrief sessions would be directed by the educator with no self direction from the students. However, this is not how many of the educators in the control groups may traditionally operate. No constraints or post camp checks were run to ascertain the fine detail of how every aspect of each program operated. Some overlap in a number of the facilitation and debriefing skills utilised by both the experimental and control groups' instructors would be expected. This in turn would affect the development of program outcomes.

Other limitations included:

- Participants attitudes to filling out questionnaires
- Return of consent forms
- Administration of testing, pre and post
- Use of a non-validated social validation questionnaire
- Staff testing on participant change

Conclusion

The aim of this study was to improve the understanding of the impact that Outdoor educators' teaching has on the development of the life effectiveness skills of participants during outdoor education programs. The study also aimed to further contribute to the understanding of which components of life effectiveness skills develop the most significantly during an outdoor education program, as well as examining the overall changes of life effectiveness skills after participation in an outdoor education program.

There was a significant change in the overall LEQ scores of the participants after attending the outdoor education program.

The experimental group showed a significantly greater positive change score after camp for one of the two specific life effectiveness skills chosen by the school, compared to control group. Time management was one of the two factors chosen by the schools as focus goals. Task leadership was the second of the two factors chosen by the schools as focus goals. The experimental group was not found to have significantly greater positive change compared to the control group for task leadership. Even though the experimental group did change more compared to the control group for task leadership, it wasn't enough to give a statistical significance. This result, in part, may reflect the inconsistency in leadership training.

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